

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.

Effective Date March 20, 2025



International Accreditation Service
Issued under the authority of IAS management

International Accreditation Service, Inc.
3060 Saturn Street, Suite 100, Brea, California 92821, U.S.A. I www.iasonline.org

AMIT TEST AND CALIBRATION CENTRE

Contact Name Mr. Amit Jadon

Contact Phone +91-9971793094

Accredited to ISO/IEC 17025:2017

Effective Date March 20, 2025

| Electrical – Cables and Wires – Insulated Wires and Cables Testing | |
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| 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 Part 5: Halogen-free, cross-linked insulating compounds |





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| 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 |
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| BS EN 50525-1 | Electric cables-Low voltage energy cables of rated voltages up to and including 450/750 v (U _o /U) Part 1: General requirement |
| BS EN 50525-2-11- | Electric cables-Low voltage energy cables of rated voltages up to and including $450/750 \text{ v} (U_{\text{o}}/U)$ 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 _o /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 _o /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 _o /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 _o /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 (Um = 1,2 kV) up to 30 kV (Um = 36 kV) - Part 1: Cables for rated voltages of 1 kV (Um = 1,2 kV) and 3 kV (Um = 3,6 kV) |
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| 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 |
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| 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 |
| Electrical – Cables a | nd Wires - Test Method |
| 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 |
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| 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 |
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| 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 |
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| 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 F14Cable UV Resistance test |
| NES 713/NCD 1409 | Determination of Toxicity Index of the products of combustion from small specimens of materials |
| Electrical – Insulating Ma | ts & Insulators Testing |
| 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 lighting |
| IS 15652 | Insulating Mats for Electrical Purposes |
| Electrical – Conductors & | Conducting Material Testing |
| 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 |
| BS EN 50182 | Conductors For Overhead Lines. Round Wire Concentric Lay Stranded Conductors |
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| IS 398-1 | Aluminium conductors for overhead transmission purposes Part-1 Aluminium stranded conductors |
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| 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 |
| Chemical – Metal and Al | loy Testing |
| IS 191 | Copper – Specification Inclusion - Chemical Analysis of Copper for Cu-ETP & Cu-FRHC |
| Metallic and Nonmetallic | Testing |
| 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 |
| Timber – Timber Testing | |
| 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 |
| Material Testing | |
| ASTM D746 | Standard Test Method for Brittleness Temperature of Plastics and Elastomers by Impact |
| ASTM D3349 | Standard Test Method for Absorption Coefficient of Ethylene Polymer Material Pigmented with Carbon Black |
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| QM 333 | Standard for environmental testing of telecommunication equipment Exclusion: Sealing (Gas tightness)/ High Altitude Test Rain Test Dust Test |
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| TEC 87030 | Fibre termination and distribution box (for FTTH applications) Inclusion: Environmental cycle Test Vibration Test |
| TEC 87050 | Fibre distribution management system (outdoor) for optical fibre cables (ribbon & non-ribbon) Inclusion: Thermal Ageing Test Salt spray (Mist) Test Current Surge Test Material for fibre organizer (Annexure III) Vibration Test Environmental cycle Aggressive media test Material for Base & dome (Annexure II) |
| TEC 87080 | Splice Closure for Optical Fibre Cables (Suitable for Non-Ribbon Fibre Splicing) Inclusion: Thermal Ageing Test Salt spray (Mist) Test (Corrosion Test) Material for fibre organizer (Annexure II) Vibration Test Current Surge Test Environmental cycle Aggressive media test The material of thermoplastic/High density polyethylene/polypropylene characteristics and the performance requirements (Annexure 1) |

