

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028

Amended on: ---

Chemical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
--------	-------------------	---	-------------	----------------

Group- Metals and Alloys

1.	Copper	Chemical Composition	IS 191:2007 Amd 02: 2022 IS 440:2025	Copper Purity Test Apparatus, Spark Optical Emission Spectrometer (Spark-OES), ICP-MS, UV Visible spectrometer
		Copper+ Silver (By difference)		
		Silver		
		Arsenic		
		Antimony		
		Bismuth		
		Iron		
		Lead		
		Nickel		
		Oxygen		
		Selenium		
		Sulphur		
		Tellurium		
		Tin		
		Selenium + Tellurium		
2.	Copper Wire Rods For Electrical Applications	Chemical Composition	IS 12444:2020 Amd 01:2025	Spark Optical emission spectrometer Spark - OES), Atomic absorption spectrophotometer, UV-Vis Spectrophotometer, ICP-MS
		Tellurium		
		Selenium		
		Bismuth		
		Group total (Selenium + Tellurium + Bismuth)		
		Antimony		
		Arsenic		
		Tin		
		Lead		
		Iron		
		Nickel		
		Sulphur		
		Silver		

Jikendra Parmar

Dealing Officer

Page 1 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Chemical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Oxygen		
		Total impurities		
		Copper (By Difference)		
3.	Copper & Copper Alloys	Aluminium	BS EN 15079:2015	Spark Optical Emission Spectrometer (Spark- OES), ICP - MS
		Antimony		
		Arsenic		
		Cobalt		
		Iron		
		Lead		
		Manganese		
		Nickel		
		Phosphorus		
		Silicon		
		Sulphur		
		Tin		
		Chromium		
		Silver		
		Zinc		
		Bismuth		
		Tellurium		
		Selenium		
		Cadmium		
		Chromium		
		Magnesium		
4.	Copper Wire For General Engineering Purpose	Chemical Composition	IS 4412:1981 (RA:2021)	Copper Purity Apparatus, UV-Visible
		Copper + Silver	Amd.01:2004	
		Phosphorus	IS 440:2025	
		Antimony		

Jikendra Parmar

Dealing Officer
Page 2 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028

Amended on: ---

Chemical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Arsenic		Spectrometer, Spark Optical Emission Spectrometer (Spark - OES), Atomic Absorption Spectrophotometer
		Bismuth		
		Iron		
		Lead		
		Nickel		
		Selenium + Tellurium		
		Tellurium		
		Tin		
		Total number of Impurities excluding Silver, Nickel, Arsenic and Phosphorus		
5.	Aluminium & Aluminium alloys	Antimony	ASTM: E1251-25	Spark Optical Emission Spectrometer (Spark- OES), ICP - MS
		Arsenic		
		Beryllium		
		Bismuth		
		Boron		
		Calcium		
		Chromium		
		Cobalt		
		Copper		
		Gallium		
		Iron		
		Lead		
		Lithium		
		Magnesium		
		Manganese		
		Nickel		
		Phosphorus		
		Silicon		

Jikendra Parmar

Dealing Officer
Page 3 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028

Amended on: ---

Chemical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Sodium		
		Strontium		
		Tin		
		Titanium		
		Vanadium		
		Zinc		
		Zirconium		
6.	Wrought Aluminium Alloys	Copper	IS 11035:1984	-----
		Magnesium	(RA: 2019)	
		Silicon		
		Iron		
		Manganese		
		Zinc		
		Chromium		
		Titanium		
7.	Aluminium Alloy Redraw Rods	Chemical Composition	IS 4026:2023	Spark Optical emission spectrometer (Spark - OES), Atomic absorption spectrophotometer, UV-Vis Spectrophotometer
		Silicon	IS 504 (Part 1 to 12): 2002	
		Iron	(RA: 2023)	
		Copper		
		Manganese		
		Magnesium		
		Chromium		
		Zinc		
		Lead		
		Tin		
		Titanium		
		Vanadium + Titanium		
		Boron		
		Gallium		
		Zirconium		

Jikendra Parmar

Dealing Officer
Page 4 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Chemical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
--------	-------------------	---	-------------	----------------

		Other elements (each)		
		Other elements (total)		
		Aluminium (By Difference)		
8.	Plane Carbon & Low Alloy Steel	Aluminium	IS 8811:1998 (RA: 2023)	Spark Optical emission spectrometer Spark -OES)
		Arsenic		
		Boron		
		Carbon		
		Chromium		
		Cobalt		
		Copper		
		Manganese		
		Molybdenum		
		Nickel		
		Niobium		
		Phosphorus		
		Silicon		
		Sulphur		
		Tin		
		Titanium		
		Vanadium		
		Zirconium		
		Nitrogen		
		Magnesium		
		Lead		
		Tungsten		
		Calcium		
9.	Austenitic & Ferric Stainless Steel	Aluminium	IS 9879:1998 (RA: 2021)	Spark Optical emission spectrometer
		Arsenic		
		Boron		

Jikendra Parmar
Dealing Officer
Page 5 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028

Amended on: ---

Chemical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Carbon		(Spark -OES)
		Chromium		
		Cobalt		
		Copper		
		Manganese		
		Molybdenum		
		Nickel		
		Niobium		
		Phosphorus		
		Silicon		
		Sulphur		
		Tin		
		Titanium		
		Vanadium		
		Zirconium		
		Nitrogen		
		Magnesium		
		Lead		
		Tungsten		
		Calcium		
10.	Austenitic Stainless Steel	Chromium	ASTM: E-1086-2022	Spark Optical emission spectrometer (Spark -OES)
		Nickel		
		Molybdenum		
		Manganese		
		Silicon		
		Copper		
		Carbon		
		Phosphorous		
		Sulphur		

Jikendra Parmar
Dealing Officer
Page 6 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028

Amended on: ---

Chemical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Aluminum	ASTM E-415-2021	
		Antimony		
		Arsenic		
		Boron		
		Calcium		
		Carbon		
		Chromium		
		Cobalt		
		Copper		
		Manganese		
		Molybdenum		
		Nickel		
		Niobium		
		Nitrogen		
		Phosphorous		
		Silicon		
		Sulphur		
		Tin		
		Titanium		
		Vanadium		
		Zirconium		
11.	Cast Iron	Carbon	ASTM E 1999-23	Spark Optical emission spectrometer (Spark - OES)
		Chromium		
		Copper		
		Manganese		
		Molybdenum		
		Nickel		
		Phosphorous		
		Silicon		
		Sulphur		

Jikendra Parmar

Dealing Officer
Page 7 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Chemical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Tin	IS 15338:2003	
		Titanium		
		Vanadium		
		Carbon		
		Manganese		
		Phosphorous		
		Sulphur		
		Silicon		
		Copper		
		Chromium		
		Nickel		
		Aluminium		
		Molybdenum		
		Vanadium		
12.	Primary Aluminium Ingots For Re-Melting	Chemical Composition	IS 2590:1987 (RA:2022)	Spark Optical emission spectrometer (Spark - OES), Atomic absorption spectrophotometer, UV-Vis Spectrophotometer
		Copper		
		Silicon		
		Iron		
		Manganese		
		Zinc		
		Titanium + Vanadium		
		Others elements (each)		
		Aluminium (By Difference)		
13.	High Purity Aluminium Ingots For Re-Melting	Chemical Composition	IS 11890:1987 (RA:2022)	Spark Optical emission spectrometer (Spark - OES), Atomic absorption spectrophotometer, UV-Vis
		Copper		
		Silicon		
		Iron		
		Manganese		
		Magnesium		
		Zinc		

Jikendra Parmar

Dealing Officer
Page 8 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028

Amended on: ---

Chemical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Titanium + Vanadium		Spectrophotometer
		Gallium		
		Others elements (each)		
		Aluminium (By Difference)		
14.	Aluminum 1350 Drawing Stock for Electrical Purposes	Silicon	ASTM B233-98(2021)	Optical emission spectrometer, Atomic absorption spectrophotometer, UV-Visible spectrometer
		Iron		
		Copper		
		Manganese		
		Chromium		
		Zinc		
		Boron		
		Gallium		
		Vanadium + Titanium		
		Others elements (each)		
		Others elements (total)		
		Aluminum		
Group: Corrosion tests				
1.	Painted & Coated metals	Salt Spray Corrosion Test	ASTM B 117: 2026 JIS Z 2371: 2015 ISO 9227:2022 (Amd 01:2024)	Salt Spray Test Assembly
Group: Hazardous & Restricted Chemicals				
1.	Toys and Children's Products	Antimony	IS 9873-3(2020) Amd. 01:2025	Atomic Absorption Spectrometer, ICP-MS
		Arsenic		
		Barium		
		Cadmium		
		Chromium		
		Lead		
		Mercury		
		Selenium		

Jikendra Parmar

Dealing Officer
Page 9 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Chemical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Bis (2-ethylhexyl) phthalate (DEHP)	IS 9873-9(2017) IS 9873-6(2025)	Gas Chromatograph Mass Spectrometer (GC-MS)
		Butyl benzyl phthalate (BBP)		
		Di-butyl phthalate (DBP)		
		Di-iso-nonyl phthalate (DINP)		
		Di-iso-decyl phthalate (DIDP)		
		Di-n-octyl phthalate (DnOP)		
2.	Electrical and Electro-Technical Products	Bis (2-ethylhexyl) phthalate (DEHP)	IEC 62321-8:2017	-----
		Butyl benzyl phthalate (BBP)		
		Diisobutyl phthalate (DIBP)		
		Di-butyl phthalate (DBP)		
		PBB's and PBDE's - Decabrombiphenyl (B-209)	IEC 62321-6:2015	
		PBB's and PBDE's- 2,2',3,3',4,4'5,5'- Octabromobiphenyl (BB-194)		
		PBB's and PBDE's- 2,2',3,3',4,4'5,5',6- Nonabromobiphenyl(BB-206)		
		PBB's and PBDE's- 2,2'.3.3'.4.4'5.5'.6-		

Jikendra Parmar

Dealing Officer
Page 10 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028

Amended on: ---

Chemical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Nonabromodiphenylether (BDE-206)		
		PBB's and PBDE's- 2,2',3,4,4',5,6-Heptabromodiphenyl ether (BDE-181)		
		PBB's and PBDE's- 2,2',3,4,4'5,5'-Heptabromobiphenyl (BB-180)		
		PBB's and PBDE's - 2,2',3,4,4'5,5'6-Octabromodiphenylether (BDE-203)		
		PBB's and PBDE's - 2,2',4,5'-Tetrabromobiphenyl (B-049)		
		PBB's and PBDE's - 2,2',4,5',6-Pentabromobiphenyl(B-103)		
		PBB's and PBDE's - 2,2'3,3'4,4'-Hexabromodiphenylether (BDE-128)		
		PBB's and PBDE's - 2,2'4,4'5,5'-Hexabromobiphenyl (BB-153)		
		PBB's and PBDE's -		

Jikendra Parmar

Dealing Officer
Page 11 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028

Amended on: ---

Chemical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		2,4,6-Tribromobiphenyl (BB-30)		
		PBB's and PBDE's - 3,3',4,4'-Tetrabromodiphenyl ether (BDE-77)		
		PBB's and PBDE's - 3,3',4,4',5-Pentabromodiphenyl ether (BDE-126)		
		PBB's and PBDE's -3-Bromobiphenyl (B-002)		
		PBB's and PBDE's -4,4'-Dibromobiphenyl (BB-15)		
		PBB's and PBDE's -4,4'-Dibromodiphenyl ether (PBDE-15)		
		PBB's and PBDE's -4-Bromodiphenyl ether (PBDE-3)		
		PBB's and PBDE's - Decabromodiphenyl ether (BDE-209S)		
		PBB's and PBDE's-3,3',4-Tribromodiphenyl ether (BDE-035S)		
		Cadmium	IEC 62321-3-1(2013)	Atomic Absorption
		Lead	IEC 62321-5(2013)	Spectrometer, ICP-MS
		Mercury	IEC 62321-4:2013 Amd. 01: 2017	
		Chromium (Cr) VI in metal	IEC 62321-7-1:2015	UV-Vis

Jikendra Parmar

Dealing Officer
Page 12 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Chemical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Chromium (Cr) VI in Polymer	IEC 62321-7-2:2017	Spectrophotometer
3.	Polymer, Metals & Electro-Technical Products	Cadmium	IEC 62321-3-1(2013)	Atomic Absorption Spectrometer, ICP-MS
		Lead	IEC 62321-5(2013)	
		Mercury	IEC 62321-4:2013 Amd. 01: 2017	
		Chromium (Cr) VI in metal	IEC 62321-7-1:2015	UV-Vis
		Chromium (Cr) VI in Polymer	IEC 62321-7-2:2017	Spectrophotometer
Group: Ayush Products				
1.	Herbs	Adenosine	TM-AP/01:2024	HPLC (High Performance Liquid Chromatograph)
		Cordycepin		

Jikendra Parmar

Dealing Officer
Page 13 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
--------	-------------------	---	-------------	----------------

Group: Insulating Materials & Insulators

1.	New Insulating Oils as per IS: 335: 2018	Viscosity	IS:1448(Part 25/Sec 1):2025 ISO 3104:2023 IS 16084:2013 (RA:2018)	Digital Kinematic Viscosity Bath, Low Temp Kinematic Viscosity Bath
		Pour point	IS:1448(Part 10/Sec 2):2021 ISO 3016:2019	Cloud and Pour Point apparatus
		Water Content	IEC:60814: 1997	Karl Fischer Titrator
		Breakdown Voltage	IS 6792:2023 IEC 60156:2018	Automatic Oil Test Set
		Density	IS:1448(Part 16):2014 (RA: 2019) ISO 3675:1998	Liquid Glass bath (Density Bath) Refrigerated
		Dielectric dissipation factor (DDF)	IS: 6262:1971 IS 16086:2013 IEC: 61620:1998	Capacitance & Tan Delta Test set
		Particle Content	IS 13236:2013 (RA: 2018) IEC:60970: 2007	Particle counter
		Appearance	Clause 6.6 of IS 335:2018 Amd.01: 2020	Qualitative Test
		Stray gassing of oil	IS 335:2018 Amd.01: 2020 IS 10593:2023 CIGRE Brochure 296 and ASTM D7150-13(2020)	Gas Chromatograph
		Acidity	IEC:62021-1:2003 IEC:62021-2:2007	Potentiometric Titrator

Jitendra Parmar
Dealing Officer
Page 14 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
--------	-------------------	---	-------------	----------------

		Interfacial Tension (IFT)	ASTM D971:2020	Digital Surface Interfacial Tensiometer
		Total Sulphur content	ISO: 14596:2007 ASTM D 4294:2024 ASTM D129:2018	EDXRF, High Pressure Decomposition Device
		Corrosive Sulphur	DIN: 51353:2021 ASTM D1275-24 IEC: 62535:2008	Hot Air Oven
		Potentially corrosive Sulphur	IS 16310:2017 IEC 62535:2008	Hot Air Oven
		DBDS	IS:16497(Part 1):2017 IEC:62697-1:2012	Gas Chromatography Mass Spectrometer
		Inhibitors	IS: 13631:2017	HPLC (High Performance Liquid Chromatography)
		Metal Passivator additives	IEC: 60666:2010	
		2-Furfuryl Alcohol (2-Furfural and related compound content)	IS: 15668:2006 (RA: 2021) IEC: 61198:1993	HPLC (High Performance Liquid Chromatography)
		5-Hydroxymethyl-2-Furfural (2-Furfural and related compound content)	IS: 15668:2006 IEC: 61198:1993	HPLC (High Performance Liquid Chromatography)
		2-Furfural (2-Furfural and related compound content)	IS: 15668:2006 IEC: 61198:1993	HPLC (High Performance Liquid Chromatography)
		2-Furyl Methyl Ketone (2 Acetyl Furan)(2- Furfural and related compound	IS: 15668:2006 IEC: 61198:1993	HPLC (High Performance Liquid Chromatography)

Jitendra Parmar
Dealing Officer
Page 15 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		content)		
		5-Methyl-2-Furfural (2-Furfural and related compound content)	IS: 15668:2006 IEC: 61198:1993	HPLC (High Performance Liquid Chromatography)
		Oxidation Stability	Method C of IS 12422:2023 IEC 61125:2018	Oxidation Stability Test Apparatus
		a) Total acidity	As per 1.9.4 of IS 12422:2023 IEC 61125:2018	-----
		b) Sludge	As per 1.9.1 of IS:12422: 2023 IEC: 61125:2018	Weighing Balance
		c) DDF at 90°C	As per 1.9.6 of IS:12422: 2023 IEC: 61125:2018	Capacitance & Tan Delta Test set
		Gassing Tendency	Method A of IEC: 60628:1985	Gassing Tendency Apparatus
		Flash Point	IS:1448(Part 21):2019 Amd.01:2025 ISO: 2719:2025	Pensky Marten Flash Point Tester
		PCA Content	IP: 346:2004	Weighing Balance
		PCB Content	IS: 16082: 2013 (RA:2018) IEC: 61619:1997	Gas Chromatography Mass Spectrometer (GC-MS)
2.	Mineral Insulating Oils in electrical Supervision and	Color & Appearance	ISO: 2049:1996	Color Comparator
		Breakdown Voltage	IEC: 60156:2025	Automatic Oil Test Set

Jitendra Parmar
Dealing Officer
Page 16 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
	Maintenance Guidance Per IS:1866: 2017 or IEC:60422:2013	Water Content	IEC:60814: 1997	Karl Fischer Titrator
		Acidity (Neutralization value)	IEC:62021-1:2003 IEC:62021-2:2007	Potentiometric Titrator
		Dielectric Dissipation Factor (DDF) and Resistivity	IEC: 60247: 2004	Capacitance & Tan Delta Test set Resistivity (Million Mega Ohm Meter)
		Inhibitor Content	IEC: 60666:2010	HPLC (High Performance Liquid Chromatography)
		Sediment/Sludge	Annex-C of IS:1866: 2017 IEC: 60422:2024	Weighing Balance
		Interfacial Tension (IFT)	ASTM D971:2020 BSEN 14210:2003	Digital Surface Interfacial Tensiometer
		Particle (Counting and Sizing)	IEC: 60970:2007	Particle counter
		Oxidation Stability	IEC: 61125:2018	Oxidation Stability Test Apparatus
		a) Total acidity		-----
		b) Sludge		Weighing Balance
		c) DDF at 90°C		Capacitance & Tan Delta Test set
		Flash point	ISO 2719 :2025	Pensky Marten flash Point Tester
		Compatibility	IEC: 61125:2018	Qualitative Test (Not Applicable)

Jitendra Parmar
Dealing Officer
Page 17 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Pour point	ISO: 3016:2019	Cloud Point & Pour Point Apparatus
		Density	ISO 3675:1998	Liquid Glass bath (Density Bath) Refrigerated
		Viscosity	ISO 3104:2023	Digital Kinematic Viscosity Bath, Low Temp kinematic Viscosity Bath
		Polychlorinated Biphenyls (PCBs)	IEC 61619:1997	Gas Chromatograph Mass Spectrometer (GC-MS)
		Corrosive Sulphur	IEC 62535:2008 ASTM D1275:2024, Method B of DIN 51353:2021	Hot Air Oven
		Dibenzyl Disulfide (DBDS) Content	IEC 62697-1:2012	Gas Chromatograph Mass Spectrometer (GC-MS)
		Passivator Content	Annex B of IEC: 60666:2010	HPLC (High Performance
		Dissolved Gas Analysis	IS 10593:2023	Liquid

Jitendra Parmar
Dealing Officer
Page 18 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
--------	-------------------	---	-------------	----------------

			EC 60599:2022 ASTM D3612:2026 IS 9434:2019 IEC 60567:2011	Chromatograph)
3.	Unused Natural Ester Fluid and Synthetic Ester Fluid IS 16081: 2013/IEC 61099: 2010, IS 16659: 2017/IEC 62770:2024	Viscosity	IS:1448(Part 25/Sec 1): 2025 ISO: 3104:2023	Digital Kinematic Viscosity Bath, Low Temperature Kinematic Viscosity Bath
		Pour point	IS:1448(Part 10/Sec2): 2021 ISO: 3016:2019 ASTM D97-17b-2022	Cloud and Pour Point Apparatus
		Water Content	IEC:60814: 1997, IS 13567:2018 ASTM D1533-2020	Karl Fischer Titrator
		Breakdown Voltage	IS 6792:2023 IEC 60156:2018, ASTM D1816-12(2019)	Automatic Oil Test Set
		Density	IS:1448(Part 16): 2014 (RA:2019) ISO 3675:1998 ISO 12185:2024	Liquid Glass bath (Density Bath) Refrigerated
		Dielectric dissipation factor (DDF)	IS 16086:2013 (RA:2018) IEC: 61620:1998 IEC 60247:2004	Capacitance & Tan Delta Test set
		Particle Content	IS 13236:2013 (RA:2018) IEC:60970: 2007	Particle counter
		Acidity (Neutralization	IEC:62021-1:2003	-----

Jikendra Parmar
Dealing Officer
Page 19 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
--------	-------------------	---	-------------	----------------

		Value)	IEC:62021-2:2007 ASTM D664-24	
		Interfacial Tension (IFT)	ASTM D971:2020, BS EN 14210-2003	Digital Surface Interfacial Tensiometer
		Total Sulphur content	ISO: 14596:2007 ASTM D4294:2021 ASTM D129:2018	EDXRF, High Pressure Decomposition Device
		Corrosive Sulphur	DIN: 51353:2021 ASTM D1275-24 ISEC 62535: 2008	Hot Air Oven
		Potentially corrosive Sulphur	IS: 16310:2017 IEC: 62535:2008	Hot Air Oven
		DBDS	IS:16497(Part 1): 2017 IEC:62697-1:2012	Gas Chromatograph Mass Spectrometer GC- MS
		Total Additives:		
		a) Inhibitors	IS: 13631:2017 IEC: 60666:2010	HPLC (High Performance Liquid Chromatograph)
		b) Metal Passivator Additives		
		2-Furfural and related compound:		
		a) 5-Hydroxymethyl-2- furfural (5-HMF)	IEC: 61198:1993 IS: 15668:2006 (RA:2021)	HPLC (High Performance Liquid Chromatograph)
		b) 2-Furfural (2-FAL)		
		c) 2-Acetylfuran (2-ACF)		
		d) 2-Furfural alcohol (2- FOL)		
		e) 5 methyl 2-furfural (5-		

Jitendra Parmar
Dealing Officer
Page 20 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
--------	-------------------	---	-------------	----------------

		MF)		
		After Oxidation Stability:		
		a) Total Acidity After Oxidation Stability	IS: 12422:2023 IEC: 61125:2018 (Method C)	Oxidation Stability Test Apparatus
		b) Sludge After Oxidation Stability		Weighing Balance
		c) DDF at 90°C		Capacitance & Tan Delta Test set
		d) Viscosity at 40°C		Digital Kinematic Viscosity Bath, Low Temperature kinematic Viscosity Bath
		Gassing Tendency	IEC: 60628:1985	Gassing Tendency Apparatus
		Flash Point	IS:1448(Part21)-2019 Amd 01:2025 ISO: 2719:2025	Pensky Marten Flash Point Tester
		Fire Point	ISO:2592 ASTM D92-24	Flash point and fire Point-Cleveland Open Cup
		PCA Content	IP: 346:2015	Weighing Balance
		PCB Content	IS: 16082:2013 (RA:2018) IEC: 61619:1997 ASTM D4059-00 (2018)	Gas Chromatography Mass Spectrometer
		Color	ISO: 2049:1996 ASTM D1500-24	Color Comparator

Jitendra Parmar
Dealing Officer
Page 21 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Appearance	IS 16081:2013 (RA:2018) IS 16659:2017	-----
		Crystallization	IS 16081:2013 (RA:2018)	-----
		Performance	IS 16659:2017	-----
		Dielectric breakdown voltage, impulse conditions	ASTM D3300-20	Automatic Oil Test Set
		AC loss characteristics—dissipation factor and relative permittivity	ASTM D924 -23	Capacitance & Tan Delta Test Set
		Compatibility and miscibility	ASTM D7752-18 ASTMD7155-20 ASTM D6922-13(2025) ASTM D3455-11(2019)	Hot Air Oven
		Kinematic viscosity	ASTM D445-24	Digital Kinematic Viscosity Bath, Low Temperature
		Relative density (specific gravity)	ASTMD1298-24	Liquid Glass bath (Density Bath) Refrigerated
		Volume resistivity (specific resistance)	ASTM D1169-19a	Resistivity (Million Mega Ohm Meter)
		Visual examination field test and color)	ASTM D1500:2024 ASTM D1524-15(2022)	Color Comparator
		Gassing of insulating oils under electrical stress and ionization	ASTM D2300-08 (2017)	Gassing Tendency Apparatus
		Acid and Base Number by Color indicator Titration	ASTM D974-2022	-----

Jitendra Parmar
Dealing Officer
Page 22 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
--------	-------------------	---	-------------	----------------

		Dissolved gases:		
		a) Hydrogen (H ₂)	IS 9434:2019	Gas Chromatography (GC)
		b) Oxygen (O ₂)	IS: 10593:2023	
		c) Nitrogen (N ₂)	ASTM D3612-02 (2017)	
		d) Carbon Monoxide (CO)		
		e) Methane (CH ₄)		
		f) Ethane (C ₂ H ₆)		
		g) Ethylene (C ₂ H ₄)		
		h) Acetylene (C ₂ H ₂)		
		i) Carbon Dioxide (CO ₂)		
4.	Used Natural Ester Fluid and Synthetic Ester Fluid IS 16099:2013/IEC 61203:2025, IS 16899:2023/IEC 62975:2021	Viscosity	IS:1448(Part 25/Sec 1):2025 ISO:3104:2023	Viscosity Bath, Low Temperature Kinematic Viscosity Bath
		Pour point	IS:1448(Part 10/Sec 2):2021 ISO: 3016:2019 ASTM D97-17b-2022	Cloud and Pour Point Apparatus
		Water Content	IEC:60814: 1997 IS 13567:2018 ASTM D1533-2020	Karl Fischer Titrator
		Breakdown Voltage	IS 6792:2023 IEC 60156:2018 ASTM D1816-12(2019)	Automatic Oil Test Set
		Density	IS:1448(Part 16):2014 (RA:2019) ISO 3675:1998	Liquid Glass bath (Density Bath) Refrigerated

Jitendra Parmar
Dealing Officer
Page 23 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Dielectric dissipation factor, permittivity and dc resistivity	IEC 60247:2004 IS 16086:2013 IEC:61620:1998	Capacitance & (DDF) Tan Delta Test set, Resistivity (Million Mega Ohm Meter)
		Particle Content	IS 13236:2013 IEC:60970: 2007	Particle Content
		Acidity	IEC:62021-1:2003 IEC:62021-2:2007 IEC: 62021-3:2014 ASTM D664-24	Potentiometer
		Interfacial Tension (IFT)	ASTM D971:2020 BS EN 14210-2003 IEC 62961:2018	Digital Surface Interfacial Tensiometer
		Total Sulphur content	ISO: 14596:2007 ASTM D4294:2024 ASTM D129:2018	EDXRF
		Corrosive Sulphur	DIN: 51353:2021 ASTM D1275-24	Hot Air Oven
		Potentially corrosive Sulphur	IS: 16310:2017 IEC:62535:2008	Hot Air Oven
		DBDS	IS:16497(Part-1) : 2017 IEC:62697-1:2012	Gas Chromatograph Mass Spectrometer (GC-MS)
		Inhibitors, Metal Passivator additives	IS: 13631:2017 IEC: 60666:2010	HPLC (High Performance Liquid Chromatograph)
		2-Furfural and related compound:		

Jitendra Parmar
Dealing Officer
Page 24 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		a) 5-Hydroxymethyl-2-furfural (5-HMF) b) 2-Furfural (2-FAL) c) 2-Acetylfuran (2-ACF) d) 2-Furfural alcohol (2-FOL) e) 5-Methyl 2-furfural (5-MF)	IEC: 61198:1993 IS: 15668:2006 (RA:2021)	HPLC (High Performance Liquid Chromatograph)
		After Oxidation stability:		
		a) Total acidity	IS: 12422:2023 IEC: 61125:2018 (Method C)	Oxidation Stability Test Apparatus
		b) Sludge		Weighing Balance
		c) DDF at 90°C		Capacitance & Tan Delta Test set
		d) Viscosity at 40°C		Digital Kinematic Viscosity Bath, Low Temp kinematic Viscosity Bath
		Gassing Tendency	IEC: 60628:1985 ASTM D2300-08(2026)	Gassing Tendency Apparatus
		Flash Point	IS:1448(Part-21):2019 Amd 01:2025 ISO: 2719:2025	Pensky Marten flash Point Tester
		Flash Point & Fire Point	ASTM D92-24 ISO 2592: 2017	Flash point and fire Point-Cleveland Open Cup
		PCA Content	IP: 346:2004	Weighing Balance
		PCB Content	IS: 16082:2013 (RA:2018) IEC: 61619:1997	Gas Chromatograph Mass Spectrometer (GC-MS) (GC-MS)

Jitendra Parmar
Dealing Officer
Page 25 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
			ASTM D4059-00(2018)	
		Colour	ISO: 2049:1996 ASTM D1500-24	Colour Comparator
		Appearance	IS 16081:2013 (RA:2018) IS:16659:2017	-----
		Crystallization	IS 16081:2013 (RA:2018)	Deep Freezer
		Performance	IS: 16659:2017	-----
		Dielectric breakdown voltage, impulse conditions	ASTM D3300-20	Impulse Analyser
		AC loss characteristics—dissipation factor and relative permittivity	ASTM D924 -23	Capacitance & Tan Delta Test set
		Kinematic viscosity	ASTM D445-24	Digital Kinematic Viscosity Bath Low Temp
		Relative Density (Specific Liquid Glass Bath Gravity)	ASTM D1298-24	Density Bath, Refrigerated
		Volume Resistivity (Specific Resistance)	ASTM D1169-19a IEC 60247: 2004	Resistivity (Million Mega Ohm Meter)
		Visual Examination Field Test and Colour	ASTM D1500:2024 ASTM D1524-15(2022)	Comparator Test And Colour
		Gassing Of Insulating Oils Under Electrical Stress And Ionization	ASTM D2300-08 (2026)	Gassing Tendency Apparatus
		Acid Number By Colour Indicator Titration	ASTM D974-2022	-----
		Compatibility And Miscibility	ASTM D7752-18 ASTMD7155-20 ASTM D6922-13(2025) ASTM D3455-11(2019)	-----

Jitendra Parmar
Dealing Officer
Page 26 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
--------	-------------------	---	-------------	----------------

		Dissolved gases:		
		a) Hydrogen (H2)	IS 9434:2019	Gas Chromatograph (GC)
		b) Oxygen (O2)	IS: 10593:2023	
		c) Nitrogen (N2)	ASTM D3612-02 (2017)	
		d) Carbon Monoxide (CO)		
		e) Methane (CH4)		
		f) Ethane (C2H6)		
		g) Ethylene (C2H4)		
		h) Acetylene (C2H2)		
		i) Carbon Dioxide (CO2)		

Group- Inductor and Transformer

1.	Outdoor/Indoor Type Oil Immersed Distribution Transformers up to and including 2500 kVA, 33 kV	Measurement of Winding Resistance	IS 1180(Part 1):2014 Amd. 04:2021 IS 2026(Part 1):2011 (RA:2021) IEC 60076 (Part 1):2011	Digital Micro-ohm meter
		Measurement of Voltage ratio and Check Of Phase Displacement	IS 1180(Part 1):2014 Amd. 04:2021 IS 2026(Part 1):2011 (RA:2021) IEC 60076 (Part 1):2011	Automatic Turn-Ratio Meter
		Measurement of Short Circuit Impedance (applicable) and Load Loss at 50% and 100 % load	IS 1180(Part 1):2014 Amd. 04:2021 IS 2026(Part 1):2011 (RA:2021) IEC 60076 (Part 1):2011	Digital Power meter
		Measurement of No- Load Loss And Current	IS 1180(Part 1):2014 Amd. 04:2021 IS 2026(Part 1):2011 (RA:2021)	Digital Power meter

Jitendra Parmar
Dealing Officer
Page 27 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
--------	-------------------	---	-------------	----------------

			IEC 60076 (Part 1):2011	
		Measurement of insulation resistance	IS 1180(Part 1):2014 Amd. 04:2021 IS 2026(Part 1):2011 (RA:2021) IEC 60076 (Part 1):2011	Digital Insulation Tester
		Induced over-voltage withstand test	IS 1180(Part 1):2014 Amd. 04:2021 IS 2026(Part 3):2018 (RA:2023) Amd.01:2024 IEC 60076 (Part 3):2013 Amd.01:2018	Motor generator Set
		Separate source voltage withstand test (Primary & secondary)	IS 1180(Part 1):2014 Amd. 04:2021 IS 2026(Part 3):2018 (RA:2023) Amd.01:2024 IEC 60076 (Part 3):2013 Amd.01:2018	High-Voltage Test Set
		Pressure Test (Routine Test)	IS 1180(Part 1):2014 Amd. 04:2021	Pressure Gauge
		Oil leakage Test	IS 1180(Part 1):2014 Amd. 04:2021	Pressure Gauge
		Lightning Impulse Test	IS 1180(Part 1):2014 Amd. 04:2021 IS 2026(Part 3):2018 (RA:2023) Amd.01:2024 IEC 60076 (Part 3):2013 Amd.01:2018	Impulse Generator, Analyzer, Impulse Current Shunt

Jitendra Parmar
Dealing Officer
Page 28 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Temperature rise test	IS 1180 (Part 1):2014 Amd. 04:2021 IS 2026 (Part 2):2010 RA:2020 IEC 60076 (Part-2):2011	Temp. Data logger/16 Channel & Digital Power Meter
		Pressure test (Type Test)	IS 1180 (Part 1):2014 Amd. 04:2021	Pressure Gauge
		Determination of sound level	IS 1180(Part 1):2014 Amd. 04:2021IS 2026 (Part 10):2025IEC 60076 (Part-10):2016	Sound Level meter
		No load current at 112.5 % voltage	IS 1180(Part 1):2014 Amd. 04:2021	Digital power meter
		Paint adhesion test	IS 1180 (Part 1):2014 Amd. 04:2021 ASTM D3359:2023	Cutting Tool, Tape, Brush, Eye glass Lenses.
		Oil BDV and moisture content of transformer oil	IS 1180(Part 1):2014 Amd. 04:2021 IS 335:2018 Amd.01: 2020	Motorized Oil Test Set and Karl Fischer titrator
		Measurement of dimension and physical verification	IS 1180(Part 1):2014 Amd. 04:2021	-----
		Permissible flux density and over fluxing	IS 1180(Part 1):2014 Amd. 04:2021	-----
		Measurement of zero-sequence impedance(s) on three phases transformers	IS 2026(Part 1):2011 (RA:2021) IEC 60076-1:2011	Digital Power Meter
		Measurement of Harmonic	IS 2026(Part 1):2011	Digital Power Meter

Jitendra Parmar
Dealing Officer
Page 29 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		on no-load current	(RA:2021) IEC 60076-1:2011	
		Measurement of dissipation factor tan delta of the insulation system capacitances	IS 2026(Part 1):2011 (RA:2021) IEC 60076-1:2011	Capacitance & Ten-Delta Test Set
		Determination of capacitance winding to earth and between windings	IS 2026(Part 1):2011 (RA:2021) IEC 60076-1:2011	Capacitance & Ten-Delta Test Set
		Unbalance Current Test	CBIP Publication No.: 317:2013	Digital Power Meter, Clamp Meter
		Magnetic Balance Test	CBIP Publication No.: 317:2013	Digital Power Meter
2.	Dry Type Transformer up to 2500 kVA, 33 kV	Measurement of Winding Resistance	IS 2026(Part 1):2011 (RA:2021) IEC 60076(Part 1):2011 IS 2026(Part 11): 2021	Digital Micro-ohm Meter
		Measurement of Voltage ratio and check of phase displacement	IS 2026(Part 1):2011 (RA:2021) IEC 60076(Part 1):2011, IS 2026(Part 11): 2021	Automatic Turn-Ratio
		Measurement of short circuit impedance (principal tapping, when applicable) and Load Loss at 50 % and 100 %load	IS 2026(Part 1):2011 (RA:2021) IEC 60076(Part 1):2011 IS 2026(Part 11): 2021	Digital power meter
		Measurement of no-load loss and current	IS 2026(Part 1):2011 (RA:2021)	Digital power meter

Jitendra Parmar
Dealing Officer
Page 30 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
			IEC 60076 (Part 1):2011 IS 2026 (Part 11):2021	
		Measurement of insulation resistance	IS 2026(Part 1):2011 (RA:2021) IEC 60076(Part 1):2011	Insulation tester
		Induced over- voltage withstand test	IS 2026(Part 3):2018 (RA:2023) Amd.01:2024 IEC 60076 (Part 3):2013 Amd.01:2018 IS 2026(Part 11):2021	Motor Generator Set
		Separate source voltage withstands test (Primary & secondary)	IS 2026(Part 3):2018 (RA:2023) Amd.01:2024, IEC 60076 (Part 3):2013 Amd.01:2018 IS 2026 (Part 11):2021	High-Voltage Test Set
		Lightning Impulse test	IS 2026(Part 3):2018 (RA:2023) Amd.01:2024 IEC 60076 (Part 3):2013 Amd.01:2018 IS 2026(Part 11):2021	Impulse Measuring &, Analysing System Impulse Current Shunt
		Temperature rise test	IS 2026(Part 2):2010 (RA:2020) IEC 60076 (Part 2):2011 IS 2026(Part 11):2021	Temp. Data logger/16 Channel & Digital Power Meter
		Partial discharge measurement	IS 2026(Part 3):2018 (RA:2023) Amd.01:2024 IEC 60076 (Part 3):2013 Amd.01:2018	PD Test Analyzer, PD Calibrator

Jitendra Parmar
Dealing Officer
Page 31 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
			IS 2026(Part 11):2021	
		Determination of sound level	IS: 2026(Part 10):2025 IS 2026(Part 11):2021 IEC:60076 (Part-10):2016	Sound Level Meter
		Measurement of zero-sequence impedance (s) on three phase transformer	IS 2026(Part 1):2011 (RA:2021) IEC:60076-1:2011	Digital Power meter
		Measurement of Harmonic on no-load current	IS 2026(Part 1):2011 (RA:2021) IEC: 60076-1: 2011	Digital Power meter
		Measurement of dissipation factor tan delta of the insulation system capacitance	IS 2026 (Part 1): 2011 (RA:2021) IEC: 60076-1: 2011	Capacitance & Ten-Delta Test Set
		Determination of capacitance winding to earth and between windings	IS 2026(Part 1):2011 (RA:2021) IEC 60076-1: 2011	Capacitance & Ten-Delta Test Set
		Unbalance Current Test	CBIP Publication No.: 317:2013	Digital Power meter, Clamp meter
		Magnetic Balance Test	CBIP Publication No.: 317:2013	Digital Power Meter/Multi meter
3.	Outdoor/Indoor Type Ester Oil Immersed Distribution Transformers up to and including 2500 kVA, 33 kV as per IS 1180 Part-3:2021	Measurement of Winding Resistance	IS 1180 (Part 3):2021 IS 2026(Part 1):2011 (RA:2021)	Digital Micro- ohm Meter
		Measurement of Voltage ratio and check of phase displacement	IS 1180 (Part3):2021 IS 2026(Part 1):2011 (RA:2021)	Automatic Turn-Ratio Meter
		Measurement of Short Circuit Impedance (principal	IS 1180 (Part 3):2021 IS 2026(Part 1):2011	Digital Power meter

Jitendra Parmar
Dealing Officer
Page 32 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
--------	-------------------	---	-------------	----------------

		tapping, when applicable) and Load Loss at 50% and 100 % load	(RA:2021)	
		Measurement of no-load loss and current	IS 1180 (Part 3):2021 IS 2026(Part 1):2011 (RA:2021)	Digital Power meter
		Measurement of insulation resistance	IS 1180 (Part 3):2021 IS: 2026 (Part-1): 2011 (RA 2021)	Digital Insulation Tester
		Induced over- voltage withstand test	IS 1180 (Part 3):2021 IS 2026(Part 3):2018 (RA:2023) Amd.01:2024	Digital Volt meter, Digital Frequency meter
		Separate source voltage withstand test	IS 1180 (Part 3):2021 IS 2026(Part 3):2018 (RA:2023) Amd.01:2024	AC High voltage Test Set
		Pressure Test (Routine Test)	Cl.21.2 h of IS 1180 (Part 3):2021	Pressure Gauge
		Ester Liquid leakage Test	IS 1180 (Part 3):2021	Pressure Gauge
		Lightning Impulse Test	IS 1180 (Part 3):2021 IS 2026(Part 3):2018 (RA:2023) Amd.01:2024	Impulse Generator, Analyzer, Impulse Current Shunt
		Temperature rise test	IS 1180 (Part 3):2021 IS 2026 (Part 2):2010 IEC 60076 (Part-2):2011	Temp Data logger/ 16 Channel & Glass Thermometer
		Pressure test (Type Test)	IS 1180 (Part 3):2021	Pressure Gauge
		Determination of sound level	IS 1180 (Part 3):2021 IS 2026 (Part 10):2025 IEC 60076 (Part-10):2016	Sound Level Meter

Jitendra Parmar
Dealing Officer
Page 33 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		No load current at 112.5 % voltage	IS 1180 (Part 3):2021	Digital Power meter
		Paint adhesion test	IS 1180 (Part 3):2021 ASTM D3359:2023	Cutting Tool, Tape, Brush, Eye glass Lenses.
		Break down Voltage of transformer oil	IS 1180 (Part 3):2021 IEC 60156:2025	Motorized Oil Test Set
		Moisture content in transformer oil	IS 1180 (Part 3):2021 IEC 60814:1997	Karl Fischer titrator
		Measurement of dimension and physical verification	IS 1180 (Part 3):2021	Measuring Tape
		Permissible flux density and over fluxing	IS 1180 (Part 3):2021	Micro meter
		Vacuum test	IS 1180 (Part 3):2021	Vacuum Gauge
4.	Outdoor/Indoor Type Oil Immersed Distribution Transformers up to and including 2500 kVA, 33 kV	No load current at 90%, 100%, and 110%	IS 1180 (Part 1):2014 Amd. 04:2021 IS 2026 (Part 1):2011 (RA:2021) IEC 60076 (Part 1): 2011 IS 1180 (Part 3):2021	Digital Power Meter
5.	Dry Type Transformer up to 2500 kVA, 33 kV	No load current at 90%, 100%, and 110%	IEC 60076 (Part 1):2011, IS 2026 (Part 11):2021	Digital Power Meter
Group: Cables & Wires				
1.	5 kV to 46 kV Extruded Electric Power Cables	Dicumyl Peroxide Alpha Methyl Styrene (2-Phenyl Propane) Acetophenone Alpha Cumyl Alcohol (2 phenyl Propane-2 ol)	TM-XLPE/02 By Gas Chromatography	Gas Chromatography Mass Spectrometer

Jitendra Parmar
Dealing Officer
Page 34 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
--------	-------------------	---	-------------	----------------

		Oxidation induction time (OIT)	ASTM D3895:2019 (Optical Induction Time Tester)	Differential Scanning Calorimetry (Oxidation Induction Time Tester)
2.	300/500 V fire resistant screened cables having low emission of smoke and corrosive gases when affected by fire: Multicore and multipair cables	Conductor Resistance	BS 7629-1:2015 (Amd 1:2019)	Senior Industrial Kelvin bridge
		Halogen Acid Gas Evolution / Corrosive & halogen acid gas		-----
		Resistance to fire alone (Protocol C)		
		Resistance to fire to with water (Protocol W)		
		Resistance to fire with mechanical shock (Protocol Z)		
		Resistance to fire with mechanical shock and water spray (Classification PH15, PH30, PH60, PH90, PH120)		
		Smoke Density under Fire Conditions		
		Test under Fire Conditions / Flammability Test		
		Visual tests		
		Cable construction		
		Continuity of tinning		
		Thickness		
		Spark test		
		Clarity and durability		Kelvin bridge, HV test apparatus

Jitendra Parmar
Dealing Officer
Page 35 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Lay length		
		Voltage test on complete cable		
		Voltage withstands		
		Smoke emission		
		Ovality		
		Shrinkage of insulation		
		Bending characteristics		
		Resistance to impact		
		Shrinkage test on sheath		
		Drain wire resistance		
3.	Aerial Bunched Cables for working voltages up to and including 1100V	Ageing in Air Oven	IS 14255:1995 (RA:2020)	-----
		Bending Test		-----
		Breaking load on Messenger Conductor		Digital Tensile Testing Machine
		Carbon Content Test		-----
		Conductor Resistance		Industrial Kelvin Double Bridge
		Elongation on Messenger Conductor		Digital Tensile Testing Machine
		Environmental stress cracking		-----
		High Voltage test at room temperature		HV Tester
		Hot Set Test		-----
		Insulation Resistance		Million Megaohm Meter
		Shrinkage Test		-----
		Tensile strength and elongation at break on Insulation and Sheath		Digital Tensile Testing Machine

Jitendra Parmar
Dealing Officer
Page 36 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Tensile Strength for Aluminium Wires		Digital Tensile Testing Machine
		Test for eccentricity and Thickness of insulation and sheath / Overall Dimensions		Digital Vernier Caliper
		Vicat Softening Point		-----
		Water Absorption Test (Gravimetric)		-----
		Wrapping Test for Aluminium Wires		-----
		Visual tests		-----
		Cable construction		-----
4.	Aerial Bundled Conductors - Performance of Supporting Cores under Mechanical and Thermal Stresses	Performance of Supporting Cores	SANS 6100:2007	Thermal Stress-Strain Test Apparatus
5.	Armoured Cables with Thermosetting Insulation for rated voltages from 3.8/6.6 kV to 19/33 kV	Ageing in Air Oven	BS 6622:2007	-----
		Bending Test		-----
		Cold Impact Test		-----
		Compatibility Test		-----
		Conductor Resistance		-----
		Dielectric Power Factor Test as a function of voltage		Tan delta test set
		Elongation Test at Low Temperature		-----
		Heat Cycle Test		Heating cycle test apparatus
		Heat Shock Test		Hot air oven

Jitendra Parmar
Dealing Officer
Page 37 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		High Voltage Test (4 Hour Test)		HV Tester
		High Voltage test at room temperature		----
		Hot deformation test / Pressure Test at High Temperature		----
		Hot Set Test		----
		Impulse Withstand Test		----
		Loss of Mass		----
		Partial Discharge Test		PD test setup
		Power Factor Test as a function of temperature		Tan delta test set
		Tensile strength and elongation at break on Insulation and Sheath		----
		Test for eccentricity and Thickness of insulation and sheath / Overall Dimensions		----
		Test on extruded semi conducting screens- Volume Resistivity		Digital Ohmmeter
		Water Absorption Test (Gravimetric)		----
		Visual tests		----
		Cable construction		----
		Ageing in Air Oven		----
6.	Armoured Cables with Thermosetting Insulation having low emission of smoke	Bending Test	BS 7835:2007	
		Bending Test at low Temperature		
		Cold Impact Test		
		Conductor Resistance		
		Dielectric Power Factor Test		

Jitendra Parmar
Dealing Officer
Page 38 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
--------	-------------------	---	-------------	----------------

	and corrosive gases when affected by fire	as a function of voltage Dimension for Armouring Material Elongation Test at Low Temperature Flame Retardance Test on Bunched cable Halogen Acid Gas Evolution / Corrosive & halogen acid gas Heat Cycle Test High Voltage Test (4 Hour Test) High Voltage test at room temperature Hot deformation test / Pressure Test at High Temperature Hot Set Test Impulse Withstand Test Insulation Resistance Mass of Zinc Coating Partial Discharge Test Power Factor Test as a function of temperature Shrinkage Test Smoke Density under Fire Conditions Tensile strength & Elongation at break for armouring material Tensile strength and elongation at break on Insulation and Sheath Tensile Strength for		
--	---	--	--	--

Jitendra Parmar
Dealing Officer
Page 39 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Aluminium Wires		
		Test for eccentricity and Thickness of insulation and sheath / Overall Dimensions		
		Test under Fire Conditions / Flammability Test		
		Water Absorption Test (Gravimetric)		
		Winding/ Wrapping Test on Galvanized steel strip for Armouring		
		Visual tests		
		Cable construction		
7.	Armouring material of electric cables	Dimension for Armouring Material	IS 10810 (Part 36):1984 (RA:2021)	-----
8.	Bundled assembled cores for overhead system of rated voltages 0.6/1.0 kV	Absence of capillary water rising	NFC 33-209:1996	-----
		Dielectric strength		
		Adhesion of Neutral Core Sheath		
		Behaviour of neutral core under thermal and mechanical stresses		Thermal Stress-strain test apparatus
		Breaking Force of Conductors		-----
		Dimensions of Conductors		
		Dimensions of Insulating sheath		-----
		Hot Set Test		
		Impulse Voltage Test		
		Insulation Resistance		Million mega ohm meter
		Minimum Tensile Strength		

Jitendra Parmar
Dealing Officer
Page 40 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		and Minimum Elongation of Insulating Sheath		-----
		Perforation susceptibility of insulating sheath		
		Shrinkage Test		
		Stranding Pitch of Conductors		
		Weather Resistance		UV test apparatus
		Visual tests		-----
		Cable construction		
9.	Classification of the fire and mechanical performance of wiring system elements	Assessing the ability of unenclosed sheathed cables and non-metallic wiring enclosures to withstand cutting action	AS/NZS 3013:2005	-----
		Circuit integrity against mechanical damage		
		Circuit integrity under fire condition		
		Circuit integrity when subject to both fire conditions and spraying with water		
10.	Accelerated Aging Tests for 5 kV to 46 kV Extruded Electric Power Cables Using Water-Filled Tanks	Water Treeing Test (Accelerated cable life test)	IEEE 1407:2021	HV tester and Treeing test apparatus
11.	Cables for control and instrumentation circuits 150/250 V	Additional aging test on pieces of complete cable	IEC 60092-376:2025	-----
		Bunched cable flame spread test		

Jitendra Parmar
Dealing Officer
Page 41 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
	(300 V)	Cable dimension		
		Conductor resistance		
		Coverage density of braid		
		Fire resistance test (test for circuit integrity cables)		FS test setup
		High voltage test		-----
		Hot set test		-----
		Inductance to resistance ratio		LCR meter
		Insulation resistance test		Million megaohm meter
		Mutual capacitance		LCR meter
		Smoke emission test		-----
		Thickness of insulation and sheath		-----
		Visual tests		-----
		Cable construction		-----
		Additional aging test on pieces of complete cable		
		Bunched cable flame spread test		FS test setup, LCR meter, Million mega ohm meter
		Cable dimension		
		Conductor resistance		
		Coverage density of braid		
		Fire resistance test (test for circuit integrity cables)		
		High voltage test		
		Hot set test		
		Inductance to resistance ratio		
		Insulation resistance test		
		Smoke emission test		
		Thickness of insulation and		

Jitendra Parmar
Dealing Officer
Page 42 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
--------	-------------------	---	-------------	----------------

12.	Cables for Motor Vehicle	sheath	IS 2465:1984 (RA:2021) Amd 01:1986	
		Ageing in Air Oven		-----
		Annealing Test for Copper Wire		
		Capacitance Test		LCR meter
		Conductor Resistance		Industrial kelvin double Bridge
		Effect of lubricating oil, break fluid, diesel, petrol (for general wiring cables)		-----
		Heat Shock Test		
		High Voltage test (Water immersion)		
		High Voltage test at room temperature		
		Hot deformation test / Pressure Test at High Temperature		-----
		Loss of Mass		-----
		Oil Resistance Test		-----
		Ozone Resistance Test		Ozone Chamber
		Persulphate Test/ Tinning Test		-----
		Shrinkage Test		
		Tensile strength and elongation at break on Insulation and Sheath		
		Test for eccentricity and Thickness of insulation and sheath / Overall Dimensions		
		Visual tests		
		Cable construction		
13.	Carbon Black Content	Carbon Content Test	ASTM D1603:20	Carbon black test

Jitendra Parmar
Dealing Officer
Page 43 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
	in Olefin Plastics			apparatus
14.	Charging cables for electric vehicles	Bending at low temperature Elongation at break Elongation at low temperature Hot set test Pressure test at high temperature Tensile strength Visual tests Cable construction	IEC 62893-1:2017 Amd 01:2020	-----
15.	Guide for the determination of thermal endurance properties of electrical insulating materials	Thermal Endurance Test (Choice of test criteria)	IEC 60216-2:2005	-----
16.	Communication cable	Capacitance Test Inductance Test Conductor Elongation at Break Conductor Resistance DC resistance test Dielectric test Insulation resistance	BS EN 50289-1-5:2001 BS EN 50289-1-12:2005 BS EN 50289-1-2:2023 BS EN 50289-3-2:2001 BS EN 50289-1-2:2023 BS EN 50289-1-3:2001 BS EN 50289-1-4:2001	LCR Meter ----- ----- Kelvin Double Bridge ----- ----- Million megaohm meter
17.	Compounds for cables and pipes /	Anti rodent test	NPCIL specification I28.KK34.0.0.ET.PM.PRO	-----

Jitendra Parmar
Dealing Officer
Page 44 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
--------	-------------------	---	-------------	----------------

	ducts		72 RDSO/SPN/204:2011	
		Anti termite test	NPCIL specification I28.KK34.0.0.ET.PM.PRO 72 RDSO/SPN/TC/45:201 3	
18.	Conductors - Covered overhead - For working voltages 6.35/11(12) kV up to and including 19/33(36) kV	Adhesion test	AS/NZS 3675:2002	-----
		Carbon black dispersion		-----
		Dripping test		-----
		Dynamic water blocking test		-----
		High voltage test		-----
		Inter stand conductivity test		-----
		Resistivity test		-----
		Spark test		Spark tester
		Static water blocking test		-----
		Thickness of covering		-----
		Ultimate tensile stress test		-----
		UV test		UV apparatus
		Wire diameter		-----
		Wrapping test		
		Visual tests		
		Cable construction		
19.	Conductors in insulated electric cables and flexible cords	Conductor diameter	AS/NZS 1125:2001	-----
		Conductor resistance	Amd.01:2004	
		Visual tests		
		Cable construction		
20.	Conductors of Insulated Cables	Conductor Resistance	BS EN IEC 60228:2024,	-----
		Persulphate Test/ Tinning Test	IEC 60228:2023	-----

Jitendra Parmar
Dealing Officer
Page 45 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Tensile Strength for Aluminium Wires		Tensile testing machine
		Visual tests		-----
		Cable construction		-----
21.	Control and Instrumentation Cables for Polyethylene Insulated Cables	Ageing in Air Oven	PAS 5308-1:2009	-----
		Capacitance Test		LCR Meter
		Conductor Resistance		-----
		Dimension for Armouring Material		
		Heat Shock Test		
		High Voltage test at room temperature		
		Hot deformation test / Pressure Test at High Temperature		
		Inductance Test		
		Insulation Resistance		
		L/R Ratio Test		
		Loss of Mass		
		Mass of Zinc Coating		
		Resistivity & Conductance test of Armour (Wires/strips)		Digital ohmmeter
		Shrinkage Test		-----
		Tensile strength & Elongation at break for armouring material		
		Tensile strength and elongation at break on Insulation and Sheath		
		Test for eccentricity and Thickness of insulation and sheath / Overall Dimensions		

Jitendra Parmar
Dealing Officer
Page 46 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Torsion Test on Galvanized steel wire for Armouring		
		Uniformity of Zinc coating (Dip Test)		
		Winding/Wrapping Test on Galvanized steel strip for Armouring		
		Visual tests		
		Cable construction		
22.	Control and Instrumentation Cables for PVC Insulated cables	Ageing in Air Oven	PAS 5308-2:2009	-----
		Capacitance Test		
		Conductor Resistance		
		Dimension for Armouring Material		
		Heat Shock Test		
		High Voltage test at room temperature		
		Inductance Test		
		Insulation Resistance		
		L/R Ratio Test		
		Loss of Mass		
		Mass of Zinc Coating		
		Pressure Test at High Temperature		
		Resistivity & Conductance test of Armour (Wires/strips)		
		Shrinkage Test		
		Tensile strength & Elongation at break for armouring material		
		Tensile strength and elongation at break on Insulation and Sheath		
		Test for eccentricity and		

Jitendra Parmar
Dealing Officer
Page 47 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Thickness of insulation and sheath / Overall Dimensions		
		Torsion Test on Galvanized steel wire for Armouring		
		Uniformity of Zinc coating (Dip Test)		
		Winding/ Wrapping Test on Galvanized steel strip for Armouring		
		Visual tests		
		Cable construction		
23.	Copper	Copper Purity Test	IS 191:2007 (R.A:2021)	-----
		Dimensions	Amd 02:2022, IS	
		Hydrogen embrittlement	440:2025	
		Resistivity		
		Freedom from defects		
		Masses and tolerance		
24.	Covered conductors for overhead lines and the related accessories for rated voltages above 1 kV AC and not exceeding 36 kV AC	Carbon Black Content	BS EN 50397-1:2020	-----
		Ageing in Air Oven		
		Compliance with Constructional requirements		
		Conductor Resistance		
		Construction and dimensions of the conductor		
		Content, Legibility of Marking		
		Durability of Marking		
		High Voltage Test		
		Hot deformation test /		
		Pressure Test at High Temperature		
		Hot Set Test		
		Leakage Current		

Jitendra Parmar
Dealing Officer
Page 48 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Rated Tensile Strength of the conductor		
		Resistance to UV Rays		
		Shore D Hardness		
		Shrinkage Test		
		Slippage Test		
		Tensile Strength & Elongation at Break		
		Tensile strength and elongation at break on Insulation and Sheath		
		Test of Compatibility (Ageing of complete product sample)		
		Test of longitudinal Water Tightness		
		Thickness of the covering		
		Tracking Resistance		
		UV Test		
		Water Absorption Test		
		Visual tests		
		Cable construction		
25.	Cross Linked Polyethylene Insulated Thermoplastic Sheathed cables for working voltages from 3.3 kV to 33 kV	Impulse Withstand Test	IS 7098 (Part 2):2011(RA:2021) Amd. 02:2022	-----
		Bending Test		
		Carbon Content Test		
		Dielectric Power Factor Test as a function of temperature		
		Dielectric Power Factor Test as a function of voltage		
		Heat Cycle Test		
		High Voltage Test (4 Hour Test)		
		Partial Discharge Test		

Jitendra Parmar
Dealing Officer
Page 49 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
--------	-------------------	---	-------------	----------------

		Test on extruded semi conducting screens-Test for Strip ability of semiconducting strippable insulation screen		
		Test on extruded semi conducting screens- Volume Resistivity		
		Thermal ageing test for complete cable/ Additional Ageing Test on pieces of Completed Cables		
		Annealing Test for Copper Wire		
		Tensile Strength for Aluminium Wires		
		High Voltage test at room temperature		
		Hot deformation test / Pressure Test at High Temperature		
		Tensile strength & Elongation at break for armouring material		
		Torsion Test on Galvanized steel wire for Armouring		
		Uniformity of Zinc coating (Dip Test)		
		Ageing in Air Oven		
		Armour Coverage Percentage Test		
		Cold Impact Test		
		Conductor Resistance		
		Dimension for Armouring Material		

Jitendra Parmar
Dealing Officer
Page 50 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
--------	-------------------	---	-------------	----------------

		Flame Retardance Test on Bunched cable		
		Flame Retardant Test on Single cable (Swedish Chimney)		
		Halogen Acid Gas Evolution / Corrosive & halogen acid gas		
		Heat Shock Test		
		Hot Set Test		
		Insulation Resistance		
		Loss of Mass		
		Mass of Zinc Coating		
		Oxygen Index Test		
		Resistance Test for Armour (for Mining Cables)		
		Resistivity & Conductance test of Armour (Wires/strips)		
		Shrinkage Test		
		Temperature Index Test		
		Tensile strength and elongation at break on Insulation and Sheath		
		Test for eccentricity and Thickness of insulation and sheath / Overall Dimensions		
		Test under Fire Conditions / Flammability Test		
		Thermal Stability		
		Water Absorption Test (Gravimetric)		
		Winding/ Wrapping Test on Galvanized steel strip for Armouring		

Jitendra Parmar
Dealing Officer
Page 51 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
--------	-------------------	---	-------------	----------------

		Wrapping Test for Aluminium Wires		
		Visual tests		
		Cable construction		
26.	Cross Linked Polyethylene Insulated Thermoplastic Sheathed cables for working voltages from 66 kV up to and including 220 kV	Annealing test for copper wire	IS 7098 (Part 3):1993 (RA:2019) Amd.04:2013	-----
		Bending Test followed by PD Test		
		Carbon Black Content		
		Diameter of Armour Wire		
		Dielectric Power Factor and Capacitance Measurement at ambient temperature		
		Dielectric Power Factor measurement at elevated temperature		
		Elongation at break for armouring material		
		Flammability Test (For PVC Outer Sheath only)		
		Heat Shock Test		
		Hot Deformation Test		
		Hot Set Test		
		Impulse Withstand Test followed by HV Test		
		Load Cycle test followed by PD Measurement		
		Longitudinal Water Tightness Test		
		Loss of Mass test		
		Partial Discharge Test		
		Resistance Test / Conductor Resistance		
		Resistivity Test for semi conducting layers		

Jitendra Parmar
Dealing Officer
Page 52 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Resistivity Test on Armour		
		Shrinkage Test		
		Tensile strength and elongation at break on Insulation and Sheath		
		Tensile strength for Aluminium Wires		
		Tensile strength for armouring material		
		Test for eccentricity and Thickness of insulation and sheath / Overall Dimensions		
		Thermal ageing in air oven		
		Thermal ageing test for complete cable		
		Thermal Stability		
		Thickness of Metallic Sheath		
		Void and Contamination Test		
		Wrapping Test		
		Wrapping test for Aluminium wires		
		Test for concentric metallic screen		
		Radial water tightness		
		Visual tests		
		Cable construction		
27.	Cross Linked Polyethylene Insulated Thermoplastic sheathed cables Part 1 for working voltage	Annealing Test for Copper Wire	IS 7098 (Part 1):2025	-----
		Ageing in Air Oven		
		Armour Coverage Percentage Test		
		Cold Bend Test		
		Cold Impact Test		
		Conductor Resistance		

Jitendra Parmar
Dealing Officer
Page 53 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
--------	-------------------	---	-------------	----------------

	up to and including 1100 Volts.	Dimension for Armouring Material		
		Flame Retardance Test on Bunched cable		
		Flame Retardant Test on Single cable (Swedish Chimney)		
		Flammability Test		
		Halogen Acid Gas Evolution / Corrosive & halogen acid gas		
		Heat Shock Test		
		High Voltage test at room temperature		
		Hot deformation test / Pressure Test at High Temperature		
		Hot Set Test		
		Insulation Resistance		
		Loss of Mass		
		Mass of Zinc Coating		
		Oxygen Index Test		
		Resistance Test for Armour (for Mining Cables)		
		Resistivity & Conductance test of Armour (Wires/strips)		
		Shrinkage Test		
		Temperature Index Test		
		Tensile strength & Elongation at break for armouring material		
		Tensile strength and elongation at break on Insulation and Sheath		

Jikendra Parmar
Dealing Officer
Page 54 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
--------	-------------------	---	-------------	----------------

		Tensile Strength for Aluminium Wires		
		Test for eccentricity and Thickness of insulation and sheath / Overall Dimensions		
		Thermal Stability		
		Torsion Test on Galvanized steel wire for Armouring		
		Uniformity of Zinc coating (Dip Test)		
		Water Absorption Test (Gravimetric)		
		Winding/ Wrapping Test on Galvanized steel strip for Armouring		
		Wrapping Test for Aluminium Wires		
		Annealing test (for copper)		
		Tensile test (for aluminium)		
		Wrapping test (for aluminium),		
		Conductor Resistance test		
		Armour Dimensions,		
		Tensile strength and Elongation at break of armour wires/formed wires		
		Torsion test for round wires,		
		Winding test for formed wires,		
		Uniformity of zinc coating		
		Mass of zinc coating		
		Resistivity of armour wires/formed wires		
		Test for thickness of		

Jitendra Parmar
Dealing Officer
Page 55 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		insulation and sheath		
		Tensile strength and elongation at break of insulation and sheath before and after ageing		
		Ageing in air oven		
		Loss of mass in air oven		
		Shrinkage test		
		Hot deformation test		
		Heat shock test		
		Thermal stability		
		Carbon black content		
		Water absorption test (gravimetric)		
		Cold bend		
		Cold Elongation		
		Cold impact		
		Insulation resistance (volume resistivity test)		
		High voltage test		
		Flammability test		
		Oxygen index test		
		Temperature index test		
		Flame retardance test on single cable		
		Flame retardance test on bunched cables		
		Smoke density test		
		Test for halogen acid evolution		
		Test for light transmission		
		Test for pH and conductivity		
		Visual tests		
		Cable construction		

Jitendra Parmar
Dealing Officer
Page 56 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
--------	-------------------	---	-------------	----------------

		Hot set test, Resistance test for armour		
28.	Crosslinked Ethylene Plastics	Determination of Gel Content and Swell Ratio of Crosslinked Ethylene Plastics	ASTM D 2765:16 (2024)	-----
29.	Dielectric material of electric cables	Dielectric Power Factor Test as a function of voltage	IS 10810 (Part 48):1984 (RA:2021)	-----
30.	Distribution Cables (Single Core) with extruded insulation of rated voltages of 11 kV to 33 kV	Abrasion Test Bending Test Cold bend Test / Voltage Test after bending Compatibility Test Conductor Resistance Dielectric Power Factor Test as a function of voltage Flame Propagation (Retardance) Test on Multiple (Bunched) cables Halogen Acid Gas Evolution / Corrosive & halogen acid gas Heat Cycle Test High Voltage Test (4 Hour Test) Hot Set Test Impulse Withstand Test Long Duration Test Measurement of Thickness of Insulation & Sheath Partial Discharge Power Factor Test as a function of temperature Resistivity of Conductor	BS 7870-4.10:2011 (Amd1:2016)	-----

Jikendra Parmar
Dealing Officer
Page 57 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Screen		
		Shrinkage Test		
		Smoke Density under Fire Conditions		
		Test on extruded semi conducting screens-Test for Strippability of semiconducting strippable insulation screen		
		Test on extruded semi conducting screens- Volume Resistivity		
		Tests on Water Blocking Tape		
		Water Penetration Test		
		Visual tests		
		Cable construction		
31.	Distribution Cables (Three Core) with extruded insulation of rated voltage of 11 kV to 33 kV	Impulse Withstand Test	BS 7870-4.20:2011 (Amd1:2016)	-----
		Abrasion Test		
		Bending Test		
		Compatibility Test		
		Conductor Resistance		
		Dielectric Power Factor Test as a function of voltage		
		Flame Propagation (Retardance) Test on Multiple (Bunched) cables		
		Halogen Acid Gas Evolution / Corrosive & halogen acid gas		
		Heat Cycle Test		
		High Voltage Test (4 hour Test)		
		Hot Set Test		
		Measurement of Thickness		

Jitendra Parmar
Dealing Officer
Page 58 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		of Insulation & Sheath		
		Partial Discharge Test		
		Power Factor Test as a function of temperature		
		Resistivity of Conductor Screen		
		Shrinkage Test		
		Smoke Density under Fire Conditions		
		Test on extruded semi conducting screens-Test for Stripp ability of semiconducting strippable insulation screen		
		Test on extruded semi conducting screens- Volume Resistivity		
		Water Penetration Test		
		Long Duration Test		
		Visual tests		
		Cable construction		
32.	Elastomer Insulated Cables (with Limited Circuit Integrity when affected by Fire) for working voltages up to and including 1100 Volts	Ageing in air bomb	IS 16246:2015 (RA:2020) Amd. 01:2023	-----
		Ageing in air oven on insulation and sheath		
		Annealing test (for copper)		
		Circuit integrity test under fire condition		
		Conductor resistance test		
		Oil resistance test		
		Dimension of armouring material		
		Elongation at break for armouring material		
		Elongation at break of		

Jitendra Parmar
Dealing Officer
Page 59 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
--------	-------------------	---	-------------	----------------

		insulation and sheath before and after ageing		
		Flame retardant on bunched cable		
		Flame retardant test on single cable		
		High voltage test on insulation		
		Hot set test on insulation and sheath		
		Insulation resistance test		
		Mass of zinc coating		
		Oxygen index test on sheath		
		Persulphate test for tinned copper		
		Resistivity of armour (wires/strips)		
		Temperature index test on sheath		
		Tensile strength for armouring material		
		Tensile strength of insulation and sheath, before ageing and after ageing		
		Test of acid gas generation on sheath		
		Test of overall dimensions and thickness of insulation and sheath		
		Torsion test on galvanized steel wire for armouring		
		Uniformity of zinc coating (Dip test)		
		Water absorption test (for		

Jitendra Parmar
Dealing Officer
Page 60 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		insulation)		
		Winding / Wrapping test on galvanized steel grip for armouring		
		Visual tests		
		Cable construction		
		Smoke Density Rating	IS 16246:2015 (RA:2020) Amd 01:2023	Smoke Density Test Apparatus
			IS 13360 Part 6 Sec 9: 2025	
33.	Elastomer Insulated Cables for working voltages from 3.3 kV to 33 kV	Bending Test	IS 9968 (Part 2):2002 (RA:2017)	-----
		Cold Impact Test		
		Dielectric Power Factor Test as a function of temperature		
		Dielectric Power Factor Test as a function of voltage		
		Dimension for Armouring Material		
		Heat Cycle Test		
		Heat Shock Test		
		High Voltage Test (4 Hour Test)		
		Hot deformation test / Pressure Test at High Temperature		
		Electrical Test on semi-conducting screen for non- Metallic screened cable		
		Impulse Withstand Test		
		Loss of Mass		
		Mass of Zinc Coating		
		Ozone Resistance Test		Ozone Chamber

Jitendra Parmar
Dealing Officer
Page 61 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Partial Discharge Test		
		Resistivity & Conductance test of Armour (Wires/strips)		
		Shrinkage Test		
		Tensile strength & Elongation at break for armouring material		
		Thermal Stability		
		Torsion Test on Galvanized steel wire for Armouring		
		Uniformity of Zinc coating (Dip Test)		
		Winding/ Wrapping Test on Galvanized steel strip for Armouring		
		Insulation Resistance		Million megaohm meter
		Accelerated Water Absorption Test (Electrical)		-----
		Ageing in Air Bomb		
		Ageing in Air Oven		
		Annealing Test for Copper Wire		
		Conductor Resistance		Senior Industrial Kelvin Bridge
		Hot Set Test		-----
		Oil Resistance Test		
		Persulphate Test/ Tinning Test		
		Tear Resistance		Tensile testing machine

Jitendra Parmar
Dealing Officer
Page 62 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Tensile strength and elongation at break on Insulation and Sheath		-----
		Tensile Strength for Aluminium Wires		
		Test for eccentricity and Thickness of insulation and sheath / Overall Dimensions		
		Test under Fire Conditions / Flammability Test		
		Wrapping Test for Aluminium Wires		
		Visual tests		
		Cable construction		
34.	Elastomer Insulated Cables for working voltages up to and including 1100 Volts	Assessment of halogen on insulation and sheath - pH test	BS EN IEC 60684-2:2025 IEC 60684-2:2025	pH & Conductivity meter
		Ageing in air bomb	IS 10810 (Part 56):1987 (RA:2017) IS 6380:2024	-----
		Ageing in air oven on insulation and sheath	IS 10810 (Part 11):1984 (RA:2021)	
		Annealing test (for copper)	IS 10810 (Part 1):1984 (RA:2021)	Tensile testing machine
		Tensile Test for Aluminium		
		Annealing Test for Copper		
		Assessment of halogen on insulation and sheath - pH test	BS EN 50525-1:2011 (Amd 1:2022) IEC 60754-2:2011 (Amd 1:2019)	-----
			BS EN 50525-1:2011	-----

Jitendra Parmar
Dealing Officer
Page 63 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Assessment of halogen on insulation and sheath - Chlorine and bromine content expressed as content of HC	(Amd 1:2022) BS EN IEC 60684-2:2025 IEC 60684-2:2025	
		Assessment of halogen on insulation and sheath - Conductivity test	BS EN 50525-1:2011 (Amd 1:2022) BS EN IEC 60684-2025 IEC 60684-2:2025	
		Assessment of halogen on insulation and sheath - Fluorine content	BS EN 50525-1:2011 (Amd 1:2022) BS EN IEC 60684-2:2025 IEC 60684-2:2025	
		Assessment of halogen on insulation and sheath - Presence of fluorine	BS EN 50525-1:2011 (Amd 1:2022) BS EN IEC 60684-2:2025 IEC 60684-2:2025	
		Circuit integrity test under fire condition test for electric cable under fire conditions: part 23: Electric data cables	IEC 60331-23:1999	
		Cold bend test on finished cable	IS 10810 (Part 20):1984 (RA:2021)	
		Cold impact test on insulation and finished cable	IS 10810 (Part 21):1984 (RA:2021)	
		Conductivity Test	IEC 60754-2:2011 (Amd 1:2019)	

Jitendra Parmar
Dealing Officer
Page 64 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
--------	-------------------	---	-------------	----------------

		Conductor resistance test	IS 10810 (Part 5):1984 (RA:2021)	Senior Industrial Kelvin Bridge
		Dimension for armouring material	IS 10810 (Part 36):1984 (RA:2021)	-----
		Elongation at break for armouring material	IS 10810 (Part 37):1984 (RA:2021)	-----
		Tensile Strength & Elongation at Break		
		Elongation at break of insulation and sheath before aging	IS 6380:2024	
		Wrapping Test	IS 1755: 2018 (RA:2023)	
		Elongation at break of insulation and sheath, before and after ageing	IS 10810 (Part 11):1984 (RA:2021)	
		Elongation at break of insulation and sheath, before and after ageing	IS 10810 (Part 7):1984 (RA:2021)	
		Flame retardant test on bunched cable	IS 10810 (Part 62):1993 (RA:2019)	Flammability test apparatus
		Flame retardant test on single cable	IS 10810 (Part 61):1988 (RA:2020):	
		Flammability test on finished cable	IS 10810 (Part 53):1984 (RA:2021)	
		High voltage test on insulation and finished cable	IS 10810 (Part 45):1984 (RA:2021)	
		Hot deformation on insulation and sheath	IS 10810 (Part 15):1984 (RA:2021)	
		Hot set test on insulation and sheath	IS 10810 (Part 30):1984 (RA:2021)	

Jitendra Parmar
Dealing Officer
Page 65 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
--------	-------------------	---	-------------	----------------

			IS 6380:2024	
		Insulation Resistance test	IS 10810 (Part 43):1984 (RA:2021)	Million megaohm meter
			IS 6380:2024	-----
		Tear Resistance Test	IS 6380: 2024	Tensile Testing Machine with Tear Resistance Die
			IS 10810 (Part 17):1986 (RA:2021)	
		Mass of zinc coating	IS 10810 (Part 41):1984 (RA:2021)	-----
		Oxygen index test on insulation and sheath	IS 10810 (Part 58):1998 (RA:2019)	
		Ozone resistance test on insulation and sheath	IS 10810 (Part 13):1984 (RA:2021)	
		Persulphate test for tinned copper	IS 10810 (Part 4):1984 (RA:2021)	
		Resistivity test of armour (Wires/strips)	IS 10810 (Part 42):1984 (RA:2021)	
		Smoke density test on finished cable	IS 10810 (Part 63):1993 (RA:2019)	3 m cube chamber - smoke density test apparatus
		Temperature index test on insulation and sheath	IS 10810 (Part 64):2003 (RA:2022)	-----
		Tensile strength for armouring material	IS 10810 (Part 37):1984 (RA:2021)	
		Tensile strength of insulation and sheath, before ageing	IS 6380: 2024	
		Tensile test (for aluminium)		

Jitendra Parmar
Dealing Officer
Page 66 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
--------	-------------------	---	-------------	----------------

		Wrapping Test for Aluminium	IS 10810 (Part 2):1984 (RA:2021)	
		Test of acid gas generation on sheath	IS 10810 (Part 59):1988 (RA:2020)	
		Test of overall dimensions and thickness of insulation and sheath	IS 10810 (Part 6):1984 (RA:2020)	
		Torsion Test on Galvanized steel wire for Armouring	IS 10810 (Part 38):1984 (RA:2021)	
		Uniformity of Zinc coating (Dip Test)	IS 10810 (Part 40):1984 (RA:2021) Amd.01:1998	
		Water absorption test (for insulation)	IS 10810 (Part 28):1984 (RA:2021)	
		Resistivity of Armour Wire	IS:10810 Part-42:1984 (RA:2021) Amd.01:2000	
		Winding Test on Strips	IS:10810 Part-39:1984 (RA:2021)	
		Dimensions	IS:10810 Part-36:1984 (RA:2021)	
		Mass of Zinc Coating	IS:10810 Part-41:1984 (RA:2021)	
		Uniformity of Zinc Coating	IS:10810 Part-40:1984 (RA:2021) Amd.01:1998	
		Torsion Test	IS:10810 Part-38:1984 (RA:2021)	
		Winding/ Wrapping Test on Galvanized steel strip for Armouring	IS 10810 (Part 40):1984 (RA:2021) Amd.01:1998	

Jikendra Parmar
Dealing Officer
Page 67 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
--------	-------------------	---	-------------	----------------

		Wrapping test (for aluminium)	IS 10810 (Part 3):1988 (RA:2021)	
		Accelerated Water Absorption Test (Electrical)	IS 9968 (Part 1):2025	Tan delta & capacitance
		Ageing in Air Bomb		-----
		Ageing in Air Oven		
		Ageing in Oxygen Bomb		
		Annealing Test for Copper Wire		
		Conductor Resistance		
		Flexing Test		
		High Voltage test (Water immersion)		
		Hot Set Test		
		Insulation Resistance		
		Oil Resistance Test		
		Persulphate Test/ Tinning Test		
		Tear Resistance		
		Tensile strength and elongation at break on Insulation and Sheath		
		Tensile Strength for Aluminium Wires		
		Test for eccentricity and Thickness of insulation and sheath / Overall Dimensions		
		Test under Fire Conditions / Flammability Test		
		Wrapping Test for Aluminium Wires		
		Visual tests		
		Cable construction		

Jitendra Parmar
Dealing Officer
Page 68 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
35.	Elastomer Insulated Flexible Cables used in Mines	Accelerated Water Absorption Test (Electrical)	IS 14494:2019 (RA:2024)	Tan delta & capacitance bridge
		Ageing in Air Bomb		-----
		Ageing in Air Oven		
		Annealing Test for Copper Wire		
		Bending Test		
		Conductor Resistance		
		Electrical Test on semi-conducting screen for non-metallic screened cable		Senior Industrial Kelvin bridge
		Dielectric Power Factor Test as a function of temperature		Voltage Source with leakage current
		Dielectric Power Factor Test as a function of voltage		-----
		Dimension for Armouring Material		
		Heat Cycle Test		
		High Voltage test (Water immersion)		
		High Voltage Test (4 Hour Test)		
		Insulation Resistance		
		Mass of Zinc Coating		
		Oil Resistance Test		
		Ozone Resistance Test		
		Partial Discharge Test		
		Resistivity & Conductance test of Armour (Wires/strips)		
		Tear Resistance		
		Tensile strength & Elongation at break for		

Jitendra Parmar
Dealing Officer
Page 69 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		armouring material		
		Tensile strength and elongation at break on Insulation and Sheath		
		Test for eccentricity and Thickness of insulation and sheath / Overall Dimensions		
		Test on extruded semi conducting screens-Test for Strippability of semiconducting strippable insulation screen		
		Torsion Test on Galvanized steel wire for Armouring		
		Uniformity of Zinc coating (Dip Test)		
		Visual tests		
		Cable construction		
36.	Elastomeric heavy duty sheathed cables	Tear Resistance	IS 10810 (Part 17):1986 (RA:2021)	-----
37.	Elastomeric Insulation and Sheath of Electric Cables	Ageing in Air Bomb	IS 6380: 2024	-----
38.	Electric and Communication cable	Damp Heat Test	BS EN 60068-2-78:2013 IEC 60068-2-78:2025	-----
39.	Electric and optical Fiber cables	Flame Retardance Test on Bunched cable	IEC 60332-3-21:2018 IEC 60332-3-22:2018 IEC 60332-3-23:2018 IEC 60332-3-24:2018 IEC 60332-3-25:2018	-----
		Test under Fire Conditions / Flammability Test	BS EN 60332-1-2:2004 (Amd 12: 2020)	

Jitendra Parmar
Dealing Officer
Page 70 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
--------	-------------------	---	-------------	----------------

			IEC 60332-1-2:2025	
		Cold Impact Test	BS EN 60811-506:2012 IEC 60811-506:2012	
		Compatibility Test	BS EN 60811-401:2012 (Amd 1:2017) IEC 60811-401:2012 (Amd 1: 2017)	
		Heat Shock Test	BS EN 60811-509:2012 Amd 01:2017 IEC 60811-509:2012 Amd 01:2017	
		Loss of Mass	BS EN 60811-409:2012 IEC 60811-409:2012	
		Pressure Test at High Temperature	BS EN 60811-508:2012 Amd 01:2017 IEC 60811-508:2012 Amd 01:2017	
		Ageing in Air Bomb	BS EN 60811 (Part 412):2012 IEC 60811 (Part 412):2012	
		Test for eccentricity and Thickness of insulation and sheath / Overall Dimensions	IEC 60811-201:2012 (Amd 2:2023) BS EN 60811-201:2012 (Amd 2:2023)	
		Ageing in Air Oven	BS EN 60811-401:2012 (Amd 1: 2017) IEC 60811-401:2012	

Jikendra Parmar
Dealing Officer
Page 71 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
--------	-------------------	---	-------------	----------------

			(Amd 1: 2017)	
		Bending Test at low Temperature	BS EN 60811 (Part 504):2012 IEC 60811 (Part 504):2012	
		Cold Elongation Test / Elongation at low temperature	BS EN 60811-505:2012 IEC 60811-505:2012	
		Cold Impact Test	BS EN 60811-506:2012 IEC 60811-506:2012	
		Conductivity Test	AS/NZS 3808:2025 IEC 60754-2:2011 (Amd 1:2019)	
		Flame Retardance Test on Bunched cable	IS 10810 (Part 62):1993 (RA:2019)	
		Flame Retardant Test on Single cable (Swedish Chimney)	IS 10810 (Part 61):1988 (RA:2020)	
		Hot Set Test	BS EN 60811-507:2012 IEC 60811-507:2012	
		Insulation Resistance	BS EN 60811-301:2012 IEC 60811-301:2012	
		Oil Resistance Test Sheath resistance against acid and alkaline solution	BS EN 60811-404:2012 IEC 60811-404:2012	
		Ozone Resistance Test	BS EN 60811-403:2012 IEC 60811-403:2012	
		pH Test	IEC 60754-2:2011 (Amd 1:2019)	
		Shrinkage Test	BS EN 60811-	

Jitendra Parmar
Dealing Officer
Page 72 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
			502:2012IEC 60811-502:2012BS EN 60811-503:2012(Amd 1:2023)IEC 60811-503:2012(Amd 1:2023)	
		Tensile strength and elongation at break on Insulation and Sheath	BS EN 60811-501:2012(Amd 2:2023)IEC 60811-501:2012 (Amd 2:2023)	
		Test for eccentricity and Thickness of insulation and sheath / Overall Dimensions	BS EN 60811-202:2012 (Amd 2:2023) IEC 60811-202:2012 (Amd 602:2023)	
		Test for eccentricity and Thickness of insulation and sheath / Overall Dimensions	BS EN 60811-203:2012 IEC 60811-203:2012	
		Test under Fire Conditions / Flammability Test	IS 10810 (Part 53):1984 (RA:2021)	
		Thermal stability	BSEN 60811-402:2012 IEC 60811-402:2012	
		Water Absorption Test (Gravimetric)	BS EN 60811-402:2012 IEC 60811-402:2012	
40.	Electric and optical fibre cables and compound	Toxicity Index	NES 713:2000	Toxicity test apparatus
41.	Electric cable	Test for electric cables under fire conditions-	IEC 60331-21:1999	FS Test apparatus

Jitendra Parmar
Dealing Officer
Page 73 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Circuit Integrity		
		Ageing in Air Oven	IS 10810 (Part 11):1984 (RA:2021)	-----
		High Voltage test (Water immersion)	IS 10810 (Part 45):1984 (RA:2021)	-----
		High Voltage test at room temperature		
		Impulse Withstand Test	IS 10810 (Part 47):1984 RA:2020 Amd 01:2007	Impulse test set
		Insulation Resistance	IS 10810 (Part 43):1984 (RA:2021)	-----
		Shrinkage Test	IS 10810 (Part 12):1984 (RA:2021)	-----
		Tensile strength and elongation at break on Insulation and Sheath	IS 10810 (Part 7):1984 (RA:2021)	-----
		Test for eccentricity and Thickness of insulation and sheath / Overall Dimensions	IS 10810 (Part 6):1984 (RA:2020)	-----
		Thermal Stability	IS 10810 (Part 60):1988 RA:2020, Amd 01:2024	-----
		Total heat release	BS EN 50399:2022	CPR test apparatus
		Total smoke production		-----
		Carbon dioxide		
		Droplets and/or Particles		
		Maximum value of smoke production	BS EN 50399:2022	CPR test apparatus
Oxygen				
42.	Electric cable- Polymeric insulated	Compatibility test	AS/NZS 5000.1:2005	----- 125kV / 80 kVAC
		Conductor resistance	Amd 01:2006	
		High voltage ac. test for 4		

Jitendra Parmar
Dealing Officer
Page 74 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		hours		HV test set
	for working voltages 0.6/1 (1.2) kV	Legibility of marking on outer surface		-----
		Measurement of armour dimension		
		Measurement of insulation thickness		
		Measurement of thickness of over sheath		-----
		Vertical flame propagation		
		Visual tests		
		Cable construction		
43.	Electric cable- Polymeric insulated for working voltages 1.9/3.3 (3.6) kV up to and including 19/33 (36) kV	Adhesion of hand strippable extruded screen	AS/NZS 1429.1:2006	-----
		Bending test		
		Compatibility test		
		Concentricity		
		Heating cycle test		
		High voltage test		
		Hot set test		
		Partial discharge test		
		Projection or irregularities at conductor screen/ insulation interface		
		Shrinkage test		
		Strippability of strippable extruded screen		
		Tan delta measurement as a function of at elevated temperature		Capacitance & Tan delta bridge
		Tan delta measurement as a function of voltage		-----
		Thickness of extruded layer		

Jitendra Parmar
Dealing Officer
Page 75 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
--------	-------------------	---	-------------	----------------

		Thickness of insulation		
		Volume resistivity of extruded screen		Digital ohmmeter
		Water penetration test		-----
		Visual tests		
		Cable construction		
44.	Electric cables	Accelerated Water Absorption Test (Electrical)	IS 10810 (Part 28):1984 (RA:2021)	Capacitance & Ten delta bridge
		Ageing in Air Bomb	IS 10810 (Part 56):1987 (RA:2021)	-----
		Ageing in Oxygen Bomb	IS 10810 (Part 16):1986 (RA:2021)	
		Anti Rodent & Anti Termite test	AAI Specification	
		Bending Test	IS 10810 (Part 50):1984 (RA:2021)	
		Breaking load on Messenger Conductor	IS 10810 (Part 2):1984 (RA:2021)	Tensile testing machine
		Conductor Resistance	BS EN 50395:2005 (Amd 1: 2011)	-----
		Dielectric Power Factor Test as a function of temperature	IS 10810 (Part 48): 1984 (RA:2021)	
		Fire Growth Rate Index	BS EN 50399:2022	CPR test apparatus
		Flame Retardant Test on Single cable (Swedish Chimney)	SS-424-1475:1978	Swedish chimney
		Flammability test (Vertical tray flame test)	IEEE 383:2023	-----
		Flexing Test	IS 10810 (Part 57):1987 (RA:2017)	

Jitendra Parmar
Dealing Officer
Page 76 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
--------	-------------------	---	-------------	----------------

		Gross heat of combustion	BS EN ISO 1716:2018	
		Heat Cycle Test	IS 10810 (Part 49):1984 (RA:2021)	
		High Voltage Test (4 Hour Test)	IS 10810 (Part 45):1984 (RA:2021)	
		High Voltage test at room temperature	IS 2071 (Part 2):1974	
		Hot Set Test	IS 10810 (Part 30):1984 (RA:2021)	
		Insulation Resistance	BS EN 50395:2005	
		Long Term Resistance of insulation to dc	(Amd 1: 2011)	
		Mass of Zinc Coating	IS 10810 (Part 41):1984 (RA:2021)	Ozone chamber
		Ozone Resistance Test	IS 10810 (Part 13):1984 (RA:2021)	
		Partial Discharge Test	IS 10810 (Part 46):1984 (RA:2021)	PD test apparatus
		Peak Heat Release Rate	BS EN 50399:2022	CPR test apparatus
		Resistance to fire alone (Protocol C)	BS 6387:2013	FS Test apparatus
		Resistance to fire to with water (Protocol W)		-----
		Resistance to fire with mechanical shock (Protocol Z)		
		Resistance to fire with mechanical shock	IEC 60331-1:2018	-----
			IEC 60331-2:2018	
			IEC 60331-3:2018	
		Resistance to fire with	BS EN 50200:2015	-----

Jitendra Parmar
Dealing Officer
Page 77 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		mechanical shock and water spray (Classification PH15, PH30, PH60, PH90, PH120)	BS 8434-2:2003 (Amd 2: 2009)	
		Resistivity & Conductance test of Armour (Wires/strips)	IS 10810 (Part 42):1984 (RA:2021) Amd.01:2000	-----
		Smoke Density Rating	IS 13360 (Part 6, Sec 9):2025	-----
		Spark Test	IS 10810 (Part 44):1984 (RA:2021)	Spark Tester
		Static Flexibility	IS 10810 (Part 54):1984 (RA:2021)	Static Flexibility Test Apparatus
		Surface Resistance of Sheath	BS EN 50395:2005 (Amd 1: 2011)	-----
		Temperature Index Test	IS 10810 (Part 64):2003 (RA:2022)	
		Tensile strength & Elongation at break for armouring material	IS 10810 (Part 37):1984	
		Torsion Test on Galvanized steel wire for Armouring	IS 10810 (Part 38):1984 (RA:2021)	
		Uniformity of Zinc coating (Dip Test)	IS 10810 (Part 40):1984 (RA:2021) Amd. 01:1998	
		UV test	IEC 60068-2-5:2018	
		Vertical Flame Spread	BS EN 50399:2022	-----
		Voltage Test on completed cable with ac or dc	BS EN 50395:2005 (Amd 1: 2011)	-----
		Water Absorption Test (Gravimetric)	IS 10810 (Part 33):1984 (RA:2021) Amd. 02:2007	Weighing balance & Vacuum chamber

Jitendra Parmar
Dealing Officer
Page 78 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
--------	-------------------	---	-------------	----------------

		Winding/ Wrapping Test on Galvanized steel strip for Armouring	IS 10810 (Part 39): 1984 (RA:2021)	-----
45.	Electric cables - Charging cables for electric vehicles	Absence of faults on insulation	BS EN 50620:2017 (Amd 2:2024)	-----
		Assessment of halogens	BS EN 50620:2017 (Amd 2:2024)	-----
			IEC 62893-1:2017 Amd 01:2020	
			IEC 62893-3:2017	
			IEC 62893-4-1:2020	
		Bending test	IEC 62893-1:2017 Amd 01:2020	-----
			IEC 62893-3:2017	
			IEC 62893-4-1:2020	
		Bending test at low temperature	IEC 62893-3:2017	-----
			IEC 62893-4-1:2020	
		Check on absence of faults on insulation	BS EN 50620:2017 (Amd 2: 2024)	-----
		Cold bend test		
		Cold elongation test		
		Cyclic Bending Test		
		Shore Hardness (IRHD)	BS EN 50620:2017 (Amd 2: 2024)	-----
		Cold Impact test		
			IEC 62893-1:2017 Amd 01:2020	
			IEC 62893-2:2017	
			IEC 62893-3:2017	
			IEC 62893-4-1:2020	

Jitendra Parmar
Dealing Officer
Page 79 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
--------	-------------------	---	-------------	----------------

		Compatibility test	BS EN 50620:2017 (Amd 2: 2024)	
			IEC 62893-1:2017 Amd 01:2020	
			IEC 62893-3:2017	
			IEC 62893-4-1:2020	
		Conductor Resistance	BS EN 50620:2017 (Amd 2: 2024)	
		Crush resistance test	IEC 62893-1:2017 Amd 01:2020	
			IEC 62893-2:2017	
			IEC 62893-3:2017	
			IEC 62893-4-1:2020	
		Determination of saponification value	IEC 62893-1:2017 Amd 01:2020	
			IEC 62893-2:2017	
			IEC 62893-3:2017	
			IEC 62893-4-1:2020	
		Elongation at low temperature	IEC 62893-3:2017	
			IEC 62893-4-1:2020	
		Flexing test	BS EN 50620:2017 (Amd 2: 2024)	
			IEC 62893-1:2017 Amd 01:2020	
			IEC 62893-3:2017	
			IEC 62893-4-1:2020	
		Heat shock test	IEC 62893-1:2017 Amd 01:2020	

Jitendra Parmar
Dealing Officer
Page 80 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
--------	-------------------	---	-------------	----------------

			IEC 62893-3:2017	
			IEC 62893-4-1:2020	
		High voltage water immersion test	BS EN 50620:2017 (Amd 2: 2024)	
		Hot set test	BS EN 50620:2017(Amd 2: 2024)	
			IEC 62893-3:2017	
			IEC 62893-4-1:2020	
		Impact test	IEC 62893-3:2017	
			IEC 62893-4-1:2020	
		Insulation resistance test	IEC 62893-3:2017	
			IEC 62893-4-1:2020	
		Long term resistance of insulation of DC	IEC 62893-2:2017	3 kV/ 80 KV DC test set
			IEC 62893-3:2017	
			IEC 62893-4-1:2020	
			IEC 62893-1:2017 Amd 01:2020	
		Long term resistance of power cores of dc	BS EN 50620:2017 (Amd 2: 2024)	-----
		Measurement of conductor resistance	IEC 62893-1:2017 Amd 01:2020	-----
			IEC 62893-3:2017	Kelvin Double Bridge
			IEC 62893-4-1:2020	-----
		Measurement of insulation resistance	BS EN 50620:2017 (Amd 2: 2024)	-----
			IEC 62893-1:2017 Amd 01:2020	

Jikendra Parmar
Dealing Officer
Page 81 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Measurement of overall dimension	IEC 62893-4-1:2020	-----
			IEC 62893-3:2017	
		Measurement of thickness of insulation and sheath	BS EN 50620:2017 (Amd 2: 2024)	-----
			IEC 62893-3:2017	
			IEC 62893-4-1:2020	
		Overall diameter	IEC 62893-1:2017 Amd 01:2020	Vernier caliper
		Overall dimension	BS EN 50620:2017 (Amd 2: 2024)	-----
		Ozone resistance test	IEC 62893-1:2017 Amd 01:2020	-----
			BS EN 50620:2017 (Amd 2: 2024)	
			IEC 62893-3:2017	
			IEC 62893-4-1:2020	
		Pressure test at high temperature	BS EN 50620:2017 (Amd 2: 2024)	-----
			IEC 62893-3:2017	
			IEC 62893-4-1:2020	
		Resistance against acid and alkaline solution of outer sheath	IEC 62893-1:2017 Amd 01:2020	-----
			IEC 62893-3:2017	-----
			IEC 62893-4-1:2020	-----
		Resistance against chemicals	IEC 62893-2:2017	-----
		Shore Hardness	HD 605 S2:2008	Shore hardness tester
			IEC 62893-1:2017 Amd	

Jikendra Parmar
Dealing Officer
Page 82 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
			01:2020	
			ISO 48-2:2018	
			ISO 48-4:2018	
		Determination of hardness Part 2: Hardness between 10 IRHD and 100 IRHD	ISO 48-2:2018	-----
		Shrinkage test	BS EN 50620:2017 (Amd 2: 2024)	-----
			IEC 62893-1:2017 Amd 01:2020	
			IEC 62893-3:2017	
			IEC 62893-4-1:2020	
		Surface resistance of sheath	BS EN 50620:2017 (Amd 2: 2024)	-----
		Tear resistance test	IEC 62893-1:2017 Amd 01:2020	-----
			IEC 62893-2:2017	
			IEC 62893-3:2017	
			IEC 62893-4-1:2020	
		Tensile strength and elongation at break	IEC 62893-3:2017	-----
			IEC 62893-4-1:2020	
		Test under fire condition	BS EN 50620:2017 (Amd 2: 2024)	-----
			IEC 62893-1:2017 Amd 01:2020	
			IEC 62893-3:2017	
			IEC 62893-4-1:2020	
		UV test	BS EN 50620:2017	-----

Jikendra Parmar
Dealing Officer
Page 83 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
			(Amd 2: 2024)	
		Voltage test on complete cable	BS EN 50620:2017 (Amd 2: 2024)	-----
			IEC 62893-1:2017 Amd 01:2020	
			IEC 62893-3:2017	
			IEC 62893-4-1:2020	
		Voltage test on cores	BS EN 50620:2017 (Amd 2: 2024)	-----
			IEC 62893-1:2017 Amd 01:2020	
			IEC 62893-3:2017	
			IEC 62893-4-1:2020	
		Water resistance test	IEC 62893-1:2017 Amd 01:2020	-----
			IEC 62893-2:2017	
			IEC 62893-3:2017	
			IEC 62893-4-1:2020	
		Weathering/UV resistance of outer sheath	IEC 62893-1:2017 Amd 01:2020	-----
			IEC 62893-2:2017	
			IEC 62893-3:2017	
			IEC 62893-4-1:2020	
46.	Electric cables – Halogen-free, low smoke, thermoplastic insulated and sheathed cables of	Absence of fault in insulation	IEC 63294:2021 IEC63294:2021	-----
		Ageing test	IEC 62821-1:2015	
		Assessment of halogens		
		Bending test		
		Bending test at low		

Jikendra Parmar
Dealing Officer
Page 84 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
	rated voltages up to and including 450/750 V	temperature		
		Conductor resistance test		
		Elongation test at low temperature		
		Flexing test for flexible cables		
		Insulation resistance		
		Long term resistance of insulation to dc voltage	IEC 63294:2021 IEC 63294:2021	
		Mechanical strength of flexible cables	IEC 62821-1:2015	
		Overall dimension		
		Pressure test at high temperature		
		Shrinkage test		
		Snatch Test		
		Spark test	IEC 63294:2021 IEC 63294:2021	
		Surface resistance of sheath	IEC 63294:2021 IEC 63294:2021	
		Tensile strength and elongation at break	IEC 62821-1:2015	
		Test for separation of cores		
		Test under fire conditions		
		Voltage test	IEC 63294:2021 IEC 63294:2021	
		Voltage test on complete cable	IEC 62821-1:2015	125/80 kV AC HV test set
		Voltage test on cores		-----
		Voltage test on cores in water	IEC 63294:2021 IEC 63294:2021	
		Water immersion on sheath		

Jikendra Parmar
Dealing Officer
Page 85 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
--------	-------------------	---	-------------	----------------

		Water immersion test	IEC 62821-1:2015	
47.	Electric cables — Low voltage energy cables of rated voltages up to and including 450/750 V	Absence of faults in insulation	BS EN 50525-3-11:2011	-----
		Compatibility test		
		Conductor resistance test		
		Insulation resistance test		
		Long term resistance of insulation to dc		
		Measurement of overall dimension		
		Measurement of thickness of insulation and sheath		
		Surface resistance to sheath		
		Voltage test on complete cable		
		Voltage test on cores		
		Assessment of halogen		HCL test apparatus
		Flexing test		-----
		High voltage Water immersion test		
		Impact test		
		Test under fire condition		
		Visual tests		
48.	Electric Cables for Photovoltaic Systems for Rated Voltage 1500 V dc	Cable construction	IS 17293:2020	-----
		Thermal endurance test		
		Insulation resistance		
		Sheath resistance against acid and alkaline solution		
		Voltage test on complete cable with ac or dc		
		Ageing in air oven		
		Assessment of halogens		
		Cold bend test		
		Cold impact test		

Jikendra Parmar
Dealing Officer
Page 86 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Compatibility test		
		Conductor Resistance		
		Continuity of Tin		
		Damp Heat test		
		Diameter of conductor		
		Dynamic Penetration test		
		Elongation at low temperature		
		Hot set test		
		Insulation and sheath thickness		
		Ovality		
		Ozone resistance test on complete cable		
		Persulphate test		
		Shrinkage test		
		Smoke density under fire condition		
		Surface resistance of sheath		
		Tensile strength and elongation at break on insulation and sheath		
		UV test		
		Vertical flame propagation on complete cable		
		Long term resistance of insulation to d.c.		3/80 kV HV test
		Durability & Legibility of Marking		-----
49.	Electric cables-Cross-linked polyethylene insulated- Aerial bundled- For working	Conductor diameter	AS/NZS 3650.1:2000	-----
		Conductor resistance		
		Core diameter		
		High voltage test		
		Insulation thickness		

Jitendra Parmar
Dealing Officer
Page 87 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
	voltages up to and including 0.6/1(1.2) kV	Rib dimensions Shrinkage test Spark test Water absorption of insulation (Electrical)		
50.	Electric flexible cords	Bending test Combustion proportion test Compatibility test Flexing test High voltage test Measurement of thickness of insulation and sheath Voltage test Visual tests Cable construction	AS/NZS 3191:2008	-----
51.	Electric power cables	Resistance to Fire (Category F30, Category F60, Category F120)	BS 8491:2008	FS test apparatus
52.	Electric strength of insulating materials	Break down voltage	IEC 60243-1:2013	-----
53.	Electrical and optical fibre cables	Halogen Acid Gas Evolution / Corrosive & halogen acid gas UV Test	IEC 60754-1:2011 Amd.01:2019 BS EN 50289-4-17:2015	-----
54.	Electrical Cables	Durability of Marking High Voltage Test Resistance to UV Rays	DS/HD 605 S1/A2:2001 DS/HD 605 S1/A2:2001 BS EN 50397-1:2020	-----
55.	Electrical Cables for photovoltaic systems	Thermal Endurance Test Ageing in Air Oven Assessment of halogens for all non-metallic materials Cold Impact Test	BS EN 50618:2014 IEC 62930:2017	Tensile testing machine and ageing ovens, HV test set, Thermal endurance

Jitendra Parmar
Dealing Officer
Page 88 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Compatibility Test		oven, dynamic
		Conductor Resistance		penetration test
		Continuity of Tin		apparatus
		Damp Heat Test		
		Diameter of Conductor		
		Dynamic Penetration Test		
		Hot Set Test		
		Insulation Resistance		
		Long Term Resistance of insulation to dc.		
		Measurement of Thickness of Insulation & Sheath		
		Ovality		
		Ozone Resistance Test		
		Shrinkage Test		
		Smoke Density under Fire Conditions		
		Surface Resistance of Sheath		
		Tensile strength and elongation at break on Insulation and Sheath		
		Test for vertical flame propagation		
		UV Test		
		Voltage Test on completed cable with ac or dc		
		Cold Bending Test		
		Cold Elongation Test		
		Bending Test at Low Temperature		
		Elongation at Low Temperature		

Jitendra Parmar
Dealing Officer
Page 89 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Visual tests		-----
		Cable construction		
		Sheath resistance against acid and alkaline solution		
56.	Electrical insulating materials	Thermal endurance	IEC 60216-3:2021 IEC 60216-4-1:2006	-----
		Thermal endurance test	IS 8504 (Part- 1):2012 (RA:2017) IS 8504 (Part- 2):2013 (RA:2023)	
57.	Electrical Test Low voltage energy cables	Long Term Resistance of Insulation to d.c.	BS EN 50395:2005(Amd 1: 2011)	-----
		Visual tests		
		Cable construction		
58.	Ethylene Plastics	Environmental Stress Cracking Test	ASTM D1693-21	-----
59.	Extruded dielectric power, control, instrumentation portable cables	Accelerated Water Absorption Test (Electrical)	ANSI NEMA WC 53: 2020	Capacitance and tan delta bridge
60.	Extruded outer sheath armoured cables	Abrasion Test	IS 10810 (Part 55):1986 (RA:2021)	Scrape abrasion test apparatus
61.	Flat Polyvinyl Chloride Sheathed Flexible Cables	Ageing in Air Oven	BS EN 50214:2024	-----
		Bending Test at low Temperature		
		Cold Impact Test		
		Conductor Resistance		
		Elongation Test at Low Temperature		
		Flexing Test		
		Heat Shock Test		

Jitendra Parmar
Dealing Officer
Page 90 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		High Voltage test (Water immersion)		
		High Voltage test at room temperature		
		Hot deformation test / Pressure Test at High Temperature		
		Insulation Resistance		
		Loss of Mass		
		Static Flexibility Test		
		Tensile strength and elongation at break on Insulation and Sheath		
		Test for eccentricity and Thickness of insulation and sheath / Overall Dimensions		
		Test under Fire Conditions / Flammability Test		
		Two pulley Flexing Test		
		Visual tests		
		Cable construction		
62.	Flexible Cables for Lifts and other flexible Connection (Elastomer Insulated Cable)	Ageing in Air Bomb	IS 4289 (Part 1):2026	-----
		Ageing in Air Oven		
		Ageing in Oxygen Bomb		
		Conductor Resistance		
		High Voltage test (Water immersion)		
		Insulation Resistance		
		Oil Resistance Test		
		Persulphate Test/ Tinning Test		
		Static Flexibility Test		
		Tear Resistance		

Jitendra Parmar
Dealing Officer
Page 91 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Tensile strength and elongation at break on Insulation and Sheath		
		Test for eccentricity and Thickness of insulation and sheath / Overall Dimensions		
		Test under Fire Conditions / Flammability Test		
		Annealing Test for Copper Wire		
		Visual tests		
		Cable construction		
63.	Flexible Cables for Lifts and other flexible Connection (PVC Insulated)	Ageing in Air Oven	IS 4289 (Part 2):2000 (RA:2020)	-----
		Conductor Resistance		
		Heat Shock Test		
		High Voltage test (Water immersion)		
		Insulation Resistance		
		Loss of Mass		
		Shrinkage Test		
		Static Flexibility Test		
		Tensile strength and elongation at break on Insulation and Sheath		
		Test for eccentricity and Thickness of insulation and sheath / Overall Dimensions		
		Test under Fire Conditions / Flammability Test		
		Thermal Stability		
		Cold Bend Test		
		Cold Impact Test		
		Annealing Test for Copper Wire		
		Visual tests		

Jitendra Parmar
Dealing Officer
Page 92 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used	
		Cable construction			
64.	Flexible Cables with Thermoplastic PVC Insulation	Ageing in Air Oven	BS EN 50525-2-11:2011	-----	
		Bending Test at Low Temperature			
		Conductor Resistance			
		Elongation Test at Low Temperature			
		Flexing Test			
		Heat Shock Test			
		Hot deformation test / Pressure Test at High Temperature			
		Long Term Resistance of Insulation to dc			
		Loss of Mass			
		Mechanical Strength of Strain Bearing Member			
		Tensile strength and elongation at break on Insulation and Sheath			
		Test for eccentricity and Thickness of insulation and sheath / Overall Dimensions			
		Test under Fire Conditions / Flammability Test			
		Thermal Stability			
		Voltage Test			
		Insulation Resistance			Million megaohm meter
		Visual tests			-----
		Cable construction			
		65.	Halogen Free Cross-linked Insulating	Halogen Acid Gas Evolution / Corrosive & halogen acid gas	BS EN 50363-5:2005 (Amd 1: 2011)

Jitendra Parmar
Dealing Officer
Page 93 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
--------	-------------------	---	-------------	----------------

	Compounds			
66.	Halogen Free Flame Retardant (HFFR) cables for working voltages up to and including 1100 Volts	Ageing in air oven on insulation and sheath Annealing test for copper Assessment of halogen - Chlorine and bromine content expressed as content of HCL Assessment of halogen - Conductivity test Assessment of halogen - Fluorine content Assessment of halogen - pH test Assessment of halogen - Presence of fluorine Cold bend test on finished cable Cold impact test on insulation and finished cable Conductor Resistance Elongation at break of insulation and sheath, before and after ageing Flame retardant test on insulation and finished cable Flammability test on finished cable Hot deformation on insulation and sheath Hot set test on insulation and sheath Insulation Resistance	IS 17048:2018 Amd.01 :2021	-----

Jitendra Parmar
Dealing Officer
Page 94 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Oxygen Index Test on insulation and sheath		
		Ozone resistance test on insulation and sheath		
		Persulphate test for tinned copper		
		Smoke density test on finished cable		
		Temperature Index test on insulation and sheath		
		Tensile Strength for Aluminium Wires		
		Tensile strength of insulation and sheath, before ageing and after ageing		
		Test of overall dimensions and thickness of insulation and sheath		
		Water immersion test (effect of water on sheath of cable) on finished cable- Elongation at break		
		Water immersion test (effect of water on sheath of cable) on finished cable		
		Tensile Strength		
		Wrapping test for aluminium		
		High voltage test on insulation and finished cable		
		Visual tests		
		Cable construction		

Jitendra Parmar
Dealing Officer
Page 95 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
67.	Halogen-free cross-linked insulating compounds	Conductivity Test pH Test	BS EN 50363-5:2005 (Amd 1: 2011)	-----
68.	Halogen-free, low smoke, thermoplastic insulated and sheathed cables of rated voltages up to and including 450/750 V	Assessment of halogens for all non-metallic materials Long Term Resistance of insulation to dc Surface Resistance of Sheath	IEC 62821-1:2015 IEC 63294:2021	-----
69.	High Voltage electric cable	Partial Discharge Test	IS/IEC 60270:2000	-----
70.	Insulated Cables	Measurement of thickness of metallic sheath	IS 10810 (Part 34): 1984 (RA:2021)	-----
71.	Insulating and sheathing materials for electric cables	Ageing in air oven Capacitance increase, after immersion in water Carbon black content Carbon black dispersion Environmental stress cracking Heat Shock Hot set test Insulation resistance constant Loss of mass test Oil immersion test pH test Pressure test at high temperature Tensile strength and	AS/NZS 3808:2025	-----

Jitendra Parmar
Dealing Officer
Page 96 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		elongation of insulation and sheath		
		Volume resistivity test		
		Water absorption test		
		Visual tests		
		Cable construction		
72.	Insulating material	Volume resistivity	ASTM D257-14(2021) e1	-----
73.	Insulating, sheathing and covering materials for low voltage energy cables. PVC sheathing compounds	Heat Shock Test	BS EN 50363-4-1:2005	-----
74.	Insulation and sheath of Electric Cables	Halogen Acid Gas Evolution / Corrosive & halogen acid gas	IS 10810 (Part 59):1988 (RA:2020) Amd.01:2011	-----
75.	Insulation/ non-metallic sheathing materials	Oil Resistance Test	IS 10810 (Part 31): 1984 (RA:2021)	-----
76.	Low Carbon Galvanized Steel Wires, Formed Wires and Tapes for Armouring of cables	Adhesion Test	IS 3975:1999 (RA:2021)	-----
		Dimension for Armouring Material		
		Mass of Zinc Coating		
		Resistivity & Conductance test of Armour (Wires/strips)		
		Tensile strength & Elongation at break for armouring material		
		Torsion Test on Galvanized steel wire for Armouring		
		Uniformity of Zinc coating		

Jitendra Parmar
Dealing Officer
Page 97 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		(Dip Test)		
		Winding/ Wrapping Test on Galvanized steel strip for Armouring		
		Test for Chemical Composition		
		Dimension & Sizes		
		Tensile Test		
		Elongation Test		
		Wrapping Test		
		Adhesion Test		
		Torsion Test	IS 3975: 1999 (RA:2021) IS 10810 Part 38:1984 (RA:2021) IS 1717:2018 (RA:2023)	
		Coating Test (Mass of Zinc Test)	IS 3975: 1999 (RA:2021) IS 4826:2023	
		Coating Test (Uniformity of Zinc)	IS 3975: 1999 (RA:2021) IS 2633:1986	
		Coating Test (Adhesion of Zinc)	IS 3975: 1999 (RA:2021)	
		Resistance Test	IS 3975: 1999 (RA:2021) IS 10810 Part-42:1984 (RA:2021)	
		Freedom from defects Phosphorous Sulphur Nitrogen	IS 3975: 1999 (RA:2021)	Optical emission spectrometer, Atomic absorption spectrophotometer, UV-Visible spectrometer

Jikendra Parmar
Dealing Officer
Page 98 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
--------	-------------------	---	-------------	----------------

		Visual tests	IS 3975: 1999 (RA:2021)	-----
		Cable construction		
77.	Low voltage energy cables	Test for eccentricity and Thickness of insulation and sheath / Overall Dimensions	BS EN 50396:2005 (Amd 1: 2011)	-----
		Measurement of Thickness of Insulation & Sheath		
		Ovality		
		Two pulley Flexing Test		
		Assessment of halogens for all non-metallic materials		
		Fluorine Test		
		Insulation Resistance		
		Long Term Resistance of Insulation to D.C.		
		Voltage Test		
		Voltage Test on cores		
		Voltage Test on Cores according to Specified Insulation Thickness	BS EN 50525-1:2011 (Amd 1: 2022)	
		Surface Resistance of Sheath	BS EN 50395:2005 (Amd 1: 2011)	
		High Voltage test (Water immersion)		
		High Voltage test at room temperature		
78.	Low Voltage Energy Cables – Flexible Cables with cross-linked elastomeric insulation	Ageing in Air Oven	BS EN 50525-2-21:2011	-----
		Conductor Resistance		
		Elongation Test at Low temperature		
		High Voltage test (Water immersion)		
		High Voltage test at room temperature		
		Hot Set Test		

Jitendra Parmar
Dealing Officer
Page 99 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Ozone Resistance Test		
		Tensile strength and elongation at break on Insulation and Sheath		
		Test for eccentricity and Thickness of insulation and sheath / Overall Dimensions		
		Test under Fire Conditions / Flammability Test		
		Visual tests		
		Cable construction		
		Bending Test at Low Temperature		
		Insulation Resistance		
79.	Low Voltage Energy Cables – Multicore Cables with cross-linked Silicon Rubber insulation	Ozone Resistance Test	BS EN 50525-2-83:2011	-----
		Ageing in Air Oven		
		Cold Impact Test		
		Conductor Resistance		
		Elongation Test at Low Temperature		
		High Voltage test (Water immersion)		
		High Voltage test at room temperature		
		Hot Set Test		
		Tensile strength and elongation at break on Insulation and Sheath		
		Test for eccentricity and Thickness of insulation and sheath / Overall Dimensions		
		Visual tests		
		Cable construction		
		Ageing in Air Oven		

Jitendra Parmar
Dealing Officer
Page 100 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
80.	Low Voltage Energy Cables – Single Core non- sheathed cables with halogen-free cross-linked insulation and low emission of smoke	Cold Impact Test Conductivity Conductor Resistance Elongation Test at Low Temperature Halogen Acid Gas Evolution / Corrosive & halogen acid gas High Voltage test (Water immersion) High Voltage test at room temperature Hot deformation test / Pressure Test at High Temperature Hot Set Test Insulation Resistance Ozone Resistance Test pH Smoke Density under Fire Conditions Tensile strength and elongation at break on Insulation and Sheath Test for eccentricity and Thickness of insulation and sheath / Overall Dimensions Test under Fire Conditions / Flammability Test Visual tests Cable construction	BS EN 50525-3-41: 2011	-----
81.	Low voltage energy cables of rated voltage up to and	Absence of faults in insulation Compatibility test Conductor resistance	BS EN 50525-2-51:2011	-----

Jitendra Parmar
Dealing Officer
Page 101 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Flexing test		
		Impact test at -5°C		
		Insulation resistance		
		Long term resistance of insulation to dc		
		Measurement of overall dimensions		
		Measurement of thickness of insulation and sheath		
		Ovality		
		Test under fire conditions (Flammability test)		
		Voltage test on complete cable		
		Visual tests		
		Cable construction		
82.	LV & MV Polymeric Insulated Cables for use by distribution & generation utilities	Abrasion Test	BS 7870-2:2022	-----
		Bending Test		
		Long Duration Test		
		Water Penetration Test		
		Cold Bend Test		
		Conductor Diameter		
		Conductor Resistance		
		Dielectric Power Factor Test as a function of voltage		
		Heat Cycle Test		
		High Voltage Test (4 Hour Test)		
		Impulse Withstand Test		
		Mass of Zinc Coating		
		Partial Discharge Test		
		Power Factor Test as a function of temperature		
		Spark Test		

Jikendra Parmar
Dealing Officer
Page 102 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Tear Resistance Test on extruded semi conducting screens-Test for strippability of semiconducting strippable insulation screen UV Test Winding/ Wrapping Test on Galvanized steel strip for Armouring Visual tests Cable construction		
83.	LV and MV Polymeric insulated cable	Hardness (Shore A and Shore D)	BS 7870-8.5:2003	-----
84..	LV and MV polymeric insulated cables for use by distribution and generation utilities	Ageing in Air Oven High Voltage test (Water immersion) High Voltage test at room temperature Insulation Resistance Tensile strength and elongation at break on Insulation and Sheath Test for eccentricity and Thickness of insulation and sheath / Overall Dimensions Visual tests Cable construction	BS 7870-2:2022 BS 7870-1:2011 (Amd 1:2022) BS 7870-1:2011 (Amd 1:2022)	-----
85.	Measurement of carbon black and/or mineral filler in polyethylene compounds	Carbon Content Test	BS EN 60811-605:2012 IEC 60811-605:2012	-----

Jitendra Parmar
Dealing Officer
Page 103 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
86.	Measurement of smoke density of cables burning under defined conditions	Smoke Density under Fire Conditions	BS EN 61034-2:2005 (Amd 2:2020) IEC 61034-2:2005 (Amd 2:2019)	-----
87.	Melt Flow Rates of Thermoplastics by Extrusion Plastometer	Melt Flow Index	ASTM D1238-23(a)	-----
88.	Multi Element Metallic Cables Used in Analogue and Digital Communication and Control	Ageing in Air Oven Capacitance Tests Conductor Elongation at Break Conductor Resistance Dimension for Armouring Material Environmental Stress Cracking Test Heat Shock Test Hot deformation test / Pressure Test at High Temperature Inductance Test Insulation Resistance L/R Ratio Test Loss of Mass Mass of Zinc Coating Melt Flow Index Resistivity & Conductance test of Armour (Wires/strips) Shrinkage Test Tensile strength & Elongation at break for	BS EN 50288-7:2005	-----

Jitendra Parmar
Dealing Officer
Page 104 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		armouring material		
		Tensile strength and elongation at break on Insulation and Sheath		
		Test for eccentricity and Thickness of insulation and sheath / Overall Dimensions		
		Torsion Test on Galvanized steel wire for Armouring		
		Uniformity of Zinc coating (Dip Test)		
		Winding/Wrapping Test on Galvanized steel strip for Armouring		
		Visual tests		
		Cable construction		
89.	Optical fibre cable	Abrasion test	IEC 60794-1-2:2021	-----
		Bend test	IS 13882 (Part 1 /	
		Flexing test	Sec 1):2001	
		Impact test		
		Torsion test		
		Water penetration test		
		Tensile strength		
		Test under fire condition		
		Physical Dimension		
		Visual tests		
		Cable construction		
		Physical Dimension	IEC 60794-1-1:2023	
			IEC 60811-203:2012	
90.	Paper Covered Aluminium Conductor	Conductor diameter	IS 6162 (P- 1):1971	-----
		Diameter	(RA:2018) Amd.04:1993	
		Increase in diameter		
		Oil absorption		
		Overall diameter of wire		

Jitendra Parmar
Dealing Officer
Page 105 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Resistance		
		Tensile strength and elongation		
		Thickness of paper		
		Wrapping test		
		Visual tests		
		Cable construction		
		Increase in dimension due to covering	IS 6162 (P- 2):1971 (RA:2018) Amd-05:1993	
		Oil absorption		
		Over all dimension		
		Resistance		
		Tensile strength		
		Thickness of paper		
		Visual tests		
		Cable construction		
91.	Persulphate Test of Conductor	Persulphate Test/ Tinning Test	IS 10810 (Part 4):1984 (RA:2021)	-----
92.	Petroleum and natural gas industries External coatings for buried or submerged pipelines used in pipeline transportation systems (Polyolefin coatings (3- layer PE and 3-layer PP)	UV Test	ISO 21809-1:2018	-----
93.	Plastics and Insulation sheath compound of cable	Density and Specific Gravity (Relative Density) of Plastics by displacement	ASTM D792-20	-----
		Smoke Density Rating	ASTM D2843-22	

Jitendra Parmar
Dealing Officer
Page 106 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Tensile Strength at yield	ASTM D638-22	
		Oxygen Index Test	ASTM D2863:23 e1 IS 10810 (Part 58):1998 (RA:2019)	
		Tensile strength & elongation	ASTM D638-22	
		UV Test	ISO 4892-2:2013 Amd. 01:2021 ISO 4892-3:2024	
94.	Plastics -- Determination of burning behaviour by oxygen index --Part 2: Ambient-temperature test	Oxygen Index Test	ISO 4589-2:2017	-----
95.	Plastics -- Determination of burning behaviour by oxygen index --Part 3: Elevated-temperature test	Temperature Index Test	ISO 4589-3:2017	-----
96.	Plastics and other cable compound	Density and Specific Gravity (Relative Density) of Plastics by displacement	IEC/BS EN 60811-606:2012	-----
97.	Polyethylene insulation and sheath	Carbon Content Test	IS 10810 (Part 32):1984 (RA:2021)	-----
98.	Polyethylene & its derivatives	Oxygen Induction time	ASTM D3895-19	-----

Jitendra Parmar
Dealing Officer
Page 107 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
99.	Polyethylene compounds	Melt Flow Index	BS EN 60811-511: 2012 Amd 01:2017 IEC 60811-511: 2012 Amd 01:2017	-----
100.	Polyethylene insulation and sheath	Annealing Test for Copper Wire	IS 10810 (Part- 1):1984 (RA:2021)	-----
		Melt Flow Index	IS 10810 (Part 23):1984 (RA:2021)	
		Environmental Stress Cracking Test	IS 10810 (Part 29):1984 (RA:2021)	
101.	Polyethylene Moulding Materials and Polyethylene Compounds	Bleeding and Blooming Test Carbon Content Test Colour Fastness to Day Light Colour Fastness to Water Melt Flow Index Vicat Softening Point	IS 2530:2026	-----
102.	Polymeric insulated aerial bundled conductors (ABC) of rated voltage 0.6/1 kV for overhead distribution	Ageing in Air Oven Breaking load on Messenger Conductor Conductor Resistance High Voltage test at room temperature Insulation Resistance Shrinkage Test Spark Test Tensile strength and elongation at break on Insulation and Sheath Test for eccentricity and Thickness of insulation and sheath / Overall Dimensions Water Absorption Test	BS 7870-5:2011	-----

Jikendra Parmar
Dealing Officer
Page 108 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
--------	-------------------	---	-------------	----------------

		(Gravimetric)		
		Visual tests		
		Cable construction		
103.	Polyolefin pipes, fittings and compounds	Carbon black dispersion test	ISO 18553:2025	-----
		Method for the assessment of the degree of pigment or carbon black dispersion in polyolefin pipes, fittings and compound.		Hot plate and Microscope
104.	Polyvinyl Chloride Insulated Cables	Ageing in Air Oven	IEC 60227-1:2024	-----
		Bending Test at low Temperature	IEC 63294:2021	
		Conductor Resistance		
		Durability & Legibility of Marking		
		Elongation Test at Low Temperature		
		Heat Shock Test		
		High Voltage test (Water immersion)		
		High Voltage test at room temperature		
		Hot deformation test / Pressure Test at High Temperature		
		Insulation Resistance		
		Loss of Mass		
		Tensile strength and elongation at break on Insulation and Sheath		

Jitendra Parmar
Dealing Officer
Page 109 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Test for eccentricity and Thickness of insulation and sheath / Overall Dimensions	IEC 60227-1:2024	-----
		Test under Fire Conditions / Flammability Test		
		Thermal Stability		
		Bending Test		
		Visual tests		
		Cable construction		
		Visual tests		
		Cable construction	IEC 63294:2021	-----
105.	Polyvinyl Chloride Insulated cables - Part 6 Lift Cables and Cables for Flexible Connections	Conductor Resistance	IEC 60227-6:2001	-----
106.	Polyvinyl chloride insulated cables of rated voltages up to and including 450/750 V	Flexing test	IEC 63294:2021	-----
		Visual tests		
		Cable construction		
107.	Polyvinyl Chloride Insulated Cables: Flexible Cables (Cords)	Bending Test at low Temperature	IEC 60227-5:2024	-----
		Elongation Test at Low Temperature		
		Heat Shock Test		
		High Voltage test (Water immersion)		
		High Voltage test at room temperature		
		Hot deformation test /		
		Pressure Test at High		

Jitendra Parmar
Dealing Officer
Page 110 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Temperature		
		Loss of Mass		
		Thermal Stability		
		Ageing in Air Oven		
		Conductor Resistance		
		Durability & Legibility of Marking		
		Insulation Resistance		
		Tensile strength and elongation at break on Insulation and Sheath		
		Test for eccentricity and Thickness of insulation and sheath / Overall Dimensions		
		Test under Fire Conditions / Flammability Test		
		Visual tests		
		Cable construction		
108.	Polyvinyl Chloride Insulated Cables: Lift Cables and Cables for Flexible Connections	Ageing in Air Oven	IEC 60227-6:2001	-----
		Bending Test at low Temperature		
		Durability & Legibility of Marking		
		Elongation Test at Low Temperature		
		Heat Shock Test		
		High Voltage test (Water immersion)		
		High Voltage test at room temperature		
		Hot deformation test / Pressure Test at High Temperature		

Jitendra Parmar
Dealing Officer
Page 111 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Insulation Resistance		
		Loss of Mass		
		Tensile strength and elongation at break on Insulation and Sheath		
		Test for eccentricity and Thickness of insulation and sheath / Overall Dimensions		
		Test under Fire Conditions / Flammability Test		
		Thermal Stability		
		Visual tests		
		Cable construction		
109.	Polyvinyl Chloride Insulated Cables: Non-Sheathed Cables for Fixed Wiring	Conductor Resistance	IEC 60227-3:2024	-----
		Ageing in Air Oven		
		Bending Test at low Temperature		
		Durability & Legibility of Marking		
		Elongation Test at Low Temperature		
		Heat Shock Test		
		High Voltage test (Water immersion)		
		High Voltage test at room temperature		
		Hot deformation test / Pressure Test at High Temperature		
		Insulation Resistance		
		Loss of Mass		
		Tensile strength and elongation at break on Insulation and Sheath		
		Test for eccentricity and		

Jitendra Parmar
Dealing Officer
Page 112 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Thickness of insulation and sheath / Overall Dimensions		
		Test under Fire Conditions / Flammability Test		
		Thermal Stability		
		Visual tests		
		Cable construction		
110.	Polyvinyl Chloride Insulated Cables: Sheathed cables for fixed wiring	Ageing in Air Oven	IEC 60227-4:2024	-----
		Bending Test at low Temperature		
		Conductor Resistance		
		Durability & Legibility of Marking		
		Elongation Test at Low Temperature		
		Heat Shock Test		
		High Voltage test (Water immersion)		
		High Voltage test at room temperature		
		Hot deformation test / Pressure Test at High Temperature		
		Insulation Resistance		
		Loss of Mass		
		Tensile strength and elongation at break on Insulation and Sheath		
		Test for eccentricity and Thickness of insulation and sheath / Overall Dimensions		
		Test under Fire Conditions / Flammability Test		
		Thermal Stability		
		Visual tests		

Jitendra Parmar
Dealing Officer
Page 113 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
--------	-------------------	---	-------------	----------------

111.	Polyvinyl Chloride Insulated unsheathed and sheathed cables/cords with rigid and flexible conductor for rated voltages up to and including 1100V	Cable construction Additional Ageing Test Ageing in Air Oven Annealing Test for Copper Wire Cold Bend Test Cold Impact test Conductor Resistance Durability & Legibility of Marking Flexing Test Halogen Acid Gas Evolution / Corrosive & halogen acid gas Heat Shock Test High Voltage test (Water immersion) High Voltage test at room temperature Hot deformation test / Pressure Test at High Temperature Insulation Resistance Loss of Mass Oxygen Index Test Persulphate Test/ Tinning Test Shrinkage Test Temperature Index Test Tensile strength and elongation at break on Insulation and Sheath Tensile Strength for Aluminium Wires Test for eccentricity and	IS 694:2010 (RA:2020) Amd.04:2020	-----
------	--	--	--------------------------------------	-------

Jitendra Parmar
Dealing Officer
Page 114 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Thickness of insulation and sheath / Overall Dimensions		
		Test under Fire Conditions / Flammability Test		
		Thermal Stability		
		Wrapping Test for Aluminium Wires		
		Visual tests		
		Cable construction		
		Smoke Density Rating	IS 694:2010 (RA:2020) Amd.04:2020 IS 13360 Part 6 Sec 9:2025	Smoke Density Test Apparatus
112.	Power cables for rated voltage 1kV and 3kV	Measurement of Conductor resistance Increase in AC capacitance after immersion in water Acid gas emission Additional ageing compatibility test Behaviour at high temperature (Hot pressure test) Behaviour at low temperatures on sheaths Conductivity test Conductor examination Coverage density of braid Durability of marking Enhanced hot oil immersion External diameter Fire retardant test (Circuit integrity) Fluorine content test	IEC 60092-353:2024	-----

Jitendra Parmar
Dealing Officer
Page 115 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		High voltage test for 4 hours		
		Hot oil immersion test		
		Hot set test		
		Insulation resistance measurement at maximum rated temperature		
		Insulation resistance test		
		Loss of mass test		
		Mechanical properties of insulation before and after ageing		
		Ozone resistance test		
		pH test		
		Resistance to cracking heat shock		
		Smoke emission test		
		Test for coating of copper wires		
		test for fire resistance (limited circuit integrity)		
		Thickness of insulation		
		Thickness of non-metallic sheath		
		Voltage test		
		Voltage test on sheath		
		Visual tests		
		Cable construction		
113.	Power Cables for the distribution of electrical energy	Accelerated Water Absorption Test (Electrical) Dielectric Strength Retention Test	NEMA WC 5:1992	-----
114.	Power Cables rated 2000V or less for the	Accelerated Water Absorption Test (Electrical) Visual tests	ANSI/NEMA WC 70/ICEA S-95-658-2021	-----

Jitendra Parmar
Dealing Officer
Page 116 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
--------	-------------------	---	-------------	----------------

	distribution of Electrical Energy	Cable construction		
115.	Power cables with extruded insulation and their accessories for rated voltages above 30 kV (Um = 36 kV) up to 150 kV (Um = 170 kV)	Impulse Withstand Test Abrasion Test Adhesion Strength of metal foil Ageing in Air Bomb Ageing in Air Oven Bending Test Carbon Black Content Cold Elongation Test Cold Impact Test Compatibility Test Conductor Resistance Density of HDPE Insulation Determination of Elastic Modulus Determination of Hardness Heat Cycle Test Heat Shock Test High Voltage Test for 15 minutes Hot Set Test Loss of Mass Test Measurement of Capacitance Ozone Resistance Test Partial Discharge Test Peel Strength of overlapped metal foil Pressure Test at high Temperature Shrinkage Test Tan delta Measurement	IEC 60840:2020 Amd.01:2023	-----

Jikendra Parmar
Dealing Officer
Page 117 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Tensile strength and elongation at break on Insulation and Sheath		
		Test for eccentricity and Thickness of insulation and sheath / Overall Dimensions		
		Test on extruded semi conducting screens- Volume Resistivity		
		Test under Fire Conditions		
		Thermal ageing test for complete cable		
		Thickness of Metal Sheath		
		Water Penetration Test		
		Visual tests		
		Cable construction		
		Visual tests		
		Cable construction		
116.	Power Cables with extruded insulation and their accessories for rated voltages from 1kV to 3 kV	Accelerated Water Absorption Test (Electrical)	IEC 60502-1:2021	-----
		Ageing in Air Oven		
		Carbon Content Test		
		Cold Bend Test		
		Cold Impact Test		
		Elongation Test at Low Temperature		
		Flame Retardance Test on Bunched cable		
		Halogen Acid Gas Evolution / Corrosive & halogen acid gas		
		Heat Shock Test		
		High Voltage Test (4 Hour Test)		
		High Voltage test at room		

Jitendra Parmar
Dealing Officer
Page 118 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		temperature		
		Hot deformation test /		
		Pressure Test at High		
		Temperature		
		Hot Set Test		
		Impulse Withstand Test		
		Insulation Resistance		
		Loss of Mass		
		Ozone Resistance Test		
		Shrinkage Test		
		Tensile strength and		
		elongation at break on		
		Insulation and Sheath		
		Test for eccentricity and		
		Thickness of insulation and		
		sheath / Overall Dimensions		
		Test under Fire		
		Conditions / Flammability		
		Test		
		Thermal ageing test for		
		complete cable/ Additional		
		Ageing Test on pieces of		
		Completed Cables		
		Thermal Stability		
		Water Absorption Test		
		(Gravimetric)		
		Visual tests		
		Cable construction		
117.	Power Cables with	Conductor Resistance	IEC 60502-2:2014	-----
	extruded insulation	Accelerated Water	Amd.01:2024	
	and their accessories	Absorption Test (Electrical)		
	for rated voltages	Ageing in Air Oven		
	from 6 KV to 30 KV	Carbon Content Test		
		Cold Bend Test		
		Cold Impact Test		

Jitendra Parmar
Dealing Officer
Page 119 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
--------	-------------------	---	-------------	----------------

		Elongation Test at Low Temperature		
		Heat Shock Test		
		High Voltage Test (4 Hour Test)		
		High Voltage test at room temperature		
		Hot deformation test / Pressure Test at High Temperature		
		Hot Set Test		
		Impulse Withstand Test		
		Insulation Resistance		
		Loss of Mass		
		Ozone Resistance Test		
		Shrinkage Test		
		Tensile strength and elongation at break on Insulation and Sheath		
		Test for eccentricity and Thickness of insulation and sheath / Overall Dimensions		
		Test under Fire Conditions / Flammability Test		
		Thermal ageing test for complete cable/ Additional Ageing Test on pieces of Completed Cables		
		Thermal Stability		
		Water Absorption Test (Gravimetric)		
		Bending Test		
		Dielectric Power Factor Test as a function of temperature		

Jitendra Parmar
Dealing Officer
Page 120 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Heat Cycle Test		
		Partial Discharge Test		
		Visual tests		
		Cable construction		
		Water Penetration Test		
		Determination of cable conductor temperature (Ampacity test)		
		Visual tests		
		Cable construction		
118.	Power, control and Instrumentation cables	Acid gas emission test	IEC 60092-350:2020	-----
		Additional aging test on pieces of completed cable (Compatibility test)		
		Ageing test of insulation and sheath		
		Cold bend test		
		Cold impact test		
		Conductivity test		
		Conductor resistance		
		Coverage density of braid		
		Durability of print		
		Enhanced hot oil immersion test		
		Fire resistance test (test for circuit integrity cables)		
		Flame spread test on bunched cables		
		Flame spread test on single cables		
		Fluorine content test		
		Heat shock test		
		High voltage test for 4 hours		
		Hot oil immersion test		

Jitendra Parmar
Dealing Officer
Page 121 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Hot pressure test		
		Increase in ac capacitance after immersion in water		
		Inductance to resistance ratio		
		Insulation resistance test		
		Loss of mass test		
		Measurement of standard diameter		
		Mud drilling fluid test		
		Mutual capacitance		
		Ozone resistance test		
		pH test		
		Smoke emission test		
		Test for behaviour of insulation and sheath at low temperatures		
		Test for determining the mechanical properties of insulation and sheath		
		Test for metal coating of copper wires		
		Thickness of insulation and sheath		
		Visual tests		
		Cable construction		
119.	Procedure and requirements – Optical Fibre Cables	Test for electric cables under fire conditions- Circuit Integrity	IEC 60331-25:1999	-----
120.	PVC Insulated (Heavy Duty) Electric cables for working voltages from 3.3 kV to 11 kV	Bending Test Dielectric Power Factor Test as a function of temperature Dielectric Power Factor Test	IS 1554 (Part 2):1988 (RA:2020) Amd.04:2012	-----

Jitendra Parmar
Dealing Officer
Page 122 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
--------	-------------------	---	-------------	----------------

		as a function of voltage		
		Heat Cycle Test		
		High Voltage Test (4 Hour Test)		
		Impulse Withstand Test		
		Partial Discharge Test		
		Water Absorption Test (Gravimetric)		
		Annealing Test for Copper Wire		
		Tensile Strength for Aluminium Wires		
		Tensile strength and elongation at break on Insulation and Sheath		
		Insulation Resistance		
		Resistivity & Conductance test of Armour (Wires/strips)		
		Flame Retardance Test on Bunched cable		
		Halogen Acid Gas Evolution / Corrosive & halogen acid gas		
		Oxygen Index Test		
		Dimension for Armouring Material		
		Ageing in Air Oven		
		Armour Coverage Percentage Test		
		Cold impact Test		
		Conductor Resistance		
		Flame Retardant Test on Single cable (Swedish Chimney)		

Jitendra Parmar
Dealing Officer
Page 123 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Heat Shock Test		
		High Voltage test (Water immersion)		
		High Voltage test at room temperature		
		Hot deformation test / Pressure Test at High Temperature		
		Loss of Mass		
		Mass of Zinc Coating		
		Resistance Test for Armour (for Mining Cables)		
		Shrinkage Test		
		Temperature Index Test		
		Tensile strength & Elongation at break for armouring material		
		Test for eccentricity and Thickness of insulation and sheath / Overall Dimensions		
		Test under Fire Conditions / Flammability Test		
		Thermal Stability		
		Torsion Test on Galvanized steel wire for Armouring		
		Winding/ Wrapping Test on Galvanized steel strip for Armouring		
		Wrapping Test for Aluminium Wires		
		Uniformity of Zinc coating (Dip Test)		
		Visual tests		
		Cable construction		
		Cold Bend Test		

Jitendra Parmar
Dealing Officer
Page 124 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
121.	PVC Insulated (Heavy Duty) Electric cables for working voltages up to 1100	Dimension for Armouring Material Flame Retardance Test on Bunched cable Flame Retardant Test on Single cable (Swedish Chimney) Halogen Acid Gas Evolution / Corrosive & halogen acid gas High Voltage test (Water immersion) High Voltage test at room temperature Oxygen Index Test Resistance Test for Armour (for Mining Cables) Resistivity & Conductance test of Armour (Wires/strips) Temperature Index Test Tensile strength & Elongation at break for armouring material Test under Fire Conditions / Flammability Test Torsion Test on Galvanized steel wire for Armouring Uniformity of Zinc coating (Dip Test) Winding/ Wrapping Test on galvanized steel strip for Armouring Armour Coverage Percentage Test	IS 1554 (Part 1):1988 (RA:2020) Amd.05:2012	-----

Jikendra Parmar
Dealing Officer
Page 125 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Mass of Zinc Coating		
		Ageing in Air Oven		
		Annealing Test for Copper Wire		
		Conductor Resistance		
		Heat Shock Test		
		Hot deformation test / Pressure Test at High Temperature		
		Insulation Resistance		
		Loss of Mass		
		Shrinkage Test		
		Tensile strength and elongation at break on Insulation and Sheath		
		Tensile Strength for Aluminium Wires		
		Test for eccentricity and Thickness of insulation and sheath / Overall Dimensions		
		Thermal Stability		
		Wrapping Test for Aluminium Wires		
		Visual tests		
		Cable construction		
122.	PVC Insulated and PVC Sheathed cables for electric power and lighting	Ageing in Air Oven	BS 6004:2012 (Amd 1:2020)	-----
		Conductor Resistance		
		Heat Shock Test		
		Hot deformation test / Pressure Test at High Temperature		
		Insulation Resistance		
		Loss of Mass		
		Thermal Stability		

Jitendra Parmar
Dealing Officer
Page 126 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
123.	PVC insulated Cables	Visual tests	IR S 63:2014	-----
		Cable construction		
		Ageing in air oven		
		Annealing test		
		Conductor Diameter		
		Conductor resistance test		
		Elongation for armour		
		Elongation of sheath and insulation		
		Flammability test		
		High voltage test		
		Insulation resistance test		
		Loss of mass test		
		Mass of zinc coating		
		Resistivity test		
		Shrinkage test		
		Specific gravity test		
		Tensile strength for armour		
		Tensile strength of insulation and sheath		
		Thermal stability test		
		Thickness of insulation		
		Thickness of insulation and sheath		
		Torsion test		
		Uniformity of zinc coating		
		Water immersion test		
		Winding test and wrapping		
124.	PVC Insulated combined neutral and earth copper wire concentric	Ageing in Air Oven	BS 7870-3.10:2001	-----
		Bending Test at Low Temperature		
		Compatibility Test		
		Conductor Resistance		
		Elongation Test at Low		

Jitendra Parmar
Dealing Officer
Page 127 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
	cables with copper or aluminium conductor	Temperature Heat Shock Test Hot deformation test / Pressure Test at High Temperature Insulation Resistance Loss of Mass Measurement of Overall Dimensions Measurement of Thickness of Insulation & Sheath Tensile strength and elongation at break on Insulation and Sheath Test under Fire Conditions / Flammability Test Voltage Test on Complete Cable Visual tests Cable construction		
125.	PVC insulated compounds	Volume resistivity Heat Shock Test Thermal Stability Ageing in Air Oven Bending Test at Low Temperature Elongation Test at Low Temperature Hot deformation test / Pressure Test at High Temperature Insulation Resistance	BS EN 50290-2-21: 2002, (Amd 1:2007) BS EN 50363-3:2005 (Amd 1:2011)	-----

Jitendra Parmar
Dealing Officer
Page 128 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Loss of Mass		
		Tensile strength and elongation at break on Insulation and Sheath		
126.	PVC Insulation and Sheath of Electrical Cables	Bleeding & Blooming Test	IS 5831:1984 (RA:2021) Amd.02:1995	-----
127.	PVC Sheathing Compound	Tensile strength and elongation at break on Insulation and Sheath Ageing in Air Oven Bending Test at Low Temperature Elongation Test at Low Temperature Heat Shock Test Hot deformation test / Pressure Test at High Temperature Loss of Mass Thermal Stability Visual tests Cable construction	BS EN 50363-4-1:2005	-----
128.	Railway rolling stock cables	Abrasion resistance Acid and alkali resistance Blocking of cores D.C. stability Dielectric strength Durability of marking Electrical resistance of conductors Flame propagation Impact test at low temperature	BS EN 50305:2020	-----

Jitendra Parmar
Dealing Officer
Page 129 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Insulation resistance		
		Long term ageing for insulation		
		Long term ageing for sheath		
		Mineral and fuel oil resistance		
		Notch propagation		
		Ozone resistance test		
		flammability		
		Pressure test at high temperature		
		Shrinkage test for insulation		
		Spark test		
		Stress cracking test		
		Strippability and adhesion of insulation		
		Surface resistance test		
		Toxicity		
		Voltage test on complete cable		
		Voltage test on sheath		
		Water absorption of sheath		
		Visual tests		
		Cable construction		
129.	Railway rolling stock power and control cables having special fire performance	Measurement of Overall Dimensions	BS EN 50264-3-1:2008	-----
		Acid and alkali resistance test		
		Ageing test		
		Bending test at low temperature		
		Cold elongation		
		Compatibility test		

Jitendra Parmar
Dealing Officer
Page 130 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Conductor resistance		
		D.C. stability		
		Dielectric strength		
		Fuel resistance test		
		Hot set test		
		Impact test at low temperature		
		Insulation resistance		
		Mineral oil resistance		
		Ozone resistance test		
		Spark test		
		Surface resistance		
		Voltage test		
		Water absorption test		
		Visual tests		
		Cable construction		
130.	Reference Standard for Electrical Wires, Cables, and Flexible Cords	UV Test	UL 1581:2001 Edition 4:2023	-----
131	Resistance to stress cracking of polyethylene and polypropylene compounds	Environmental Stress Cracking Test	BS EN 60811-406:2012 IEC 60811-406:2012	-----
132.	Road vehicles- 60V and 600V single core cable	Abrasion test	ISO 6722-1:2011	-----
		Cold impact		
		Conductor diameter		
		Conductor resistance		
		Durability of cable marking		
		Fluid compatibility		
		Insulation faults		

Jitendra Parmar
Dealing Officer
Page 131 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Insulation thickness		
		Insulation volume resistivity		
		Long term heat aging		
		Low temperature winding		
		Outside cable diameter		
		Pressure test at high temperature		
		Resistance to flame propagation		
		Resistance to hot water		
		Resistance to ozone		
		Short term heat aging		
		Shrinkage by heat		
		Strip force		
		Temperature and humidity cycling		
		Thermal overload		
		Withstand voltage		
		Visual tests		
		Cable construction		
133.	Rubber compound for cables	Hydrolytic Stability Test	ASTM D3137-81 (2018)	-----
134.	Rubber Deterioration in an Ozone Controlled Environment	Ozone resistance	ASTM D 1149-18 (2025)	-----
135.	Rubber insulated Cables	Ageing in Air Oven	IEC 60245-1:2026	-----
		Conductor Resistance		
		Flexing Test		
		Hot Set Test		
		Measurement of Overall Dimensions		
		Measurement of Thickness		

Jitendra Parmar
Dealing Officer
Page 132 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		of Insulation & Sheath Tensile strength and elongation at break on Insulation and Sheath Voltage test on complete cables Voltage Test on cores Distance between centres of conductors High Voltage Test Ovality Overall Dimensions Kink Test Flexing Test Static Flexibility Test Electrical Resistance of Conductors Voltage Test on Complete Cable Voltage Test on Cores Visual tests Cable construction		
136.	Rubber insulated cables – Rated voltages up to and including 450/750 V	Ageing test Electrical resistance of conductors Flame retardant test Flexing test Insulation resistance at temperatures above 90°C Kink Test Measurement of overall dimension Measurement of thickness of insulation and sheath	IEC 63294:2021	-----

Jitendra Parmar
Dealing Officer
Page 133 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Oxygen bomb test	IEC 60245-4:2011	
		Static Flexibility test		
		Voltage test carried out on complete cables		
		Voltage test on cores		
		Wear Resistance		
		Ageing test		
		Bending test at low temperature		
		Flexing test		
		Hot set test		
		Measurement of thickness of insulation and sheath		
		Ovality		
		Overall diameter		
		Ozone resistance test		
		Resistance of conductor		
		Tensile strength and elongation		
		Voltages test on complete cable		
		Voltages test on cores		
		Visual tests		
		Cable construction		
137.	Rubber insulated cables: Cords and Flexible Cables	Ageing in Air Oven	IEC 60245-4:2026	-----
		Conductor Resistance		
		Distance between centres of conductors		
		Flexing Test		
		Hot Set Test		
		Measurement of Overall Dimensions		
		Measurement of Thickness of Insulation & Sheath		

Jitendra Parmar
Dealing Officer
Page 134 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Ozone Resistance Test		
		Tensile strength and elongation at break on Insulation and Sheath		
		Voltage Test		
		Voltage Test on Cores according to Specified Insulation Thickness		
138.	Rubber insulated cables: Heat resistant silicone insulated cables	Ageing in Air Oven	IEC 60245-3:2026	-----
		Conductor Resistance		
		Hot Set Test		
		Measurement of Overall Dimensions		
		Measurement of Thickness of Insulation & Sheath		
		Tensile strength and elongation at break on Insulation and Sheath		
		Voltage Test		
		Visual tests		
		Cable construction		
139.	Rubber insulated cables: Lift Cables	Tensile strength and elongation at break on Insulation and Sheath	IEC 60245-5:1994	-----
		Ageing in Air Oven		
		Conductor Resistance		
		Hot Set Test		
		Measurement of Overall Dimensions		
		Measurement of Thickness of Insulation & Sheath		
		Visual tests		
		Cable construction		

Jitendra Parmar
Dealing Officer
Page 135 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
140.	Rubber or Silicon Rubber insulated flexible cables & cords for coils & leads	Ageing in Air Oven	BS 6195:2006	-----
		Conductor Resistance		
		Heat Shock Test		
		High Voltage test (Water immersion)		
		High Voltage test at room temperature		
		Hot deformation test / Pressure Test at High Temperature		
		Hot Set Test		
		Tensile strength and elongation at break on Insulation and Sheath		
		Test for eccentricity and Thickness of insulation and sheath / Overall Dimensions		
		Test under Fire Conditions / Flammability Test		
141.	Rubber Property- Durometer Hardness	Shore A Hardness	ASTM D2240-15 (2021)	-----
		Shore D Hardness		
142.	Rubber, vulcanized or thermoplastic	Elongation at break	ISO 37:2024	-----
		Tensile at 100% extension		
143.	Single core cables with cross linked silicone rubber insulation	Ageing in Air Oven	BS EN 50525-2-41:2011	-----
		Conductor Resistance		
		Insulation Resistance		
		Test for eccentricity and Thickness of insulation and sheath / Overall Dimensions		
		Visual tests		

Jitendra Parmar
Dealing Officer
Page 136 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Cable construction		
144.	Single core non-sheathed cables with cross linked EVA insulation	Ageing in Air Oven	BS EN 50525-2-42: 2011	-----
		Insulation Resistance		
		Test for eccentricity and Thickness of insulation and sheath / Overall Dimensions		
		Visual tests		
		Cable construction		
145.	Single Core non-sheathed cables with thermoplastic PVC Insulation	Ageing in Air Oven	BS EN 50525-2-31:2011	-----
		Bending Test at Low Temperature		
		Conductor Resistance		
		Elongation Test at Low Temperature		
		Heat Shock Test		
		High Voltage test at 2000 V or 2500 V		
		Long Term Resistance of Insulation to d.c.		
		Loss of Mass		
		Measurement of Overall dimension		
		Measurement of Thickness of Insulation & Sheath		
		Pressure Test at High Temperature		

Jikendra Parmar
Dealing Officer
Page 137 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Tensile strength and elongation at break on Insulation and Sheath		
		Test under Fire Conditions / Flammability Test		
		Thermal Stability		
		Visual tests		
		Cable construction		
146.	Single core PVC insulated flexible cable for switchgear and control gear wiring	Ageing in Air Oven	BS 6231:2006	-----
		Conductor Resistance		
		Heat Shock Test		
		High Voltage test (Water immersion)		
		High Voltage test at room temperature		
		Insulation Resistance		
		Loss of Mass		
		Pressure Test at High Temperature		
		Tensile strength and elongation at break on Insulation and Sheath		
		Test for eccentricity and Thickness of insulation and sheath / Overall Dimensions		
		Visual tests		
		Cable construction		

Jitendra Parmar
Dealing Officer
Page 138 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
147.	Single insulated wire or cable	Test under Fire Conditions / Flammability Test Visual tests Cable construction	IEC 60332-1-1:2004 Amd.01:2015	-----
148.	Single wire armoured and PVC sheathed multicore cable with copper conductors	Ageing in Air Oven Conductor Resistance High Voltage test (Water immersion) High Voltage test at room temperature Hot deformation test / Pressure Test at High Temperature Tensile strength and elongation at break on Insulation and Sheath Test for eccentricity and Thickness of insulation and sheath / Overall Dimensions Visual tests Cable construction	BS 7870-8.1:2003	-----
149.	Single wire armoured and PVC sheathed multicore cable with copper conductors, having reduced fire propagation performance	Ageing in Air Oven Conductor Resistance High Voltage test (Water immersion) High Voltage test at room temperature Insulation Resistance	BS 7870-8.3:2003	-----

Jitendra Parmar
Dealing Officer
Page 139 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Shrinkage Test		
		Tensile strength and elongation at break on Insulation and Sheath		
		Test for eccentricity and Thickness of insulation and sheath / Overall Dimensions		
		Water Absorption Test (Gravimetric)		
		Visual tests		
		Cable construction		
150.	Single Wire Armoured and PVC Sheathed Multipair Cable with Copper Conductors	Ageing in Air Oven	BS 7870-8.2:2003	-----
		Bending Test at Low Temperature		
		Carbon Content Test		
		Conductor Resistance		
		Density and Specific Gravity (Relative Density) of Plastics by displacement		
		Dimension for Armouring Material		
		Elongation Test at Low Temperature		
		Environmental Stress Crack Resistance		
		Heat Shock Test		

Jitendra Parmar
Dealing Officer
Page 140 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Hot deformation test / Pressure Test at High Temperature		
		Inductance Test		
		Insulation Resistance		
		Loss of Mass		
		Mass of Zinc Coating		
		Measurement of Thickness of Insulation & Sheath		
		Melt Flow Index		
		Tensile strength & Elongation at break for armouring material		
		Tensile strength and elongation at break on Insulation and Sheath		
		Tensile Strength at yield		
		Water Penetration Test		
		Winding/ Wrapping Test on Galvanized steel strip for Armouring		
		Visual tests		
		Cable construction		
151.	Single wire armoured and unarmoured multicore cables with copper conductor and non-	Abrasion Test	BS 7870-8.5:2003	-----
		Ageing in Air Bomb		
		Ageing in Air Oven		
		Compatibility Test		
		Conductivity		

Jikendra Parmar
Dealing Officer
Page 141 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
--------	-------------------	---	-------------	----------------

	halogenated sheath	Conductor Resistance		
		Dimension for Armouring Material		
		Elongation Test at Low Temperature		
		Flame Propagation (Retardance) Test on Multiple (Bunched) cables		
		Halogen Acid Gas Evolution / Corrosive & halogen acid gas		
		High Voltage test (Water immersion)		
		Hot deformation test / Pressure Test at High Temperature		
		Hot Set Test		
		Impact Test at Low Temperature		
		Insulation Resistance		
		Mass of Zinc Coating		
		Measurement of Thickness of Insulation & Sheath		
		Mineral Oil Resistance		
		Oxygen Index Test		
		Ozone Resistance Test		
		pH		
		Shrinkage Test		

Jitendra Parmar
Dealing Officer
Page 142 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Smoke Density under Fire Conditions		
		Tear Resistance		
		Tensile strength and elongation at break on Insulation and Sheath		
		Test under Fire Conditions / Flammability Test		
		Water Absorption Test		
		Winding/Wrapping Test on Galvanized steel strip for Armouring		
		Visual tests		
		Cable construction		
152.	Single wire or double steel tape armoured and non-halogenated sheathed multipair cable with copper conductors	Ageing in Air Oven	BS 7870-8.6:2003	-----
		Conductor Resistance		
		Hot deformation test / Pressure Test at High Temperature		
		Insulation Resistance		
		Tensile strength and elongation at break on Insulation and Sheath		
		Test for eccentricity and Thickness of insulation and sheath / Overall Dimensions		
		Visual tests		
		Cable construction		

Jitendra Parmar
Dealing Officer
Page 143 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
153.	Single Wire or double steel tape armoured and PVC Sheathed multipair cable with copper conductors, having reduced fire propagation performance	Ageing in Air Oven Bending Test at Low Temperature Cold bend Test / Voltage Test after bending Conductor Resistance Dimension for Armouring Material Elongation Test at Low Temperature Flame Propagation (Retardance) Test on Multiple (Bunched) cables Heat Shock Test Hot deformation test / Pressure Test at High Temperature Inductance Test Insulation Resistance Loss of Mass Mass of Zinc Coating Measurement of Thickness of Insulation & Sheath Oxygen Index Test Tensile strength and elongation at break on Insulation and Sheath	BS 7870-8.4:2003	-----

Jitendra Parmar
Dealing Officer
Page 144 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Test under Fire Conditions / Flammability Test		
		Winding/Wrapping Test on Galvanized steel strip for Armouring		
		Visual tests		
		Cable construction		
154.	Soft or annealed copper wire	Density	ASTM B3-13(2024)	-----
		Dimension		
		Elongation		
		Surface finish		
155.	Solid Electrical Insulating Materials	Dielectric strength	ASTM D149-25	-----
156.	Specification for insulating and sheathing materials for cables. PVC sheathing compounds	Heat Shock Tests	BS 7655-4.2:2000	-----
157.	Specification for PVC Insulation and Sheath of Electric Cables	Colour Fastness to Day Light	IS 5831:1984 (RA:2021) Amd. 02:1995	-----
		Colour Fastness to Water		
		Visual tests		
		Cable construction		
158.	Standard for Control, Thermo Couple Extension and Instrumentation Cables	Dielectric Strength	ANSI/NEMA WC 57/ICEA S-73-532-2021	Capacitance & tan delta bridge
		Retention Test		-----
		Accelerated Water Absorption Test (Electrical)		
		Visual tests		

Jikendra Parmar
Dealing Officer
Page 145 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Cable construction		
159.	Standard Practice for Operating Xenon Arc Light Apparatus for Exposure of Non-Metallic Materials	UV test	ASTM G155-25	Xenon arc lamp UV test apparatus
160.	Tensile Properties of Plastics	Tensile strength and elongation at break on Insulation and Sheath	ASTM D638-22	-----
161.	Thermoplastic insulation and sheath	Bleeding and Blooming Test	IS 10810 (Part 19):1984 (RA:2021)	-----
162.	Thermal endurance properties. Ageing procedures and evaluation of test results	Thermal Endurance Test	IEC 60216-1:2025	-----
163.	Thermo-couple Compensating cables	Conductor Resistance	IS 8784:1987 (RA:2018)	-----
		Heat Shock Test		
		Drain Wire Continuity Test		
		High Voltage test at room temperature		
		Hot deformation test / Pressure Test at High Temperature		
		Insulation Resistance		

Jitendra Parmar
Dealing Officer
Page 146 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Test for eccentricity and Thickness of insulation and sheath / Overall Dimensions		
		Visual tests		
		Cable construction		
164.	Thermocouple compensating cables	Thermal emf Test	ANSI MC-96.1:1982 IS 8784:1987 (RA:2018)	-----
165.	Thermoplastic elastomeric insulation and sheath of electric cable	Hot deformation test / Pressure Test at High Temperature	IS 10810 (Part 15):1984 (RA:2021)	-----
		Loss of Mass	IS 10810 (Part 10):1984 (RA:2021)	
		Cold Impact Test	IS 10810 (Part 21):1984 (RA:2021)	
		Cold Bend Test	IS 10810 (Part 20):1984 (RA:2021)	
		Heat Shock Test	IS 10810 (Part 14):1984 (RA:2021)	
		Colour Fastness to Day Light	IS 10810 (Part 18):1984	
		Vicat softening Point	IS 10810 (Part 22):1984 (RA:2021)	
166.	Thermosetting insulated and Thermoplastic Sheathed cables for electric power, lighting and having low emission of	Ageing in Air Oven	BS 7211:2012 (Amd 1: 2020)	-----
		Cold Bend Test		
		Cold Impact Test		
		Compatibility Test		
		Conductor Resistance		
		Elongation Test at Low Temperature		

Jitendra Parmar
Dealing Officer
Page 147 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
	smoke and corrosive gases when effected by fire	Flame Retardance Test on Bunched cable		
		Halogen Acid Gas Evolution / Corrosive & halogen acid gas		
		High Voltage test at room temperature		
		Hot deformation test / Pressure Test at High Temperature		
		Hot Set Test		
		Insulation Resistance		
		Shrinkage Test		
		Smoke Density under Fire Conditions		
		Tear Resistance		
		Tensile strength and elongation at break on Insulation and Sheath		
		Test for eccentricity and Thickness of insulation and sheath / Overall Dimensions		
		Test under Fire Conditions / Flammability Test		
		Water Absorption Test (Gravimetric)		
		Visual tests		
		Cable construction		

Jitendra Parmar
Dealing Officer
Page 148 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
167.	Thermosetting Insulated Fire Survival cables for fixed Installation having low Emission of smoke and Corrosive Gases when affected by Fire for Working Voltages up to and including 1100 V A.C and 1500 V D.C	Abrasion resistance test Ageing in air oven of Insulation and Sheath Annealing Test (For Copper) Assessment of halogen on insulation and sheath - Chlorine and bromine content expressed as content of HCL Assessment of halogen on insulation and sheath - Conductivity test Assessment of halogen on insulation and sheath - Fluorine content Assessment of halogen on insulation and sheath - Presence of fluorine Assessment of halogen on insulation and sheath- pH test Cold Bend Test Cold Impact Test Conductor Resistance Test Dimension of armouring material Elongation at break for armouring material	IS 17505 (Part-1):2021 Amd. 01:2023	-----

Jitendra Parmar
Dealing Officer
Page 149 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Elongation of Insulation and Sheath		
		Flame test on bunched cable		
		Flame test on single cable		
		Heat Shock		
		High voltage test		
		Hot Deformation Test		
		Hot Set Test		
		Insulation resistance test		
		Mass of zinc coating		
		Oxygen Index Test		
		Ozone resistance test		
		Persulphate Test for Tinned Conductor		
		Resistance to Fire, Water and shock (Category F30, Category F60, Category F120)		
		Resistance to fire alone (Category F3) (Symbol F)		
		Resistance to fire and mechanical shock (Category F3), (Symbol S)		
		Resistance to fire and water (Category F3) (Symbol W)		
		Resistivity test of armour (wire/strips)		

Jitendra Parmar
Dealing Officer
Page 150 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Shrinkage Test		
		Smoke density		
		Temperature index test		
		Tensile strength of armouring material		
		Tensile Strength of Insulation and Sheath		
		Test for Thickness of Insulation and Sheath		
		Torsion test on galvanized steel wire for armouring		
		Uniformity of zinc coating (dip test)		
		Water Absorption (Gravimetric)		
		Water immersion test (effect of water on sheath of cable) on finished cable		
		Elongation at break		
		Water immersion test (effect of water on sheath of cable) on finished cable		
		Tensile Strength		
		Winding / Wrapping test on galvanized steel grip for armouring		
		Visual tests		
		Cable construction		

Jitendra Parmar
Dealing Officer
Page 151 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
168.	Thermosetting insulated, armoured cables for voltages of 600/1000V and 1900/3300V	Abrasion Test	BS 5467:2016	-----
		Ageing in Air Oven		
		Conductor Resistance		
		Dimension for Armouring Material		
		Insulation Resistance		
		Loss of Mass		
		Mass of Zinc Coating		
		Resistivity & Conductance test of Armour (Wires/strips)		
		Shrinkage Test		
		Tensile strength & Elongation at break for armouring material		
		Tensile strength and elongation at break on Insulation and Sheath		
		Test for eccentricity and Thickness of insulation and sheath / Overall Dimensions		
		Torsion Test on Galvanized steel wire for Armouring		
		Uniformity of Zinc coating (Dip Test)		
		Winding/ Wrapping Test on Galvanized steel strip for Armouring		

Jitendra Parmar
Dealing Officer
Page 152 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
--------	-------------------	---	-------------	----------------

		Visual tests		
		Cable construction		
169.	Thermosetting insulated, armoured cables having low emission of smoke and corrosive gases when affected by fire	Abrasion Test	BS 6724:2016	-----
		Ageing in Air Oven		
		Cold Bend Test		
		Cold Impact Test		
		Compatibility Test		
		Conductor Resistance		
		Dimension for Armouring Material		
		Elongation Test at Low Temperature		
		Flame Retardance Test on Bunched cable		
		Halogen Acid Gas Evolution / Corrosive & halogen acid gas		
		High Voltage test at room temperature		
		Hot deformation test / Pressure Test at High Temperature		
		Hot Set Test		
		Insulation Resistance		
		Mass of Zinc Coating		
		Shrinkage Test		
		Smoke Density under Fire Conditions		

Jitendra Parmar
Dealing Officer
Page 153 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Tear Resistance		
		Tensile strength and elongation at break on Insulation and Sheath		
		Test for eccentricity and Thickness of insulation and sheath / Overall Dimensions		
		Test under Fire Conditions / Flammability Test		
		Water Absorption Test (Gravimetric)		
		Winding/ Wrapping Test on Galvanized steel strip for Armouring		
		Visual tests		
		Cable construction		
170.	Thermosetting insulated, armoured Fire-Resistant cables having low emission of smoke and corrosive gases when affected by fire	Abrasion Test	BS 7846:2015	-----
		Ageing in Air Oven		
		Cold Bend Test		
		Cold Impact Test		
		Compatibility Test		
		Conductor Resistance		
		Dimension for Armouring Material		
		Elongation Test at Low Temperature		
		Flame Retardance Test on Bunched cable		

Jitendra Parmar
Dealing Officer
Page 154 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Halogen Acid Gas Evolution / Corrosive & halogen acid gas		
		High Voltage test at room temperature		
		Hot deformation test / Pressure Test at High Temperature		
		Hot Set Test		
		Insulation Resistance		
		Mass of Zinc Coating		
		Resistance to Fire (Category F30, Category F60, Category F120)		
		Resistance to fire alone (Protocol C)		
		Resistance to fire to with water (Protocol W)		
		Resistance to fire with mechanical shock (Protocol Z)		
		Shrinkage Test		
		Tear Resistance		
		Tensile strength and elongation at break on Insulation and Sheath		

Jitendra Parmar
Dealing Officer
Page 155 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Test for eccentricity and Thickness of insulation and sheath / Overall Dimensions		
		Test under Fire Conditions / Flammability Test		
		Water Absorption Test (Gravimetric)		
		Winding/ Wrapping Test on Galvanized steel strip for Armouring		
		Visual tests		
		Cable construction		
171.	Thermosetting Insulated, non-armoured cables for fixed installations	Ageing in Air Oven	BS 7889:2012	-----
		Bending Test at low Temperature		
		Cold Impact Test		
		Conductivity Test		
		Conductor Resistance		
		Elongation Test at Low Temperature		
		Heat Shock Test		
		High Voltage test at room temperature		
		Hot deformation test / Pressure Test at High Temperature		
		Hot Set Test		
		Loss of Mass		

Jitendra Parmar
Dealing Officer
Page 156 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Ozone Resistance Test		
		pH Test		
		Tensile strength and elongation at break on Insulation and Sheath		
		Test for eccentricity and Thickness of insulation and sheath / Overall Dimensions		
		Test under Fire Conditions / Flammability Test		
		Water Absorption Test (Gravimetric)		
		Visual tests		
		Cable Construction		
172.	UV Exposure of non-metallic materials	UV Test	ASTM G151-26 ASTM G154-23	-----
173.	Water Absorption of Plastics	Water Absorption Test	ASTM D570-22	-----
174.	Welding Cables	Ageing in Air Bomb Ageing in Air Oven Annealing Test for Copper Wire Conductor Resistance High Voltage test (Water immersion) Hot Set Test Oil Resistance Test Static Flexibility Test	IS 9857:1990 (RA:2020) Amd. 01:2007	-----

Jitendra Parmar
Dealing Officer
Page 157 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Tensile strength and elongation at break on Insulation and Sheath		
		Test for eccentricity and Thickness of insulation and sheath / Overall Dimensions		
		Visual tests		
		Cable construction		
175.	Winding Wires for Submersible Motors: Cross linked Polyethylene Insulated and Polyamide Jacket Wires	Annealing Test for Copper Wire	IS 8783 (Part 4 Sec2:):2026	-----
		Accelerated Water Absorption Test (Electrical)		
		Ageing in Air Oven		
		Conductor Diameter		
		Conductor Resistance		
		Heat Shock Test		
		High Voltage test (Water immersion)		
		Hot deformation test / Pressure Test at High Temperature		
		Hot Set Test		
		Insulation Resistance		
		Overall Dimensions		
		Shrinkage Test		
		Spark Test		

Jitendra Parmar
Dealing Officer
Page 158 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Tensile strength and elongation at break on Insulation and Sheath		
		Test for eccentricity and Thickness of insulation and sheath / Overall Dimensions		
		Visual tests		
		Cable construction		
176.	Winding Wires for submersible motors: HR PVC Insulated Wires	Water Absorption Test (Gravimetric)	IS 8783 (Part 4, Sec 1):2026	-----
		Accelerated Water Absorption Test (Electrical)		
		Ageing in Air Oven		
		Annealing Test for Copper Wire		
		Conductor Diameter		
		Conductor Resistance		
		Heat Shock Test		
		High Voltage test (Water immersion)		
		Hot deformation test / Pressure Test at High Temperature		
		Hot Set Test		
		Insulation Resistance		
		Overall Dimensions		
		Shrinkage Test		
		Spark Test		

Jitendra Parmar
Dealing Officer
Page 159 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Tensile strength and elongation at break on Insulation and Sheath		
		Test for eccentricity and Thickness of insulation and sheath / Overall Dimensions		
		Water Absorption Test (Gravimetric)		
		Visual tests		
		Cable construction		
177.	Winding Wires for submersible motors: Polyester and Polypropylene Insulated Winding Wires	Accelerated Water Absorption Test (Electrical)	IS 8783 (Part 4, Sec 3):2026	capacitance and ten delta bridge
		Ageing in Air Oven		-----
		Annealing Test for Copper Wire		
		Conductor Diameter		
		Conductor Resistance		
		Heat Shock Test		
		High Voltage test (Water immersion)		
		Hot deformation test / Pressure Test at High Temperature		
		Hot Set Test		
		Insulation Resistance		
		Overall Dimensions		
		Shrinkage Test		
		Spark Test		

Jitendra Parmar
Dealing Officer
Page 160 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Tensile strength and elongation at break on Insulation and Sheath		
		Test for eccentricity and Thickness of insulation and sheath / Overall Dimensions		
		Water Absorption Test (Gravimetric)		
		Visual tests		
		Cable construction		
178.	Wires & Cables	Accelerated Water Absorption Test (Electrical)	ASTM D2633:2021	Capacitance and tan delta bridge
		Dielectric Strength Retention Test		-----
		Visual tests		
		Cable construction		
179.	Zinc or Zinc alloy coated non-alloy steel wire for armouring either power or telecommunication cables land cables	Electrical resistance	BS EN 10257-1:2011	Kelvin double bridge
		Nominal diameter		-----
		Tensile strength and elongation		
		Torsion test		Torsion tester
180.	Communication Cables	Attenuation	BS EN 50289-1-8:2017	Cross talk & Attenuation meter
		Characteristic Impedance	BS EN 50289-1-11:2016	Impedance meter
		Cross Talk	BS EN 50289-1-10:2002	Cross talk & Attenuation meter

Jitendra Parmar
Dealing Officer
Page 161 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
181.	Electric Cable	Insulation Resistance Test (Post Thermal Ageing Test)	NPCIL Specification No.I28.KK34.0.0.ET.PM. 2021	Thermal ageing oven
		Absence of faults in insulation	IEC 63294: 2021	HV tester
		Bending Test	IEC 63294: 2021	-----
		Checking of the durability of colours and markings	IEC 63294: 2021	
		Dielectric Constant	ASTM D150: 2022	
		Dielectric Strength	ASTM D149: 2025	
		Electrical resistance of conductors	IEC 63294: 2021	
		Elongation at Break (Post Thermal Ageing Test)	NPCIL Specification No. I28.KK34.0.0.ET.PM. 2021	LOCA Test apparatus & AC HV test set with Current transformer
		Flexing Test	IEC 63294: 2021	
		High Voltage Test (Post LOCA Test)	NPCIL Specification No. I28.KK34.0.0.ET.PM. 2021	
		High Voltage Test (Post Thermal ageing Test)	NPCIL Specification No. I28.KK34.0.0.ET.PM. 2021	-----
		Insulation resistance	IEC 63294: 2021	-----
		Insulation resistance at temperature above 90°C	IEC 63294: 2021	
		Insulation Resistance Test (Post LOCA Test)	NPCIL Specification No. I28.KK34.0.0.ET.PM.	Million mega ohm meter

Jitendra Parmar
Dealing Officer
Page 162 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
			2021	
		LOCA Test	NPCIL Specification No. I28.KK34.0.0.ET.PM. 2021	LOCA Test apparatus & AC HV test set with Current transformer
		Long-term resistance of insulation to direct current	IEC 63294: 2021	DC HV test set
		Longitudinal water Penetration Test	IS 7098 (Part 2):2011(RA:2021) Amd. 02:2022	water penetration test apparatus
		Resistivity	IEC 60468: 1974	Digital ohmmeter
		Measurement of overall dimensions and ovality	IEC 63294: 2021	-----
		Measurement of thickness of insulation		-----
		Spark Test		-----
		Static flexing Test		Flexing tester
		Surface resistance of sheath		-----
		Test for Mechanical properties after air oven ageing of insulation consisting of rubber compound		Tensile testing machine
		Test of resistance of sheath to water		-----
		Voltage Test		-----
		Voltage test carried out on completed cables		-----

Jitendra Parmar
Dealing Officer
Page 163 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Voltage test on cores in water		-----
		Thermal Ageing Test	NPCIL Specification No. I28.KK34.0.0.ET. PM. 2021	-----
182.	Electric Cables, cords and conductors	Heat shock test	AS/NZS 1660.2.3:1998 Amd. 01:2000	-----
		Pressure test at high temperature	AS/NZS1660.3:1998 Amd. 01:2000	
		Thermal stability test		
		Capacitance increase after immersion in water		
		Insulation resistance constant		
		Partial discharge test		
		Spark Test		
		Tan d Measurement as function of temperature		
		Ten d Measurement as function of voltage		
		Voltage Test		
		Volume resistivity of semiconductive screen		
		Continuity test for nickel plating		
		Continuity test for tin or silver plating		

Jikendra Parmar
Dealing Officer
Page 164 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Mass of coating of armour wires		
		Measurement of diameter of wire		
		Measurement of thickness of metallic sheath		
		Ageing in air oven		
		Loss of mass Test		
183.	Insulating and sheathing materials with drilling fluids	Ageing in calcium bromide brine	IEC 60092-360: 2021	-----
		Ageing in IRM 903		
		Aging in oil-based test fluid		
		Elongation at break		
		Tensile strength		
		Volume swelling		
		Weight change		
		Visual tests		
		Cable construction		
184.	Insulation, Extruded semi-conductive screens and Non-Metallic Sheaths	Measurement of thickness and diameter	AS/NZS 1660.2.1:1998 Amd.01:2001	-----
		Bending test at low temperature for insulation and sheath		
		Elongation at low temperature for sheath		
		Gravimetric water absorption		

Jitendra Parmar
Dealing Officer
Page 165 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Impact test at low temperature for insulation and sheath		
185.	Insulation, Extruded Semi-Conductive screens and Non-Metallic Sheaths	Shrinkage Test	AS/NZS 1660.2.4:1998 Amd.01:2001	-----
		Test for mechanical properties of Insulation and sheath	AS/NZS 1660.2.1:1998 Amd. 01:2001	
186.	Metallic materials - Tensile testing	Elongation after break	ISO 6892-1: 2019	-----
		Elongation at break		
187.	Metallic materials - Wire - Simple torsion test	Torsion Test	ISO 7800: 2012	Torsion tester
188.	Metallic materials - Wire - Wrapping test	Wrapping Test	ISO 7802: 2013	-----
189.	Overhead distribution cables of rated voltage U ₀ /U _m): 0,6/1 (1,2) kV	Bending Test	HD 626 S1 Part-2: 1996 Amd.02:2002	Mendrells
		Conductor resistance tests		-----
		High voltage tests		
		Insulation resistance test		
		Resistance of the insulation to weather conditions		
		Test for capillary water rising		
		Testing of adherence of insulation		
		Testing of mechanical strength of conductors		

Jitendra Parmar
Dealing Officer
Page 166 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Thermomechanical behaviour of messenger		Thermomechanical stress tests apparatus
		Visual tests		-----
		Cable construction		-----
190.	Polyethylene and polypropylene Materials	Carbon Black Content	AS/NZS 1660.2.4:1998	Carbon black test apparatus, melt flow test apparatus
		Carbon Black Dispersion	Amd. 01:2001	
		Melt flow Index		
191.	Power, control and communication cables	Measurement of low level of halogen content	IEC 60754-3: 2018	Chromatograph test apparatus
		Tensile strength Ultimate elongation at break	ASTM D638: 2022	-----
		Carbon dioxide	BS EN 50575:2014	CPR Test apparatus
		Carbon Mono Oxide (CO)	(Amd1: 2016)	-----
		Droplets and/or Particles	BS EN 50399: 2022	
		Fire Growth Rate Index (FIGRA)		
		Oxygen		
		Peak Heat release Rate (Peak HRR)		
		Peak smoke production rate (Peak SPR)		
		Total heat release (THR)		
		Total smoke production (TSP)		
		Vertical Flame Spread (FS)		

Jitendra Parmar
Dealing Officer
Page 167 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
192.	Steel wire and wire products	Uniformity of zinc and zinc aluminium coating (Or dipping test)	ISO 7989-2: 2021	Copper sulphate solution
193.	Electric Cables	Anti Rodent Test	TEC/GR/FA/DWC-034/02:2019	-----
194.	Road Vehicles-Automotive Cables	1. Dimensional tests: - Cable outside diameter - Insulation thickness - Conductor diameter - Cross sectional area - In-process cable outside diameter 2. Electrical tests: - Conductor resistance - Determination of temperature coefficients - Withstand voltage - Withstand voltage after environmental testing - Insulation Faults - Insulation Volume resistivity 3. Mechanical Tests - Strip force - Abrasion - Sandpaper abrasion test Scrape abrasion test- Breaking force of the	ISO 19642-1:2023, ISO 19642-2:2023, ISO 19642-4:2019, ISO 19642-5:2019	-----

Jikendra Parmar
Dealing Officer
Page 168 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		finished cable- Cyclic bending- Flexibility 4.Environmental Tests- Specimen preparation and winding tests Long term heat ageing, 3000h at temperature class rating		
		Visual tests	ISO 19642-1:2023	-----
		Cable construction	ISO 19642-2:2023 ISO 19642-4:2019 ISO 19642-5:2019	
		Cyclic Bending Test	ISO 19642-2 : 2023	Cyclic Bending Test Apparatus
195.	Wire and Cables	UV Test Physical properties of conductors (tensile strength, elongation at break, and ultimate strength)	UL-2556:2021 Edition 5:2026	-----
196.	Concentric Neutral Cables, Rated 5 Through 46 KV	Dry Electrical Test	ICEA S-94-649-2021	-----

Jikendra Parmar
Dealing Officer
Page 169 of 238

Dealing Officer
Page 170 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
--------	-------------------	---	-------------	----------------

	conductors.	Diameter Measurement		
		Resistance of conductor and wire		
		Visual tests		
		Cable construction		
		Wire Diameter Test	SS 424 08 14:1989	-----
		Breaking load Test		
		Conductor Resistance Test		
		Visual tests		
		Cable construction		
199.	Fiber Optic cable for Cable TV Application	Crush Test	IS 17046:2018 (RA:2021) Amd.01:2026	Tensile - Compression Machine, Crush Test Plates
		Abrasion test		Abrasion Test Apparatus
		Impact Test		Impact Test Apparatus
		Repeated Bending		Repeat Bending Tester
		Torsion Test		Torsion Test Apparatus
		Cable Bend Test (Flexing)		Two Pully Flexing
		Temperature Cycling Test		Damp Heat Test Apparatus
		Attenuation		OTDR Test Apparatus
		Visual tests		-----

Jitendra Parmar
Dealing Officer
Page 171 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Cable construction		
200.	Optical Fiber Cable	Crush Test	IEC 60794-1-21: 2015 Amd.01:2020	-----
		Abrasion test		
		Impact Test		
		Repeated Bending		
		Torsion Test		
		Cable Bend Test (Flexing)		
		Temperature Cycling Test		
		Attenuation		
		Visual tests		
201.	Continuously Cast and Rolled Electrolytic Copper wire Rods for Electrical Conductors	Dimension	IS 12444: 2020 Amd.01:2025	-----
		Freedom from effects		
		Mechanical Properties (Tensile and Elongation)		
		Chemical Composition		
		Electrical properties		
		Surface Test (Compression Test)		
202.	Specification for Conductors for Insulated electric cables and flexible cords	Tensile Test for Aluminium	IS 8130:2013 (RA:2024) Amd.02:2023	-----
		Wrapping Test for Aluminium		
		Annealing Test for Copper		
		Persulphate Test for Tinned Copper		
		Form of Conductor		
		Joints in Conductor		

Jitendra Parmar
Dealing Officer
Page 172 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
--------	-------------------	---	-------------	----------------

		No. of Wires in Stranded Conductor		
		Direction of Lay		
		Dimension of wires in the conductor		
		Resistance Test		
		Visual tests		
		Cable construction		
203.	Mild Steel Wire for General Engineering Purposes	Dimension & Sizes	IS 280: 2006 (RA:2021)	-----
		Bend Test	Amd 02:2025	
		Coating Test	IS 280: 2006 (RA:2021)	
			Amd 02:2025	
			IS 4826:2023	
		Coating Test (Mass of Zinc Test)	IS 280: 2006 (RA:2021)	
			Amd 02:2025	
		Coating Test (Uniformity of Zinc)	IS 12753:1989 (RA:2021)	
		Coating Test (Adhesion of Zinc)		
		Carbon	IS 280: 2006 (RA:2021)	Optical emission spectrometer,
		Manganese	Amd 02:2025	Atomic absorption spectrophotometer,
		Sulphur		UV-Visible spectrometer
		Phosphorous		
		Silicon		
		Aluminium		
		Copper		
204.	Mild Steel Wire rods For General	Sizes & Tolerance	IS 7887:1992 (RA:2022)	Optical emission spectrometer,
		Carbon	Amd.02:2021	

Jitendra Parmar
Dealing Officer
Page 173 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
--------	-------------------	---	-------------	----------------

	Engineering Purposes	Manganese Sulphur Phosphorous Silicon Aluminium Copper		atomic absorption spectrophotometer, UV-Visible spectrometer
205.	Wires and Cables Insulation / Sheath	Resistance to the Vertical Flame Propagation of Flame and dropping of Flaming particles of a wire cable ,or cord Continuity of Conductors Dielectric voltage-withstand Dielectric Breakdown Cold Bend Cold Impact Abrasion test Crush Test Flexing of Shielded cables Halogen Acid Gas Emission Visual tests Cable construction	UL 2556:2021 Edition 5:2026	-----
206.	Wires and Cables	Cyclic Bending Test	ISO 14572: 2011 Cl. 5.9	Cyclic Bending Test Apparatus
207.	Flame test VW1	Flame Test VW-1	UL 1581:2001 Edition 4:2023 UL 2556:2021 Edition	Flammability Test Apparatus as per UL-1581/ UL-2556

Jikendra Parmar
Dealing Officer
Page 174 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
			5:2026	
208.	Round Wire Concentric Lay Overhead Conductor	Joints in aluminium wires	IEC 61089:1991 Amd.01:1997	-----
		Surface Condition		
		Lay ratio		
		Direction of Lay		
		Cross-sectional area of Aluminium portion		
		Breaking strength wires		
		Linear Density (Mass per unit length)		
		Conductor Strength		
		Diameter of wires		
		Overall Diameter		
		Resistance Test of Aluminium Wires		
		Visual tests		
		Cable construction		
209.	For Fire Survival, High Temperature Zone and Fire-Retardant Halogen Free Sheathed	Critical Oxygen Index	EDD50-13:2012 Rev-1	Oxygen Index Test Apparatus
		Temperature Index		Halogen Content Test Apparatus
		Halogen Content		Toxicity Index Test
		Toxicity Index		Tensile Testing Machine
		Tensile Strength		Hot Set Test Apparatus
		Tensile Strength		Heating
		Hot Set Test		
		Resistance to fluids		

Jitendra Parmar
Dealing Officer
Page 175 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
				Oven, various fluids
		Tear Resistance		Tensile Testing Machine, tear resistance die
		Thermal Endurance		Thermal Endurance Heating ovens, Tensile testing machine
		Accelerated Ageing		Tensile testing machine
		Smoke Index		Smoke Density Test Apparatus
		Smoke density		3 Meter cube (Smoke Density - Smoke Emission Test apparatus)
		Ozone Resistance		Ozone Resistance Test Apparatus
		Cold Elongation at - 2°C +/- 3°C for 4 hours		Cold Elongation Test Apparatus
		Heat Shock		Heating Oven, thermostatically controlled, steel mandrels
		Insulation Resistance Constant		Water Bath Thermostatically controlled, million

Jitendra Parmar
Dealing Officer
Page 176 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
				megohm meter
		Ageing in Air Oven at 150°C +/-3°C for 10 days		Thermal Ageing oven , Tensile testing Machine
		Acid Gas generation / corrosivity of combustion gases		Halogen Content Test apparatus
210.	Test on extruded over sheath with a special protective function	D.C. voltage test	IEC 60229:2007	DC HV test set (upto 80 KV)
		Spark test		Spark tester
		Abrasion test		Abrasion test apparatus
211.	Test methods used in the United Kingdom but not specified in BS EN 60811- Electrical tests	Method of test for insulation resistance constant (K value)	BS 6469-99.2:1992	-----
		Method of test for power factor and permittivity		
		Water absorption determined by the capacitance method		
		Visual tests		
		Cable construction		
212.	Methods of test for resistance of metallic electrical resistance material	Electrical resistance	IS 3635: 1966 (RA:2020)	-----

Jitendra Parmar
Dealing Officer
Page 177 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
213.	LV Cables	Test procedure for anti-rodent & anti- termite test of LV cable	I28.KK34.0.0.ET.PM.PRO 88LT/KK34/EDRC- O18155-E-PG-0-VD- 072I26.KK34.0.0.ET.QFS. PR017	-----
214.	Winding wires for submersible motors - methods of tests	1. Tests on Conductor Conductor diameter Conductor resistance Annealing test 2. Tests on Insulation and Jacket Test for thickness Tensile strength and elongation Thermal ageing in air Heat shock Hot set Melting point Spark test	IS 8783-3:2026 Annex A of IS IS 8783-3:2026 IS 10810 Part-5:1984 (RA:2021) IS 10810 Part-1:1984 (RA:2021) IS 10810 Part-6:1984 (RA:2021) IS 10810 Part-7:1984 (RA:2021) 10810 Part-11:1984 (RA:2021) 10810 Part-14:1984 (RA:2021) 10810 Part-30:1984 (RA:2021) Annex B of IS 8783-3:2026 IS 10810 Part-44:1984 (RA:2021)	

Jitendra Parmar
Dealing Officer
Page 178 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		3. Tests on Finished Wire		
		Overall dimensions	Annex A of IS 8783-3: 2026	
		High voltage test	IS 10810 Part-45:1984 (RA:2021)	
		Spark test	IS 10810 Part-44:1984 (RA:2021)	
		Insulation resistance	IS 10810 Part-43:1984 (RA:2021)	
		Shrinkage	IS 10810 Part-12:1984 (RA:2021)	
		Hot deformation	IS 10810 Part-15:1984 (RA:2021)	
		Water absorption	IS 10810 Part-28/33:1984 (RA:2021)	
215.	Electric cables	Electric cables- Extended application of test results for reaction to fire	BS EN 50576:2022	-----
216.	Conductors And Metallic Components	Tensile Strength And Elongation Tests	AS/NZS 1660.1:1998	-----
		Conductor Or Armour		
		Tinsel Conductors		
		Wrapping Test		
		Metal Plating Tests		
		Continuity Test For Tin Or Silver Plating		
		Continuity Test For Nickel Plating		

Jitendra Parmar
Dealing Officer
Page 179 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Mass Of Coating Of Armour Wires		
		Measurement Of Metallic Sheath and Wires		
		Measurement Of Thickness Of Metallic Sheath		
		Measurement Of Diameter Of Wires		
217.	Insulation, extruded semi-conductive screens and non-metallic sheaths— Methods specific to elastomeric, XLPE and XLPVC materials	Hot Set Test Thermal Ageing Mineral Oil Immersion Test	AS/NZS 1660.2.2:1998 Amd. 01:2001	-----
218.	Insulation, extruded semi-conductive screens and non-metallic sheaths— Methods specific to PVC and halogen free thermoplastic Insulation, extruded semi-conductive screens and non-metallic sheaths— Methods specific to polyethylene and	Thermal Ageing Test For Extrusion Of Plasticizer (Loop Test) Resistance To Environmental Stress Cracking	AS/NZS 1660.2.3:1998 Amd. 01:2000 AS/NZS 1660.2.4:1998 Amd. 01:2001	-----

Jitendra Parmar
Dealing Officer
Page 180 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
	polypropylene materials			
219.	Electrical Cable	Impulse Test	AS/NZS 1660.3:1998 Amd. 01:2001	-----
220.	Test on electric and optical cables under fire conditions.	Test for vertical flame propagation for a single insulated wire or cable	AS/NZS IEC 60332.1.1:2017 AS/NZS IEC 60332.1.2:2017 AS/NZS IEC 60332.1.3:2017	-----
221.	Electrical Cable	Complete cable and flexible cord	AS/NZS 1660.4:1998	-----
		Fire tests—Tests on bunched cables	AS/NZS IEC 60332.3.25:2021	
		Fire tests—Smoke density	AS/NZS IEC 61034.2:2021	
		Fire tests— Determination of the amount of halogen acid gas evolved during the combustion of polymeric materials taken from cables	AS/NZS IEC 60754.1:2017	
		Fire tests—Determination of degree of acidity of gases evolved during the combustion of materials taken from electric cables	AS/NZS IEC 60754.2:2021	

Jitendra Parmar
Dealing Officer
Page 181 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		by measuring pH and conductivity		
		Fire tests— Circuit integrity under fire conditions	AS/NZS IEC 60331.3:2021	
		Fire tests— Test for combustion propagation	AS/NZS IEC 60331.1.3:2021	
222.	Electrical Cable	Conductor diameter	AS/NZS 4961:2003	-----
		Conductor Resistance		
		Persulphate Test/ Tinning Test		
		Annealing test for copper		
		Tensile Strength for Aluminium Wires		
		Screen Resistance		
		Measurement of insulation and sheath thickness		
		High voltage a.c test for 4 h		
		High voltage a.c test for 4 h on sheath		
		Insulation resistance constant of sheath		
		High voltage a.c test for 5 Min on insulation		
		Spark test		
		a) On Cores		
		b) On Sheath		

Jitendra Parmar
Dealing Officer
Page 182 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Wrapping test for aluminum wire		
		Ageing in air oven		
		Capacitance increase, after immersion in water		
		Carbon black content		
		Carbon black dispersion		
		Environmental stress cracking		
		Heat Shock		
		Hot set test		
		Insulation resistance constant		
		Loss of mass test		
		Oil immersion test		
		pH test		
		Pressure test at high temperature		
		Tensile strength and elongation of insulation and sheath		
		Volume resistivity test		
		Conductivity Test		
		Water absorption test		
		Visual tests		
		Cable construction		
223.	Electrical Cable	Resistance of conductors	IEC 60245-3:2026	-----
		Voltage test at 2 000 V		

Jitendra Parmar
Dealing Officer
Page 183 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Measurement of insulation thickness		
		Measurement of overall diameter		
		Ovality		
		Tensile test before ageing		
		Tensile test after ageing in the air oven		
		Hot set test		
224.	Electrical Cables	Resistance of conductors	IEC 60245-4:2026	-----
		Voltage test on cores according to specified insulation thickness: - at 1 500 V up to and including 0,6 mm - at 2 000 V exceeding 0,6 mm		
		Voltage test on completed cable at 2000 V		
		Measurement of thickness of insulation		
		Measurement of thickness of sheath		
		Measurement of overall diameter: - mean value - ovality		

Jikendra Parmar
Dealing Officer
Page 184 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Tensile test before ageing of insulation		
		Tensile test after ageing in the air oven of insulation		
		Tensile test after ageing in the air bomb of insulation		
		Hot set test of insulation		
		Ozone resistance test of insulation		
		Tensile test before ageing of sheath		
		Tensile test after ageing in the air oven of sheath		
		Hot set test of sheath		
		Flexing test followed, after immersion in water, by a voltage test: at 2 000 V on completed cable having two cores For cables having more than two cores:- at 1 500 V on cores with specified insulation thickness up to and including 0,6 mm- at 2 000 V on cores with specified		

Jitendra Parmar
Dealing Officer
Page 185 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		insulation thickness exceeding 0,6 mm		
		Test at low temperature		
		Bending test for sheath		
		Visual tests		
		Cable construction		
225.	Tin or Tin Lead coated wire – specification	1. Measurement of Diameter 2. Resistance test 3. Elongation test 4. Breaking strength test 5. Solderability test 6. Continuity of coating test 7. Visual test 8. Wire construction 9. Adherence of coating test 10. Bend test	IS 9567:2001 (RA:2020)	Senior industrial kelvin bridge, Tensile testing machine,
226.	Short firing cables (for use other than in shafts) - specification	1. Annealing test 2. Conductor resistance test 3. Test for thickness of insulation and sheath 4. Tensile strength of insulation and sheath 5. Elongation at break of insulation and sheath 6. Ageing in air oven 7. Loss of mass 8. Hot deformation	IS 5950:2024	Tensile testing machine, Hot air oven, ageing oven, million mega ohm meter, flammability test apparatus

Jitendra Parmar
Dealing Officer
Page 186 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		9. Heat shock 10. Shrinkage 11. Insulation resistance 12. Flammability 13. Visual tests 14. Cable construction 15. Spark test		
227.	Flexible cables for miners' cap-lamps - specification	1. Persulphate test 2. Annealing test 3. Conductor resistance test 4. Test for thickness of insulation and sheath 5. Tensile strength of insulation and sheath 6. Elongation at break of insulation and sheath 7. Ageing in air oven 8. Ageing in oxygen bomb 9. Oil resistance test 10. Tests for centre strain cord – Test for breaking load, Determination of copper and manganese content 11. Voltage test 12. Checking of overall diameter of cable 13. Flammability test 14. Resistance to sheath to	IS 2593:2023	Optical emission spectrometer, copper purity test apparatus, Tensile testing machine, Oxygen bomb oven

Jitendra Parmar
Dealing Officer
Page 187 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		fatty acids 15. Visual test 16. Cable construction 17. Test for breaking load of centre strain cord		
228.	Metallic materials – Tensile testing - Part 1 : Method of test at room temperature	Tensile test	IS 1608: Part 1: 2022 (ISO 6892-1: 2019)	Tensile testing machine
229.	Elastomer insulated cables for fixed wiring in ships and on mobile and fixed offshore units	1. Construction and Dimensions 2. Corrosive and acid gas emission of fillers 3. Diameter of braiding wires 4. Coverage 5. Braid resistance 6. Thickness of insulation 7. Thickness of inner sheath 8. Thickness of outer sheath 9. Conductor resistance 10. Voltage test on completed cable 11. Insulation resistance tests 12. Compatibility 13. Tests under fire conditions - Vertical burning test (single cable)	BS 6883:1999	pH & conductivity meter, HV test set, flame retardant test apparatus for buched cables, 3m ³ chamber with smoke emission test apparatus

Jitendra Parmar
Dealing Officer
Page 188 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		14. Tests under fire conditions - Test for flame propagation (bunched cables) 15. Visual tests 16. Cable construction 17. Test for smoke emission		
		1. Resistivity of extruded semiconducting screen		pH & conductivity meter, HV test set, flame retardant test apparatus for bunched cables, 3m3 chamber with smoke emission test apparatus, Partial discharge test set, impulse test set, ten delta & capacitance bridge
		2. Insulation screen strippability		
		3. Partial discharge test		
		4. Bending tests		
		5. Power factor test in relation to temperature and voltage		
		6. Heating cycle test		
		7. Impulse voltage tests		
		8. Surface resistivity of semi-conducting tapes		
230.	Elastomer Insulated Cables for working voltages up to and including 1100 Volts	1). Assessment of halogen on insulation and sheath - pH test, 2). Assessment of halogen on insulation and sheath - Chlorine and bromine content expressed as content of HCL,	IEC 60684-2:2025 BS EN 60684-2:2025	pH & conductivity meter

Jitendra Parmar
Dealing Officer
Page 189 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		3). Assessment of halogen on insulation and sheath - Conductivity test 4). Assessment of halogen on insulation and sheath - Fluorine content, 5). Assessment of halogen on insulation and sheath - Presence of fluorine		
231.	Electric and optical fibre cables	Tests on electric and optical fibre cables under fire conditions –Part 1-2: Test for vertical flame propagation for a single insulated wire or cable – Procedure for 1 kW pre-mixed flame.	IEC 60332-1-2: 2025	Flammability test apparatus
232.	Electric and optical fibre cables	Test for vertical flame spread of vertically-mounted bunched wires or cables – Category C	AS/NZS IEC 60332.3.24:2021	Flame retardance test apparatus
233.	Electric and optical fibre cables	Determination of the halogen acid gas content	AS/NZS IEC 60754-1:2017 (Amd 1:2021)	Halogen gas evolution test apparatus
234.	Electric and optical fibre cables	Determination of acidity (by pH measurement) and conductivity	AS/NZS IEC 60754-2:2017 (Amd 1:2021)	Halogen gas evolution test apparatus, pH & conductivity meter

Jitendra Parmar
Dealing Officer
Page 190 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
235.	Electric and optical fibre cables	Measurement of smoke density of cables burning under defined conditions	AS/NZS IEC 61034.2:2017(Amd1:2021)	smoke emission test apparatus
236.	Electric cables of rated voltage higher than 1 kV up to and including 30 kV	Tests for electric cables under fire conditions – Circuit integrity	IEC 60331-4:2024	Circuit integrity test apparatus with 80 kVac High Voltage test set
237.	Electrical and optical fibre cables	Vertical tray flame propagation (UL flame exposure)	UL 1685:2025	VTFT test apparatus
238.	Electrical and optical fiber cables	Vertical tray flame propagation (FT4/IEEE 1202 type of flame exposure)	UL 1685:2025	VTFT test apparatus
239.	Electrical and optical fiber cables	Smoke release test	UL 1685:2025	VTFT test apparatus
240.	Flame-Propagation Testing of Wire and Cable	Vertical tray flame test / Flame-Propagation Test	IEEE 1202:2023	VTFT test apparatus
241.	Wire and Cable Test Methods	Vertical tray flame tests (Method 2– FT4)	UL 2556:2021 Edition 5:2026	VTFT test apparatus
		Vertical tray flame tests (Method 1– Vertical tray and Method 2– FT4) - after-burn time		
		Vertical tray flame tests (Method 1– Vertical tray and Method 2– FT4) - flame height in 1 minute intervals		

Jitendra Parmar
Dealing Officer
Page 191 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Method 1 – Vertical tray - ST1 limited smoke - total smoke released		
		Method 1 – Vertical tray - ST1 limited smoke - peak smoke release rate		
		Method 2 – FT4 - ST1 limited smoke - total smoke released		
		Method 2 – FT4 - ST1 limited smoke - peak smoke release rate		
		Conductor diameter		Senior industrial
		Cross-sectional area by mass (weight) method		Kelvin bridge,
		Cross-sectional area by diameter method		vernier, Tensile
		DC resistance		testing machine
		Physical properties of conductors (tensile strength)		
		Physical properties of conductors (elongation at break)		
		Physical properties of conductors (ultimate strength)		

Jikendra Parmar
Dealing Officer
Page 192 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		ultimate elongation of Insulation, Overall Covering, and Jacket Materials Tests		
		Bending fatigue		
		Length of lay		
		Thickness		
		tensile strength of Insulation, Overall Covering, and Jacket Materials Tests		
		Short-term air-oven aging - ultimate tensile strength of covering		
		Short-term air-oven aging - ultimate elongation of covering		
		Oil resistance - Ultimate tensile strength		
		Oil resistance - Ultimate elongation		Tensile testing machine, carbon black test apparatus, ageing ovens
		Gasoline resistance- Ultimate tensile strength after oil immersion		
		Gasoline resistance - Ultimate elongation after oil immersion		
		Weather (sunlight) resistance		

Jitendra Parmar
Dealing Officer
Page 193 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Weather (sunlight) resistance- Ultimate tensile strength		
		Weather (sunlight) resistance- Ultimate elongation		
		Dry temperature rating of new materials (long-term aging test) - Ultimate tensile strength after ageing		
		Dry temperature rating of new materials (long-term aging test) - Ultimate elongation after ageing		
		Carbon black content (Method 2)		
		Coverage of fibrous braids		
		Coverage of shielding (wraps and braids)		
		Saturation		
		Continuity		
		Dielectric voltage-withstand		
		Dielectric breakdown		
		Insulation resistance		
		Short-term insulation resistance		
		Capacitance (increase in capacitance)		
				HV test set, spark tester, LCR meter, ten delta bridge

Jitendra Parmar
Dealing Officer
Page 194 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
--------	-------------------	---	-------------	----------------

		Relative permittivity		
		Stability factor		
		Spark test		
		Jacket resistance		Hot air oven Type-II,
		Resistance of armor		Vernier calliper,
		Heat shock		tensile test
		Heat shock resistance		apparatus
		Shrinkback		
		Shrinkback in air		
		Cold bend		
		Cold impact		
		Deformation		
		Hot creep elongation		
		Hot creep set		
		Abrasion resistance		
		Crush resistance		
		Impact resistance		
		Impact resistance of insulated cables		
		Dielectric breakdown after glancing impact		HV test set, tensile testing machine
		Flexibility at room temperature after aging		
		flexibility of separator tape under a jacket		
		Flexibility of armoured cable and metal-sheathed cable		

Jitendra Parmar
Dealing Officer
Page 195 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Swelling and blistering when immersed in liquid		
		Durability of ink printing		
		Colour coating		
		Mechanical strength		
		Elongation of cable in tension		
		Bend test on nylon covered conductors		
		Tightness of insulation		
		Tightness of armour		
		Flexing of shielded cables		
		Armoured cable bushing insertion		Ozone test apparatus, flammability test apparatus, 3mcube chamber (smoke emission test apparatus)
		Copper corrosion		
		Ozone resistance		
		Copper sulphate test for zinc coatings on formed and unformed steel strip (Preece test)		
		FT2/FH/Horizontal flame		
		Burning particles (dropping)		
		FT1 - percentage of the indicator flag burned		
		FT1 - duration of flaming of the specimen		
		FV-2/VW-1 - percentage of the indicator flag burned		

Jitendra Parmar
Dealing Officer
Page 196 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		FV-2/VW-1 - duration of flaming of the specimen		
		FV-2/VW-1 - any ignition of the cotton;		
		FV-1/Vertical flame - percentage of the indicator flag burned		
		FV-1/Vertical flame - duration of flaming of the specimen		
		FV-1/Vertical flame- any ignition of the cotton;		
		Smoke emission test		
		Halogen acid gas emission		
242.	Thermoplastic-Insulated Wires and Cables	Conductor resistance	UL 83:2017 (Edition 16:2025)	kelvin bridge, Ozone test apparatus, flammability test apparatus, 3mcube chamber (smoke emission test apparatus)
		Short-term insulation resistance at elevated temperature in water		
		Long-term insulation resistance in water		
		Long-term insulation resistance in air for 90°C rated conductors		
		Capacitance and relative permittivity of wet rated (W type) wires - Capacitance		

Jitendra Parmar
Dealing Officer
Page 197 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Capacitance and relative permittivity of wet rated (W type) wires - Capacitance		
		Flexibility at room temperature after aging		
		Heat shock		
		Cold bend		
		cold impact		
		Deformation		
		Flame and smoke		
		FT1 - percentage of the indicator flag burned		
		FT1 - duration of flaming of the specimen		
		FV-2/VW-1 - percentage of the indicator flag burned		
		FV-2/VW-1 - duration of flaming of the specimen		
		FV-2/VW-1 - any ignition of the cotton;		
		FV-1/Vertical flame - percentage of the indicator flag burned		
		FV-1/Vertical flame - duration of flaming of the specimen		
		FV-1/Vertical flame- any ignition of the cotton;		

Jitendra Parmar
Dealing Officer
Page 198 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Vertical tray flame tests (Method 1– Vertical tray)		
		Vertical tray flame tests (Method 2– FT4)		VTFT test apparatus
		Vertical tray flame tests (Method 1– Vertical tray and Method 2– FT4) - after-burn time		
		Vertical tray flame tests (Method 1– Vertical tray and Method 2– FT4) - flame height in 1 minute intervals		
		Weather resistance - UV exposure		UV test apparatus
		Weather resistance - Ultimate tensile after exposure		
		Weather resistance - Ultimate elongation after exposure		
		Oil resistance		
		Gasoline and oil resistance		
		Abrasion resistance		
		Crush resistance		
		Impact resistance		
		Durability of ink printing		
		Colour coating		Tensile testing machine, HV test set, Water bath, impact test apparatus

Jitendra Parmar
Dealing Officer
Page 199 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Long-term aging of insulation - ultimate tensile strength after ageing		
		Long-term aging of insulation - ultimate elongation after ageing		
		AC spark test		
		Dielectric voltage-withstand in water		
		Insulation resistance in water at 15°C		
		Electrical continuity		
243.	Standard for weather-resistant polyethylene covered conductors	Conductor DC resistance	ANSI/ICEA S-70-547:2016	Thermal stress-strain test apparatus, hot air oven, tensile testing machine
		Conductor rated strength		
		Conductor diameter		
		Covering thickness		
		Initial tensile of covering		
		Initial Elongation at rupture of covering		
		After aging in air oven tensile of covering		
		After aging in air oven Elongation at rupture of covering		
		Heat deformation		
		Hot creep		
		Resistance to environment stress cracking		

Jitendra Parmar
Dealing Officer
Page 200 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Sunlight resistance of covering materials with less than 2% carbon black		
244.	Thin-walled Electron beam irradiated flexible elastomeric cables with copper conductors for coaching stock applications (working voltage upto 3 kV)	Tensile strength of insulation and sheath	ETDS 132 Rev C:2007	Hot air oven Type-II, Vernier caliper, tensile test apparatus, Thermal endurance test oven
		Elongation at break of insulation and sheath		
		Ageing in air oven - Tensile strength of insulation and sheath		
		Ageing in air oven - Elongation at break of insulation and sheath		
		Thermal Endurance test		
		Weatherability of sheath material - Elongation at break		
		Resistance to cleaner for 24 hours at room temperature		
		Construction and Dimensions		
		Conductor resistance test		
		Tin Plating		
		Voltage test after water immersion		
		Tracking resistance of single core cables		
		Tear Resistance		

Jitendra Parmar
Dealing Officer
Page 201 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Strippability force		Tensile machine
		Hot set test - Elongation under load		with strippability attachment, Hot set oven, Hot air oven
		Hot set test - Permanent set after cooling		
		Shrinking		
		Heat shock		
		Dynamic Cut through		
		Resistance on core only		
		Notch sensitivity		
		Pliability		
		Abrasion Resistance of sheath		
		indelibility		Slippage test
		Windability (deformation) of finished cable (before and after ageing)		apparatus, Ozone chamber, flame retardance test
		impact test		apparatus for bunch cable
		Slippage test		
		Ozone Resistance		
		Resistance to Fluids		
		Flame retardance (single cable)		
		Flame propagation (bunched cable)		
		Corrosivity of combustion gases - pH value		pH & conductivity meter, HCl test

Jitendra Parmar
Dealing Officer
Page 202 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Corrosivity of combustion gases - conductivity value		apparatus
		Toxicity of combustion gases on sheath		
		Smoke intensity on sheath		Spark tester, LCR meter
		Spark test		
		Thickness measurement		
		Mutual capacitance		
		Cross talk attenuation		
245.	Thin-walled flexible elastomeric cables with copper conductors for working voltages (i) up to 750 volts and (ii) above 750 volts up to 1.8/3.0kV (for tap changer electric locomotives, ac/dcemu, bg ac emu & memu/coaching stock)	Tensile strength of insulation and sheath	ELRS/SPEC/ELC/ 0019, (REV-4):2018	Ageing Oven, Weighing Balance, Tensile Machine, Copper Purity Test Apparatus, HV test set
		Elongation of insulation and sheath		
		Ageing in Air Oven (Tensile strength after ageing)		
		Ageing in Air Oven (Elongation at break after ageing)		
		Thermal endurance test		
		Weatherability test of sheath material - Elongation at break		
		Resistance to Cleaner for 24 hours at room temperature (ordinary soap solution)		
		Composition of conductor - copper purity		
		Persulphate test		

Jitendra Parmar
Dealing Officer
Page 203 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
--------	-------------------	---	-------------	----------------

		Annealing test		
		Resistance test		
		Test for thickness of insulation and sheath		
		High voltage test - water immersion test		
		Insulation resistance test		
		DC stability test		
		Dielectric strength		
		Tracking resistance		
		Tear Resistance		
		Strippability		
		Hot set test - Elongation under load		
		Hot set test - Permanent set after cooling		
		shrinkage		
		heat Shock		
		Dynamic Cut through Resistance		
		Notch sensitivity		
		Pliability		
		Abrasion resistance		
		Marking (indiability)		
		Windability (deformation) of finished cable (before and after ageing)		
		Impact test		

Jikendra Parmar
Dealing Officer
Page 204 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
246.	Thin walled flexible elastomeric cables with copper conductors for working voltages (i) up to 750 volts and (ii) above 750 volts up to 1.8/3.0kV (for tap changer electric locomotives, ac/dcemu, bg ac emu & memu/coaching stock)	Slippage test	ELRS/SPEC/ELC/ 0019, (REV-4):2018	Slippage test apparatus, Ozone chamber, flame retardance test apparatus for bunch cable
		Ozone Resistance		
		Resistance to Fluids		
		Flame retardant (single cable)		
		Flame propagation (bunched cable)		
		Corrosivity of combustion gases (pH value)		
		Corrosivity of combustion gases (conductivity value)		
		Toxicity of combustion gases		
		Smoke density		
		Spark tests		
		Visual Examination		
		Construction		
247.	Electric cables – Specification for 300/500 V fire resistant, screened, fixed installation cables having low emission of smoke and corrosive gases when affected by fire (Part 1: Multicore cables)	Construction	BS 7629-1:2015 Amd 01:2019	HV test set, Fire survival test apparatus (CWZ), Hot air oven
		Continuity of tinning		
		Thickness of insulation and sheath		
		Spark test		
		Core identification		
		clarity and durability		
		direction and sequence of lay		
		length of lay of assembled cores		

Jitendra Parmar
Dealing Officer
Page 205 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Screen application		
		Conductor and drain wire resistance		
		Voltage test on complete cable		
		Voltage with stand		
		Flame propagation on single cable		
		Smoke emission		
		Test to resistance to fire: category STANDARD 30		
		Test to resistance to fire: category STANDARD 60		
		Test to resistance to fire: category ENHANCED 120		
		Ovality		
		Corrosive and acid gas		
		Shrinkage of insulation		
		Bending characteristics		
		Resistance to impact		
		Shrinkage test on sheath		
248.	Method of test for resistance of metallic electrical resistance material	Electrical resistance	IS 3635:1966 (RA:2020)	Kelvin bridge
		Electrical resistivity		
249.	Specification for wrought aluminium	Freedom from defects	IS 733:2025	Tensile testing machine, Kelvin
		Chemical Composition		

Jitendra Parmar
Dealing Officer
Page 206 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
	and aluminium alloy bars, rod, and sections (for general engineering purposes)	Dimensions Tensile test (UTS) Elongation		bridge, ICP-MS, spark OES
250.	Mild steel wire rod for general engineering purposes - specification	Chemical Composition Dimensions Freedom from defects	IS 7887:1992 (RA:2022) Amd.02:2021	Micrometer, vernier caliper, Kelvin bridge, ICP-MS, spark OES
251.	Electrical insulating materials - thermal endurance properties	Thermal endurance test (ageing procedures and evaluation of test results)	BS EN IEC 60216-1:2026	Tensile testing machine, Thermal endurance hot air oven
252.	Concentric Neutral cables Rated 5 through 46kV	Conductor DC resistance Conductor diameter Cross sectional area Extruded shield thickness Convolutions and protrusions Measurement of thickness Partial discharge test Voltage test Insulation resistance test Dielectric constant dissipation factor Tensile strength test without ageing	ICEA S-94-649:2021	Kelvin bridge, micro meter, profile projector, HV Test set, PD test set, million mega ohm meter Tensile testing machine, Hot air

Jitendra Parmar
Dealing Officer
Page 207 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Elongation test without ageing		oven
		Tensile strength test with ageing		
		Elongation test with ageing		
		Oil immersion test (Tensile strength test with ageing)		
		Oil immersion test (Elongation test with ageing)		
		Hot creep test		
		Solvent Extraction		
		Wafer Boil test for conductor and insulations shields		
		Agglomerate, amber, contaminant, convolutions, gel, indent, protrusion and void test		
		Internal irregularity test		
		Dimensional measurement of the metallic shield		
		Diameter measurement of insulation and insulation shield		
		heat Shock		
		Heat distortion		
		Cold bend		HV test set,

Jikendra Parmar
Dealing Officer
Page 208 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
--------	-------------------	---	-------------	----------------

		Volume resistivity		capacitance & ten delta bridge test, ACLT test set, Water bath, CBC test apparatus
		Semiconducting Jacket radial resistivity test		
		Adhesion test		
		Shrink back test		
		Water content		
		High voltage time test (HVTT)		
		Hot impulse test		
		Cyclic ageing		
		Accelerated Water treeing test (AWTT)		
		Absorption coefficient test		
		Environmental stress cracking test		
		Brittleness test		
		Sunlight resistance		
		Accelerated Water absorption test		
		Resistance stability test		
		Dry electrical test		
		Discharge Resistance test		
		Dissipation factor characterization test		
		Removability		
		Lay length		
		Density		
		Carbon Black		

Jitendra Parmar
Dealing Officer
Page 209 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
253.	Electric Cables & compounds	relative permittivity dissipation factor, loss index power factor phase angle loss angle	ASTM D150-22	LCR meter, HV Test set
254.	Armoured Cables with Thermosetting Insulation for rated voltages from 3.8/6.6 kV to 19/33 kV	Copper wire screen resistance D.C. voltage test on over sheath Insulation concentricity Circularity of cores Cold strippability Over sheath thickness Armour Dimensions Mass of zinc coating wrapping test wet compatibility test tensile test Test under Fire Conditions	BS 6622:2007	kelvin bridge, strippability test apparatus, vernier caliper, flammability apparatus
255.	Electric cables - Elastomer Insulated Fire Resistant (limited circuit integrity) cables for fixed wiring in ships and on mobile and fixed	Cable Markings Drain Wire Resistance Braid Braid Resistance Collective Screening Compatibility - Elongation at break	BS 7917:1999	Kelvin bridge, tensile test apparatus, HCI test apparatus, flame retardent test apparatus for bunch cable, smoke

Jitendra Parmar
Dealing Officer
Page 210 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
--------	-------------------	---	-------------	----------------

	offshore units.	Compatibility - Tensile Strength		emission test apparatus, HV test set
		Conductor Examination		
		Conductor Material		
		Conductor Resistance		
		Construction and Dimensions		
		Core Identification		
		Corrosive and Acid Emission		
		Corrosive and acid gas fillers		
		Coverage		
		Diameter of Braiding wires		
		Direction of Lay		
		Flame Propagation on Bunched Cables		
		Forming pairs, triples and quads		
		Individual Screening pairs, triples and quads		
		Inner Sheath		
		Inner Sheath Thickness		
		Insulation Material		
		Insulation Material, Application		
		Insulation Resistance		
		Insulation Thickness		
		Laying up pairs, triples and quads		

Jitendra Parmar
Dealing Officer
Page 211 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
--------	-------------------	---	-------------	----------------

		Outer Sheath Material		
		Outer Sheath Thickness		
		Smoke Emission		
		Test for Fire Resistance		
		Vertical Burning Test on single cable		
		Voltage Test on Complete Cable		
256.	Electric cables-- Communication Cables Polypropylene insulation for coaxial cables	Low Temperature Brittleness	BS EN 50290-2-38:2016	Cold chamber, cold bend & impact test apparatus, Shore A&D Hardness tester,
		Oxidative Induction Time		
		Acidity		
		Bending test after Thermal Ageing		
		Bending test at low temperature		
		Conductivity		
		Density		
		Dielectric Constant		
		Dissipation Factor		
		Elastograph		
		Elongation at break		
		Elongation at break after Thermal Ageing		
		Gradient of Dissipation Factor		
		Hardness Shore D		
		Melt Flow Index		

Jitendra Parmar
Dealing Officer
Page 212 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
--------	-------------------	---	-------------	----------------

		pH		
		Storage Stability		
		Shrinkage Test		
		Strip Force		
		Tensile Strength		
		Dielectric Constant		
257.	Electric cables-- Communication cables Common design rules and construction. Polyamide sheathing compound	Elongation at break	BS EN 50290-2-35:2016	Tensile testing machine, Shore A, D & IRHD, Carbon black test apparatus
		Tensile Strength after Ageing in Air oven		
		Hardness		
		Tensile Strength		
		Carbon Black Content		
		Carbon Black Dispersion		
		Density		
		Elongation at break after ageing in Air Oven		
		Elongation at break after Mineral Oil Immersion		
		Moisture Absorption (50% HR)		
		Moisture Absorption (in water)		
		Tensile Strength after Mineral oil Immersion		
258.	Electric cables-- Communication cables Common	Conductivity test	BS EN 50290-2-36:2016	Kelvin bridge, HCl test apparatus, tensile testing
		Density Test		
		Elongation at break		

Jitendra Parmar
Dealing Officer
Page 213 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
	design rules and construction. Crosslinked Silicone rubber insulation compound	Halogen Acid Content pH Test Tensile Strength Tensile Strength after Ageing in air oven Elongation at break after Ageing in air oven Hot Set Test		machine, hot set oven
259.	Electric cables- Communication cables Common design rules and construction. Polyethylene insulation for coaxial cables	Hardness Shore D Low Temperature Brittleness Melt Flow Index Oxidative Induction Time pH Shrinkage test Storage Stability Strip Force Tensile Strength Conductivity Acidity Bending test after Thermal Ageing Bending test at low temperature Dielectric Constant Dissipation Factor Elongation at break	BS EN 50290-2-37:2016	Kelvin bridge, HCL test apparatus, tensile testing machine, hot set oven, capacitance & ten delta bridge, PH & conductivity meter, HCL test apparatus

Jikendra Parmar
Dealing Officer
Page 214 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Elongation at break after Thermal Ageing		
		Gradient of Dissipation Factor		
260.	Electric cables- Communication cables Common design rules and construction. Polyethylene insulation for multi-pair cables	Hardness shore D	BS EN 50290-2-23:2013	Tensile Testing Machine, Hot Set Oven, Weighing Balance, Steel Scale
		Long Term Stability Test		
		Low Temperature Brittleness		
		Measurement of Mass Increase		
		Melt Flow Index		
		Shrinkage test		
		Tensile Strength		
		Wrapping test after ageing		
		Density		
		Elongation at break		
		Elongation at break after Ageing		
261.	Electric cables- Communication cables Common design rules and construction. PVC sheathing compounds	Elongation at break after ageing	BS EN 50290-2-22:2002	-----
		Elongation at break after Mineral Oil Immersion		
		Elongation at break before Ageing		
		Elongation test at low Temperature		
		Hardness		
		Heat shock test		

Jitendra Parmar
Dealing Officer
Page 215 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Impact at low temperature		
		Loss of Mass		
		Pressure test at temperature		
		Tensile strength after ageing		
		Tensile Strength after Mineral Oil Immersion Test		
		Tensile strength before ageing		
		Thermal stability		
		Bending test at low Temperature		
		Density		
262.	Electric cables- Communication cables Common design rules and construction. Polyethylene sheathing compounds	Elongation at break after ageing	BS EN 50290-2-24:2021	-----
		Elongation at break before ageing		
		low Temperature Brittleness		
		Measurement of Mass Increase		
		Melt Flow Index		
		Shore Hardness		
		Shrinkage test		
		Stress Cracking		
		Tensile strength		

Jitendra Parmar
Dealing Officer
Page 216 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Tensile strength after ageing		
		Tensile strength		
		Carbon black content of polythene sheath		
		Density		
263.	Electric Cables-Communication Cables Common Design Rules and Construction. Halogen Free Flame-Retardant Insulation Compounds	Elongation At Break After Ageing	BS EN 50290-2-26:2002	-----
		Elongation At Break Before Ageing		
		Hot Set Test For Insulation		
		Pressure Test At High Temperature		
		Shrinkage Test		
		Tensile Strength After Ageing		
		Tensile Strength Before Ageing		
		Volume Resistivity At Max Rated Temperature And At 20°C		
		Bending Test At Low Temperature		
264.	Electric Cables-Communication Cables Common Design Rules and	Dielectric Constant	BS EN 50290-2-25:2013	Tensile testing machine, hot set oven, capacitance & ten delta bridge,
		Elongation At Break		
		Elongation At Break After Thermal Ageing		

Jitendra Parmar
Dealing Officer
Page 217 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
	Construction. Polypropylene Insulation Compounds	Low Temperature Brittleness Melt Flow Index Ph & Conductivity Shore Hardness Shrinkage Strip Force Tensile Strength Wrapping After Ageing Bending Test At Low Temperature		pH& conductivity meter, HCl test apparatus
265.	Electric Cables- Communication Cables Common Design Rules and Construction. Halogen Free Polyolefin Based Sheathing Compounds For Cables Having Improved Flame and Fire Properties (HFFR)	Ageing in Air Oven Bending test at low temperature Conductivity test Corrosivity pH Elongation at break Elongation at break after ageing Elongation test at low Temperature Halogen acid content HCl/HBr Halogen acid content HF Heat shock test Loss of mass Oxygen Index Test	BS EN 50290-2-27:2021	Tensile Testing Machine, Hot Set Oven, Capacitance & Tan Delta Bridge, pH& Conductivity Meter, HCl Test Apparatus

Jitendra Parmar
Dealing Officer
Page 218 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Pressure test at high temperature		
		Tensile strength		
		Tensile strength after Ageing		
		Tensile strength test		
		Water Absorption		
266.	Electric Cables-Communication Cables Common Design Rules And Construction. Polyethylene Insulation Compounds For Multi Element Metallic Cables	Shrinkage Test	BS EN 50290-2-33:2021	Tensile Testing Machine, Hot Set Oven, Capacitance & Ten Delta Bridge, pH & conductivity meter, HCl test apparatus
		Strip Force		
		Conductivity		
		Dielectric Constant		
		Dissipation Factor		
		Elongation At Break		
		Elongation At Break After Thermal Ageing		
		Ph		
		Tensile Strength		
		Tensile Strength After Thermal Ageing		
		Wrapping Test After Ageing		
267.	Electric Cables-Communication Cables. Common Design Rules And Construction Poly(Tetrafluoroethylene-Hexafluoropropylene)	Behaviour At Low Temperature	BS EN 50290-2-30:2002	Cold Chamber, Tensile Testing Machine, Hot Set Oven, Capacitance & Tan Delta Bridge, pH & Conductivity Meter, HCl Test Apparatus
		Density		
		Elongation At Break		
		Elongation At Break After Ageing In Air Oven		
		Heat Shock Test		
		Melting Point		

Jitendra Parmar
Dealing Officer
Page 219 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
	(FEP) Insulation And Sheathing	Tensile Strength		
		Tensile Strength After Ageing In Air Oven		
		Volume Resistivity Test BS		
268.	Electric Cables- Communication Cables Common Design Rules and Construction. Cross-linked Polyethylene Insulation Compounds: Instrumentation, Control And Field Bus Cables	Ageing in Air Oven	BS EN 50290-2-29:2016	Ageing ovens, Tensile Testing Machine, Hot Set Oven, Capacitance & Tan Delta Bridge, pH& conductivity meter, HCl Test Apparatus
		Elongation at Break		
		Tensile Strength Test		
		Hardness Shore D		
		Ageing Test On Complete Cable (Compatibility Test) - Elongation At Break After Ageing		
		Ageing Test On Complete Cable (Compatibility Test) - Tensile Strength After Ageing		
		Density		
		Elastograph		
		Elongation At Break		
		Elongation At Break After Ageing In Air Oven		
		Hot Set Test		
		Low Temperature Brittleness		
		Melt Flow Index		
		Oxidative Induction Time		
		Shrinkage Test		

Jitendra Parmar
Dealing Officer
Page 220 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Storage Stability (Melt Flow Index)		
		Tensile Strength		
		Tensile Strength After Ageing In Air Oven		
		Wrapping Test After Ageing		
269.	Electric Cables-Communication Cables. Common Design Rules And Construction Filling Compounds For Filled Cables	Absence Of Corrosive Compounds Acidity Ageing In Air Oven Dc Resistivity Drop Point Elongation At Break Low Temperature Brittleness Permittivity Tensile Strength Total Acid Number	BS EN 50290-2-28:2002	-----
270.	Electric Cables-Communication Cables. Specifications For Test Methods Environmental Test Methods. Resistance To Solvents And Contaminating Fluids	Resistance To Solvents And Contaminating Fluids	BS EN 50289-4-4:2008	-----
271.	Electric Cables-Communication	Heat Cycle Test / Climatic Sequence	BS EN 50289-4-5:2008	-----

Jitendra Parmar
Dealing Officer
Page 221 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
	Cables. Specifications For Test Methods Environmental Test Methods. Climatic Sequence			
272.	Electric Cables-Communication Cables. Specifications For Test Methods Environmental Test Methods. Damp Heat, Steady State	Damp Heat Test, Steady State	BS EN 50289-4-7:2008	-----
273.	Electric Cables-Tracked Changes. Communication Cables	Circuit Integrity Test Under Fire Conditions	BS EN 50289-4-16:2016	-----
274.	Electric Cables-Communication Cables	Vertical Flame Spread Test On Bunched Cables	BS EN 50289-4-12:2004	-----
275.	Electric Cables-Communication Cables	A Horizontal Integrated Fire Test Methods	BS EN 50289-4-11:2002	-----
276.	Electric Cables-Communication Cables	Damp Heat Steady State Rapid Change Of Temperature Salt Mist Sulphur Dioxide Test	BS EN 50290-4-1:2014	-----

Jitendra Parmar
Dealing Officer
Page 222 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Moisture, Water And Humidity BS		
277.	Electric Cables-Communication Cables	Bending Test	BS EN 50289-3-9:2001	-----
278.	Electric Cables-Communication Cables	Abrasion Resistance Of Sheath Marking	BS EN 50289-3-8:2013	-----
279.	Electric Cables-Communication Cables	Elongation Of Insulation And Sheath Shrinkage Test Of Insulation And Sheath Tensile Strength of Insulation and Sheath	BS EN 50289-3-4:2001	Tensile testing machine, hot air oven
280.	Electric Cables-Communication Cables	Impact Resistance of Cable	BS EN 50289-3-6:2001	Impact Test Apparatus
281.	Electric Cables-Communication Cables	Crush Resistance	BS EN 50289-3-5:2001	Crush Test Apparatus
282.	Electric Cables-Communication Cables	Abrasion resistance of the cable sheath	BS EN 50289-3-7:2001	-----
283.	Electric Cables-Communication Cables	Adhesion of Dielectric and Sheath Strip Force	BS EN 50289-3-17:2002	-----
284.	Electric Cables-Communication	Cable cut-Through resistance	BS EN 50289-3-11:2001	-----

Jitendra Parmar
Dealing Officer
Page 223 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
	Cables			
285.	Electric Cables-Communication Cables	Torsion Test	BS EN 50289-3-10:2004	-----
		Twisting Test		
286.	Electric Cables-Communication Cables	Transfer Impedance	BS EN 50289-1-6:2002	Impedance Meter
		Screening Attenuation		Attenuation Meter
287.	Electric Cables-Communication Cables	Inductance	BS EN 50289-1-12:2005	LCR Meter
288.	Electric Cables-Communication Cables	Inductance To Resistance Ratio (L/R Ratio)		
289.	Electric Cables-Communication Cables	Mean Characteristic Impedance	BS EN 50289-1-11:2016	Impedance Meter
290.	Electric Cables-Communication Cables	Insulation Resistance	BS EN 50289-1-4:2001	Million Mega Ohm Meter
291.	Electric Cables-Cross-Linked Elastomeric Insulating And Sheathing Compounds	Elongation At Break After Ageing In Air Oven	BS 7655-1.2:1997	Tensile Machine, Ageing Oven, Water Absorption Test Apparatus, Ozone Chamber
		Alternative Ozone Resistance (Low Concentration)		
		Determination Of Hardness (IRHD)		
		Elongation At Break After Ageing In Air Bomb		

Jitendra Parmar
Dealing Officer
Page 224 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Elongation At Break Before Ageing In Air Oven		
		Insulation Resistance Constant		
		Hot Set Test		
		Ozone Resistance Test		
		Power Factor And Permittivity		
		Tensile Strength After Ageing In Air Bomb		
		Tensile Strength After Ageing In Air Oven		
		Tensile Strength Before Ageing In Air Oven		
		Water Absorption(Gravimetric)		
		Water Absorption Determined By The Capacitance Method		
				Tan Delta And Capacitance Bridge, Water Bath
292.	Electric Cables-Cross-Linked Elastomeric Insulating And Sheathing Compounds	Tensile Strength After Ageing In Air Oven	BS 7655-1.3:2000	Tensile Machine, Ageing Oven, Water Absorption Test Apparatus
		Tensile Strength Before Ageing In Air Oven		
		Insulation Resistance Constant		
		Hot Set Test		
		Water Absorption (Gravimetric)		

Jitendra Parmar
Dealing Officer
Page 225 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Elongation At Break After Ageing In Air Oven		
		Elongation At Break Before Ageing In Air Oven		
Group - Conductor and Conducting materials				
1.	Aluminium Alloy Stranded Conductors For Overhead Lines - Al 59 Conductors	Resistance	SS 4240814: 1989	-----
		Strength		
		Weight		
		Diameter Measurement	SS 4240813: 2005	
		Resistance		
		Resistivity		
		Strength		
		Weight		
		Wrapping Test		
2.	Conductors For Overhead Lines Coated Or Cladded Metallic Wire For Concentric Lay Stranded Conductors	Reverse Bend Test	ISO 7801: 2024	-----
3.	Conductors For Overhead Lines Coated Or Cladded Metallic Wire For Concentric Lay Stranded Conductors	Uniformity Of Zinc And Zinc-Aluminium Coatings	ISO 7989-2: 2021	-----
		Coating Mass Or Cladding Thickness Test - Gravimetric		
4.	Cadmium Copper Conductor	Electrical Resistance	ETI/OHE/50(6/97: 2019	-----
		Lay Ratio		

Jitendra Parmar
Dealing Officer
Page 226 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Tensile Strength		
		Wrapping Test		
		Diameter Of Individual Wire		
		Lay Length		
5.	Cadmium Copper Conductors For Over Head Electric Traction	Measurement Of Diameter Of Individual Wire And Stranded Conductor	TI/SPC/OHE/CAT (Cu-Mg) / 0150: 2016	-----
		Measurement Of Diameter Of Individual Wire And Stranded Conductor		
		Measurement Of Electrical Resistance Of Wire And Stranded Conductor		
		Measurement Of Lay Length Of Each Layer Of Stranded Conductor		
		Measurement Of Lay Ratio Of Each Layer Of Stranded Conductor		
		Measurement Of Weight Of Wire And Conductor		
		Tensile Test On Wires		
		Visual Examination		
		Wrapping Test On Wires		
6.	Concentric-Lay-Stranded Copper Conductors, Hard, Medium-Hard, Or	Density	ASTM B8 : 2023	-----
		Diameter		
		Lay Length		
		Resistance / Resistivity		

Jikendra Parmar
Dealing Officer
Page 227 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
--------	-------------------	---	-------------	----------------

	Soft			
7.	Copper And Copper-Cadmium Stranded Conductors For Overhead Electric Traction And Power Transmission Systems	Dimension	BS 7884: 1997	-----
		Electrical Resistance		
		Lay Length		
		Lay Ratio		
		Tensile Strength		
		Wire Diameter		
		Wrapping Test		
8.	Soft Or Annealed Copper Wire	Dimensional Measurements	ASTM B3:2024	-----
		Elongation		
		Resistivity		
		Surface Finish		
9.	Soft or annealed copper wire	Standard Test Method for Resistivity of Electrical Conductor Materials	ASTM B193: 2020	-----
10.	Aluminium Alloy Redraw Rods For Electrical Purposes - Specification	Tensile Test (UTS)	IS 9997:2023	Tensile Testing Machine, Kelvin bridge, ICPMS, spark OES
		Elongation		
		Conductivity		
		Electrical Resistivity		
		Dimensions		
		Finish And Freedom From Defects		
		Chemical Composition		
11.	Specification Of Copper Wires For General Engineering Purposes	1. Chemical Composition 2. Tensile Test 3. Elongation 4. Embrittlement Test 5. Visual Tests	IS 4412:1981 (RA:2021) Amd.01:2004	Optical Emission Spectrometer, Copper Purity Test Apparatus, Tensile Testing Machine

Jitendra Parmar
Dealing Officer
Page 228 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		6. Wire Construction 7. Freedom From Defects 8. Measurement Of Diameter		
12.	Compact Round Concentric-Lay-Stranded Aluminium 1350 Conductors	Visual Examination Lay Length Construction Rated Strength Of Conductor Electrical Resistance Density Cross sectional area Variation in diameter	ASTM B400/ B400M-23	Tensile testing machine, digital micro-ohm meter, Vernier caliper
13.	Standard Specification For Aluminium 1350 Drawing Stock For Electrical Purposes	Diameter Tensile Strength Joints Resistivity	ASTM B233-97(2021)	-----
14.	Aluminium 1350 Round Wire, Annealed And Intermediate Tempers, For Electrical Purposes	Diameter Tensile Strength Joints Resistivity Surface Finish	ASTM B609/B609M-12(2021)	-----
15.	Aluminium Conductor For Overhead Transmission (Aluminium	Measurement Of Dimensions Visual Examination / Freedom Of Defects	IS 398 Part-6:2021 Amd 01:2024	-----

Jitendra Parmar
Dealing Officer
Page 229 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
	Conductor , Galvanized Steel-Rein Forced For Extra High Voltage)	Breaking Load Of Individual Aluminium Wires		
		Breaking Load Of Individual Galvanized Steel Wires		
		Wrapping Test Of Aluminium Wires		
		Wrapping Test Of Galvanized Steel Wires		
		Resistance Test Of Aluminium Wires		
		Measurement of Lay Ratio		
		Uniformity of Zinc Coating		
		Mass of Zinc Coating		
		Torsion Test of Galvanized Steel wire		
		Elongation Test		
		Visual tests		
		Cable construction		
16.	Conductors For Overhead Lines - Coated Or Cladded Metallic Wire For Concentric Lay Stranded Conductors	Freedom From Defects	IEC 63248:2022	-----
		Joints In The Wires		
		Surface Condition		
		Lay Ratio		
		Direction Of Lay		
		Diameter Of Wires From Direct Measurement		
		Diameter Of Wires From Weight Measurement		

Jitendra Parmar
Dealing Officer
Page 230 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
--------	-------------------	---	-------------	----------------

		Stress At 1% Extension, Tensile Strength & Elongation		
		Stress At 1% Extension & Tensile Strength		
		Elongation At Break		
		Ductility Test (Torsion Test)		
		Ductility (Wrapping Test)		
		Reverse Bend Test		
		Coating Mass Or Cladding Thickness Test		
		Adherence Of Coating Or Cladding Test (Zinc Or Zinc-Aluminium Alloy Coating)		
		Adherence Of Coating Or Cladding Test (Aluminium Cladding Test)		
		Coating Adherence Heat Resistance Test		
		Dipping Test		
		Resistivity		
		Visual Tests		
		Cable Construction		
17.	Steel Wire And Wire Products-Non-Ferrous Metallic Coatings On Steel	Adherence Test	BS EN 10244-1:2009	-----
		Dipping Test	BS EN 10244-2:2023	
			ISO 7989-2:2021	
		Mass Of Coating	BS EN 10244-1:2009	
			ISO 7989-2:2021	

Jikendra Parmar
Dealing Officer
Page 231 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Mass Of Zinc Coating	BS EN 10244-2:2023	
18.	Copper And Copper Cadmium Conductor	Conductivity	BS 7884:1997	-----
		Dimension		
		Electrical Resistance		
		Lay Length		
		Lay Ratio		
		Tensile Strength		
		Wire Diameter		
		Wrapping Test		
		Visual Tests		
		Cable construction		
19.	Aluminium Conductors – Galvanized Steel – Reinforced For Extra High Voltage (400 Kv & Above)	Breaking Load Of Individual Wires	IS 398 part 2:2025	Digital Tensile Testing Machine
		Diameter Of Aluminium, Steel Wires & Stranded Conductor		Digital Micrometre
		Ductility Test (Torsion Test And Elongation Test)		Torsion Tester
		Galvanizing Test On Steel Wire (Uniformity Of Zinc Coating & Weight Of Zinc Coating)		-----
		Lay Ratio		-----
		Resistance Test Of Aluminium Wires		Industrial Kelvin Double Bridge
		Surface Condition Test		-----

Jikendra Parmar
Dealing Officer
Page 232 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
		Wrapping Test For Aluminium & Aluminized Wires		
		Measurement Of Dimensions		
		Visual Examination / Freedom Of Defects		
		Breaking Load Of Individual Aluminium Wires		
		Breaking Load Of Individual Galvanized Steel Wires		
		Wrapping Test of Aluminium Wires		
		Wrapping Test of Galvanized Steel Wires		
		Resistance Test of Aluminium Wires		
		Measurement of Lay Ratio		
		Uniformity of Zinc Coating		
		Mass of Zinc Coating		
		Torsion Test of Galvanized Steel wire		
		Elongation Test		
		Visual tests		
		Construction		

Jitendra Parmar
Dealing Officer
Page 233 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
20.	Aluminium Conductors For Overhead Transmission Purpose (Aluminium Alloy Stranded Conductors) [Al. – Magnesium – Silicon Type]	Diameter Of Aluminium, Steel Wires & Stranded Conductor	IS 398(Part 4):1994 (RA:2021) Amd.01 :2000	Digital Micrometre, Digital Tensile Testing Machine, Industrial Kelvin Double Bridge Digital Tensile Testing Machine
		Elongation Test		
		Resistance Test Of Aluminium Wires		
		Breaking Load Of Individual Wires		
		Measurement Of Dimensions Of Aluminium Alloy Wires)		
		Breaking Load Of Aluminium Alloy Wires		
		Elongation Test Of Aluminium Alloy Wires		
		Resistance Test Of Aluminium Alloy Wires		
		Measurement Of Lay Ratio		
		Direction Of Lay		
		Visual Tests		
		Construction		
21.	Aluminium Conductors For Overhead Transmission Purposes: Part 3 Aluminium Conductors,	Breaking Load Of Individual Wires	IS 398(Part 3):1976 (RA:2019) Amd.03 :1985	Digital Micrometre, Digital Tensile Testing Machine, Industrial Kelvin Double Bridge
		Diameter Of Aluminium, Steel Wires & Stranded Conductor		
		Ductility Test (Torsion Test And Elongation Test		

Jitendra Parmar
Dealing Officer
Page 234 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
--------	-------------------	---	-------------	----------------

	Aluminized Steel Reinforced	Lay Ratio		
		Resistance Test Of Aluminium Wires		
		Wrapping Test For Aluminized Wires		
		Wrapping Test For Aluminium Wires		
		Measurement Of Dimensions		
		Visual Examination / Freedom Of Defects		
		Breaking Load Of Aluminium Wires		
		Breaking Load Of Aluminized Steel Wires		
		Wrapping Test Of Aluminium Wires		
		Wrapping Test Of Aluminized Steel Wires		
		Resistance Test Of Aluminium Wires		
		Measurement Of Lay Ratio		
		Coating Of Aluminizes Steel Wires		
		Torsion Test Of Aluminized Steel Wire		
		Elongation Test		
		Visual Tests		

Jitendra Parmar
Dealing Officer
Page 235 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
22.	Aluminium Conductors For Overhead Transmission Purposes	Construction	IS 398 (Part 1):1996 (RA:2018) Amd.01:1999	Digital Micrometre, Digital Tensile Testing Machine, Industrial Kelvin Double Bridge
		Breaking Load Of Individual Wires		
		Diameter Of Aluminium Wires		
		Lay Ratio		
		Resistance Test Of Aluminium Wires		
		Wrapping Test For Aluminium Wires		
		Visual Tests		
23.	Cadmium Copper Conductor	Construction	ETI/OHE/50 (6/97)	Industrial Kelvin Double Bridge
		Electrical Resistance		
		Lay Ratio		
		Tensile Strength		
		Wrapping Test		
		Diameter Of Individual Wire		
		Lay Length		
		Visual Tests		
24.	Concentric-Lay-Stranded Copper Conductors, Hard, Medium-Hard, Or Soft	Cable Construction	ASTM B8-23	-----
		Density		
		Diameter		
		Lay Length		
		Resistance		
		Visual Tests		

Jitendra Parmar
Dealing Officer
Page 236 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
--------	-------------------	---	-------------	----------------

		Cable Construction		
25.	Conductors For Overhead Lines - Round Wire Concentric Lay Stranded Conductors	Adhesion Of Zinc Coating	BS EN 50182:2001 (Pub:2024)	-----
		Elongation Test		
		Inertness		
		Lay Ratio And Direction Of Lay		
		Mass Of Zinc Coating		
		Resistivity		
		Electrical Resistivity Test		
		Tensile Strength		
		Torsion Test		
		Wrapping Test		
		Zinc Dip Test		
		Diameter		
		Nominal DC Resistance		
		Determination Of Chemical Composition And Purity		
		Stress At 1% Extension		
		Thickness Of Al Cladding		
		Drop Point		
		Stress Strain Test		
		Diameter Measurement		
		Surface Condition		
		Mass Per Unit Length		
		Stringing Test		
		Temper Test		
		Visual Tests		
		Conductor Construction		

Jitendra Parmar
Dealing Officer
Page 237 of 238

FEDERATION FOR DEVELOPMENT OF ACCREDITATION SERVICES

118-119, First Floor, Sushant Tower, Sector – 56, Gurugram – 122011, Haryana, India.



SCOPE OF ACCREDITATION

(Annexure to Certificate of TL - 101)

Laboratory Name: M/S RTRC Limited
Plot No. 296, Sector-7, Phase-II, Industrial Estate, IMT Manesar, Gurugram-122050, Haryana, India

Validity: 17.06.2026 to 16.06.2028 **Amended on:** ---

Electrical Testing (Laboratory-Based)

S. No.	Material/Products	Component/Parameter / Characteristic tested	Test Method	Equipment Used
26.	Aluminium Ingots, Billets and Wire Bars (EC GRADE)	Shape and Size	IS 4026:2023	-----
27.	Primary Aluminium Ingots for Re-melting for General Engineering Purposes	Shape and Size	IS 2590:1987 (RA:2022) Amd 01:2022	-----
28.	High Purity Primary Aluminium Ingots 'For Re-melting For Special Applications	Shape and Size	IS 11890:1987 (RA:2022)	-----

Jitendra Parmar
Dealing Officer
Page 238 of 238