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# CERTIFICATE OF ACCREDITATION

*This is to attest that*

## **AMIT TEST AND CALIBRATION CENTRE**

45-7, VILLAGE PRAHALADPUR BANGAR, ROHINI SECTOR-30, NEAR KALI MATA MANDIR  
DELHI, DL 110042, INDIA

**Testing Laboratory TL-1121**

has met the requirements of AC89, *IAS Accreditation Criteria for Testing Laboratories*, and has demonstrated compliance with ISO/IEC Standard 17025:2017, *General requirements for the competence of testing and calibration laboratories*. This organization is accredited to provide the services specified in the scope of accreditation.

Expiry Date January 1, 2025

Effective Date July 25, 2024



*International Accreditation Service*  
Issued under the authority of IAS management

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# SCOPE OF ACCREDITATION

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## AMIT TEST AND CALIBRATION CENTRE

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**Accredited to** ISO/IEC 17025:2017

**Effective Date** July 25, 2024

Electrical – Cables and Wires – Insulated Wires and Cables Testing	
ANSI/TIA-568-C.2	Balanced Twisted-Pair Telecommunications Cabling and components standards Inclusion - Transmission Performance Test
ATCC/SOP 01	Anti-Termite & Anti Rodent Test
BS 5308-1	Instrumentation Cables Part 1: Specification for Polyethylene Insulated Cables
BS 5308-2	Instrumentation Cables Part 2: Specification for PVC Insulated Cables
BS 6724	Electric cables-Thermosetting insulated, armoured cables of rated voltages of 600/1000 V, and 1900/3300 V for fixed installations, having low emission of smoke and corrosive gases when affected by fire-Specification
BS 7211	Electric cables-Thermosetting insulated and thermoplastic sheathed cables for voltages up to and including 450/750 V, for electric power and lighting and having low emission of smoke and corrosive gases when affected by fire
BS 7846	Electric cables-Thermosetting insulated, armoured, fire-resistant cables of rated voltage 600/1000 V, for fixed installations, having low emission of smoke and corrosive gases when affected by fire-Specification
BS EN 50214	Flat polyvinyl chloride sheathed flexible cables
BS EN 50290-2-23	Communication cables Part 2-23: Common design rules and construction- Polyethylene insulation for multi-pair cables used in access telecommunication networks: outdoor cables
BS EN 50363-1	Insulating, sheathing and covering materials for low voltage energy cables Part 1: Cross- linked elastomeric insulating compounds
BS EN 50363-2-1	Insulating, sheathing and covering materials for low voltage energy cables Part 2-1: Cross- linked elastomeric sheathing compounds
BS EN 50363-3	Insulating, sheathing and covering materials for low voltage energy cables Part 3: PVC insulating compounds
BS EN 50363-4-1	Insulating, sheathing and covering materials for low voltage energy cables Part 4-1: PVC sheathing compounds
BS EN 50363-5	Insulating, sheathing and covering materials for low voltage energy cables

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	Part 5: Halogen-free, cross-linked insulating compounds
BS EN 50397-1	Covered conductors for overhead lines and the related accessories for rated voltages above 1 kV A.C. and not exceeding 36 kV a.c. Part 1: Covered Conductor Exclusion - Slippage Test
BS EN 50525-1	Electric cables-Low voltage energy cables of rated voltages up to and including 450/750 v (U <sub>0</sub> /U) Part 1: General requirement
BS EN 50525-2-11-	Electric cables-Low voltage energy cables of rated voltages up to and including 450/750 v (U <sub>0</sub> /U) Part 2-11: Cables for general applications-Flexible cables with thermoplastic PVC insulation
BS EN 50525-2-21	Electric cables-Low voltage energy cables of rated voltages up to and including 450/750 V (U <sub>0</sub> /U) Part 2-21: Cables for general applications-Flexible cables with cross linked elastomeric insulation
BS EN 50525-2-31	Electric cables. Low voltage energy cables of rated voltages up to and including 450/750 V (U <sub>0</sub> /U) Cables for general applications. Single core non-sheathed cables with thermoplastic PVC insulation
BS EN 50525-2-83	Electric cables-Low voltage energy cables of rated voltages up to and including 450/750 v (U <sub>0</sub> /U) Part 2-83: Cables for general applications-Multi core cables with cross linked silicone rubber insulation
BS EN 50525-3-41	Electric cables-Low voltage energy cables of rated voltages up to and including 450/750 V (U <sub>0</sub> /U) Part 3-41: Cables with special fire performance-single core non-sheathed cables with halogen-free cross linked insulation and low emission of smoke
BS EN 50618	Electric cable for photovoltaic systems (BT(DE/NOT)258
BS EN/IEC 60228	Conductors of Insulated cables
IEC 60227-1	Polyvinyl chloride insulated cable of rated voltages up to and including 450/750 v Part 1: General requirement
IEC 60227-3	Polyvinyl chloride insulated cable of rated voltages up to and including 450/750 v Part 3: Non-sheathed cables for fixed wiring
IEC 60227-4	Polyvinyl chloride insulated cable of rated voltages up to and including 450/750 v Part 4: sheathed cables for fixed wiring
IEC 60227-5	Polyvinyl chloride insulated cables of rated voltages up to and including 450/750 v Part 5: Flexible cables (cords)
IEC 60227-6	Polyvinyl chloride insulated cables of rated voltages up to and including 450/750 v Part 6: Lift cables and cables for flexible connections



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IEC 60502-1	Power cables with extruded insulation and their accessories for rated voltages from 1 kV ( $U_m = 1,2$ kV) up to 30 kV ( $U_m = 36$ kV) - Part 1: Cables for rated voltages of 1 kV ( $U_m = 1,2$ kV) and 3 kV ( $U_m = 3,6$ kV)
IEC 60502-2	Power cables with extruded insulation and their accessories for rated voltages from 1 kV ( $U_m = 1,2$ kV) up to 30 kV ( $U_m = 36$ kV) – Part 2: Cables for rated voltages from 6 kV ( $U_m = 7,2$ kV) up to 30 kV ( $U_m = 36$ kV) Exclusion- b) Test tan delta at maximum conductor temperature in normal operation plus 5 °C up to 10 °C, maximum c) Heating Cycle Test d) Impulse test followed by a voltage test
IEEE 1222	Standard for All-Dielectric self-supporting Fiber Optic Cable Inclusion: Annexure A Electrical Test
IS 694	Polyvinyl chloride insulated unsheathed and sheathed cables/cors with rigid and flexible conductor for rated voltages up to and including 1100V With latest Amendments
IS 1554 Part-1	PVC insulated (heavy duty) Electric cables Part-1 for working voltages up to and including 1100 Volts. With latest Amendments
IS 1554 Part-2	PVC Insulated (Heavy Duty) Electric Cables - Part 2: for Working Voltages from 3.3 kV up to and Including 11 kV Exclusion- c) Dielectric power factor test d) Heating cycle test e) Impulse withstand test
IS 2465	Cables for motor vehicles with latest Amendments
IS 5484	Ec Grade Aluminium Rod Produced By Continuous Casting And Rolling - Specification
IS 7098 Part-1	Cross Linked Polyethylene Insulated, PVC sheathed cables Part 1 for working voltages up to and including 1100 Volts. With latest Amendments
IS 7098 Part-2	Crosslinked Polyethylene Insulated Thermoplastics Sheathed Cables - Part 2 for Working Voltages from 3.3 kV up to and Including 33 kV Exclusion- a) Degree of Cross Linking e) Dielectric power factor test f) Heat Cycle Test g) Impulse withstand test
IS 7098 Part-3	Cross-linked polyethylene insulated thermoplastic sheathed cables: Part 3 For working voltages from 66 kV up to and including 220 kV Exclusion- c) Dielectric power factor and capacitance measurement at ambient temperature d) Dielectric power factor measurement at elevated temperature e) Load cycle test followed by P.D. measurement



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	f) Impulse withstand test followed by HV test
IS 9385 Part 1	Specification for High Voltage Fuses: - Dry power frequency test - Temperature rise Test
IS 9857	Welding Cables With latest Amendments
IS 9968 Part-1	Elastomer Insulated Cables Part 1 for working voltages up to and including 1100 volts. With latest Amendments
IS 10241-3	Electric cables for aircraft: Part 3 Nyein type electric cables
IS 14255	Aerial Bunched Cables- For working voltages up to and including 1100 Volts. With latest Amendments
IS 14494	Elastomer Insulated Flexible Cables for Use in Mines
IS 16246	Elastomer Insulated Cables with Limited Circuit Integrity when Affected by Fire
IS 17048	Halogen Free Flame Retardant (HFFR) cables for working voltage up to and including 1100Volts
IS 17293	Electric Cables for Photovoltaic Systems for Rated Voltage 1 500 V d.c Exclusion: Dynamic Penetration Test
IS 17505	Specification for 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 Vac and 1500 Vdc
NFC-33-209	Insulated or protected cables for power systems-Bundle assembled cores for overhead systems of rated voltage 0.6/1 KV Exclusion- a) Impulse voltage with strength b) Behavior of neutral core under thermal and mechanical stresses
PAS 5308-1	Control and instrumentation cables Part 1: Specification for polyethylene insulated cables
PAS 5308-2	Control and Instrumentation cables Part 2: Specification for PVC insulated cables
<b>Electrical – Cables and Wires – Test Method</b>	
ASTM D2303	Standard Test Methods for Liquid-Contaminant, Inclined-Plane Tracking and Erosion of Insulating Materials
ASTM D2843	Standard Test Method for Density of Smoke from the Burning or Decomposition of Plastics
ASTM D2863	Standard Test Method for Measuring the Minimum Oxygen Concentration to Support Candle-Like Combustion of Plastics (Oxygen Index)
ASTM D3137-81	Test Method for Rubber Property- Hydrolytic Stability





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ASTM G154	Standard Practice For – Operating Florescent light Apparatus for UV Exposure of Nonmetallic materials
BS 4066 (Pt-3)	Test on electric cables under fire conditions- Part 3 Method for classification of flame propagation characteristics of bunched cables
BS 6387	Test method for resistance to fire of cables required to maintain circuit integrity under fire conditions
BS EN/IEC 60332-1-2	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
BS EN/IEC 60331-21	Test for electric cables under fire conditions- Circuit integrity, Part 21: Procedures and requirements- Cables of rated voltage up to and including 0.6/1.0 kV
BS EN/IEC 60332-2-2	Test on electric and optical fibre cables under fire conditions Part-2-2: Test for vertical flame propagation for a single insulated wire or cable- Procedure for diffusion flame
BS EN/IEC 60332-3-21	Tests on electric and optical fibre cables under fire conditions – Part 3-21: Test for vertical flame spread of vertically-mounted bunched wires or cables - Category A F/R
BS EN/IEC 60332-3-22	Tests on electric and optical fibre cables under fire conditions – Part 3-22: Test for vertical flame spread of vertically mounted bunched wires or cables - Category A
BS EN/IEC 60332-3-23	Tests on electric and optical fibre cables under fire conditions – Part 3-23: Test for vertical flame spread of vertically mounted bunched wires or cables - Category B
BS EN/IEC 60332-3-24	Tests on electric and optical fibre cables under fire conditions – Part 3-24: Test for vertical flame spread of vertically-mounted bunched wires or cables - Category C
BS EN/IEC 60332-3-25	Tests on electric and optical fibre cables under fire conditions – Part 3-25: Test for vertical flame spread of vertically-mounted bunched wires or cables - Category D
BS EN/IEC 60754-1	Test on gases evolved during combustion of materials from cables - Part 1: Determination of the amount of halogen acid gas
BS EN/IEC 60754-2	Test on Gases evolved during combustion of electric cables Part-2 Determination of degree of acidity of gases evolved during the combustion of materials taken from electric cable by measuring pH and conductivity
BS EN/IEC 60811-201	Electric and optical fibre cables – Test methods for non-metallic materials – Part 201: General tests – Measurement of insulation thickness
BS EN/IEC 60811-202	Electric and optical fibre cables – Test methods for non-metallic materials – Part 202: General tests – Measurement of thickness of non-metallic sheath
BS EN/IEC 60811-401	Electric and optical fibre cables - Test methods for non-metallic materials - Part 401: Miscellaneous tests - Thermal ageing methods - Ageing in an air oven



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BS EN/IEC 60811-405	Electric and optical fibre cables - Test methods for non-metallic materials - Part 405: Miscellaneous tests - Thermal stability test for PVC insulations and PVC sheaths
BS EN/IEC 60811-407	Electric and optical fibre cables - Test methods for non-metallic materials - Part 407: Miscellaneous tests - Measurement of mass increase of polyethylene and polypropylene compounds
BS EN/IEC 60811-408	Electric and optical fibre cables - Test methods for non-metallic materials - Part 408: Miscellaneous tests - Long-term stability test of polyethylene and polypropylene compounds
BS EN/IEC 60811-409	Electric and optical fibre cables - Test methods for non-metallic materials - Part 409: Miscellaneous tests - Loss of mass test for thermoplastic insulations and sheaths
BS EN/IEC 60811-412	Electric and optical fibre cables - Test methods for non-metallic materials - Part 412: Miscellaneous tests - Thermal ageing methods - Ageing in an air bomb
BS EN/IEC 60811-501	Electric and optical fibre cables - Test methods for non-metallic materials - Part 501: Mechanical tests – Test for determining the mechanical properties of insulating and
BS EN/IEC 60811-502	Electric and optical fibre cables - Test methods for non-metallic materials - Part 502: Mechanical tests - Shrinkage test for insulations
BS EN/IEC 60811-503	Electric and optical fibre cables - Test methods for non-metallic materials - Part 503: Mechanical tests - Shrinkage test for sheaths
BS EN/IEC 60811-504	Electric and optical fibre cables - Test methods for non-metallic materials - Part 504: Mechanical tests - Bending tests at low temperature for insulation and sheaths
BS EN/IEC 60811-505	Electric and optical fibre cables - Test methods for non-metallic materials - Part 505: Mechanical tests - Elongation at low temperature for insulations and sheaths
BS EN/IEC 60811-506	Electric and optical fibre cables - Test methods for non-metallic materials - Part 506: Mechanical tests - Impact test at low temperature for insulations and sheaths
BS EN/IEC 60811-508	Electric and optical fibre cables - Test methods for non-metallic materials - Part 508: Mechanical tests - Pressure test at high temperature for insulation and sheaths
BS EN/IEC 60811-509	Electric and optical fibre cables - Test methods for non-metallic materials - Part 509: Mechanical tests - Test for resistance of insulations and sheaths to cracking (heat shock test)
BS EN/IEC 60811-510	Electric and optical fibre cables - Test methods for non-metallic materials - Part 510: Mechanical tests - Methods specific to polyethylene and polypropylene compounds - Wrapping test after thermal ageing in air
BS EN/IEC 60811-511	Electric and optical fibre cables - Test methods for non-metallic materials - Part 511: Mechanical tests - Measurement of the melt flow index of polyethylene compounds

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BS EN/IEC 60811-512	Electric and optical fibre cables - Test methods for non-metallic materials - Part 512: Mechanical tests - Methods specific to polyethylene and polypropylene compounds - Tensile strength and elongation at break after conditioning at elevated temperature
BS EN/IEC 60811-513	Electric and optical fibre cables - Test methods for non-metallic materials - Part 513: Mechanical tests - Methods specific to polyethylene and polypropylene compounds - Wrapping test after conditioning
BS EN/IEC 60811-606	Electric and optical fibre cables - Test methods for non-metallic materials - Part 606: Physical tests - Methods for determining the density
BS EN/IEC 61034-2	Measurement of smoke density of cables burning under defined condition- Part 2: Test Procedure and requirements
IEC 60794-1-22	Optical fibre cables- Part-1-22: Generic specification- Basic optical cable test procedures- Environmental test methods Inclusion: Method F5-Water Penetration Test Method F14-Cable UV Resistance test
IEEE 383	Test method for vertical tray flame Test
NES 713/NCD 1409	Determination of Toxicity Index of the products of combustion from small specimens of materials
<b>Electrical – Insulating Mats &amp; Insulators Testing</b>	
IEC 60099-4	Surge arresters - Part 4: Metal-oxide surge arresters without gaps for a.c. systems Inclusion - Standard acceptance Test -a) measurement of power frequency voltage and c) Internal Partial Discharge Test
IEC 61109	Insulators for overhead lines- Composite suspension and tension insulators for a.c. system with a nominal voltage greater than 1000 V- Definition, test methods and acceptance criteria Inclusion - Clause 12 Sample Tests
IS 3070 Part-1	Surge Arresters for Alternating Current Systems - Part 1 : Non-linear Resistor Type Surge Arresters
IS 3070 Part-2	Lightning arresters for alternating current systems: Part 2 Expulsion type lightning
IS 15652	Insulating Mats for Electrical Purposes
<b>Electrical – Conductors &amp; Conducting Material Testing</b>	
BS 215-1	Aluminium conductors and Aluminium conductors, steel-reinforced for overhead power transmission Part 1. Aluminium stranded conductors
BS 215-2	Aluminium conductors and Aluminium conductors, steel-reinforced for overhead power transmission Part 2. Aluminium conductors, steel- reinforced





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BS EN 50182	Conductors For Overhead Lines. Round Wire Concentric Lay Stranded Conductors
IS 398-1	Aluminium conductors for overhead transmission purposes Part-1 Aluminium stranded conductors
IS 398-2	Aluminium conductors for overhead transmission purposes Part-2 Aluminium conductors, galvanized steel – reinforced
IS 398-3	Aluminium conductors for overhead transmission purposes Part-3 Aluminium conductors, aluminized steel reinforced
IS 398-4	Aluminium conductors for overhead transmission purposes: Part 4 Aluminium Alloy Stranded Conductors (Aluminium-Magnesium-Silicon Type)
IS 398-5-	Aluminium Conductors for Overhead Transmission Purposes: Part 5 Aluminium Conductors- Galvanized Steel – Reinforced for Extra High Voltage (400 kV and Above) Exclusion - 13.11 Corona Test & 13.12 Radio Interference Voltage Test
IS 398-6	Aluminium Conductors For Overhead Transmission Purposes Part 6: High conductivity aluminium alloy stranded conductors
IS 2141	Hot Dip Galvanized Stay Strand
IS 12776	galvanized strand for earthing With latest Amendments
<b>Chemical – Metal and Alloy Testing</b>	
IS 191	Copper – Specification Inclusion - Chemical Analysis of Copper for Cu-ETP & Cu-FRHC
<b>Metallic and Nonmetallic Testing</b>	
IS 280	Mild steel wire for general engineering purposes Inclusion - Mechanical Properties Clause 9, Coating Test Clause 11
IS 2062	Hot rolled medium and high tensile structural steel – Specification Inclusion - Tensile Test Clause 10, Bend Test Clause 11
IS 2486 (Part1)	Metal Fitting of Insulators for overhead Power Lines with Nominal Voltage Greater Than 1000 V - Specification Part 1 General Requirement And Tests Inclusion - Clause 9.4 Galvanizing test only.
IS 4759	Hot-dip zinc coatings on structural steel and other allied products
<b>Timber – Timber Testing</b>	
IS 401	Preservation of Timber — Code of Practice Inclusion: Clause 9.4
IS 1708-1	Methods of testing of small clear specimens of timber. Inclusion: Moisture Content Test
<b>Material Testing</b>	
ASTM D746	Standard Test Method for Brittleness Temperature of Plastics and Elastomers by Impact



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ASTM D3349	Standard Test Method for Absorption Coefficient of Ethylene Polymer Material Pigmented with Carbon Black
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