National Accreditation Board for Testing and Calibration Laboratories

SCOPE OF ACCREDITATION

Laboratory Name : ZTT INDIA PRIVATE LIMITED, 956, JEEDI DRIVE, SECTOR 28, SRI CITY, SATYAVEDU MANDAL, CHITTOOR, ANDHRA PRADESH, INDIA

Accreditation Standard ISO/IEC 17025:2017

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S.No	Discipline / Group	Materials or Products tested	Component, parameter or characteristic tested / Specific Test Performed / Tests or type of tests performed	Test Method Specification against which tests are performed and / or the techniques / equipment used
Permanent Facility				
1	ELECTRICAL- CABLES & WIRES	Aluminium Alloy Wires	Elongation Test	IEC 60104 Cl No. 10.1:1987 / IEC 62641
2	ELECTRICAL- CABLES & WIRES	Aluminium Alloy Wires	Resistivity Test	IEC 60468, Cl No. 7.0
3	ELECTRICAL- CABLES & WIRES	Aluminium Alloy Wires	Tensile Test	IEC 60104 Cl No. 10.1:1987 / IEC 62641
4	ELECTRICAL- CABLES & WIRES	Aluminium Clad Steel Wire (ACS)	Diameter Test	IEC 61232: 1993 / IEC 63248
5	ELECTRICAL- CABLES & WIRES	Aluminium Clad Steel wires	Resistivity Test	IEC 60468, Cl. No. 7.0
6	ELECTRICAL- CABLES & WIRES	Aluminium Rods	Breaking Load / Tensile Strength Test	ASTM B 557 (M) Cl No:7:2015 / ASTM B233 Cl. 7.4
7	ELECTRICAL- CABLES & WIRES	Aluminium Rods	Elongation Test	ASTM B 557 (M) Cl No:7:2015 / ASTM B233 Cl No:7.4
8	ELECTRICAL- CABLES & WIRES	Aluminium Rods	Resistivity Test	ASTM B193-20, IEC 60468, Cl. No. 7.0
9	ELECTRICAL- CABLES & WIRES	Aluminum Clad Steel Wire (ACS Wire)	Visual Examination Test (ACS Wires)	IEC 61232: 1993 / IEC 63248
10	ELECTRICAL- CABLES & WIRES	Aluminum Clad Steel Wire (ACS Wire)	Tensile Test	IEC 61232: 1993 / IEC 63248
11	ELECTRICAL- CABLES & WIRES	Aluminum Clad Steel Wire (ACS Wire)	Torsion Test	IEC 61232: 1993 / IEC 63248
12	ELECTRICAL- CABLES & WIRES	Aluminum Clad Steel Wire (ACS Wire)	Elongation Test	IEC 61232: 1993 / IEC 63248
13	ELECTRICAL- CABLES & WIRES	Armour Rods / Aluminium Alloy Wires	Tensile Strength Test	IS 2121 Part 1, Cl. 7.4 / IEC 61089 C.l. 6.6.4
14	ELECTRICAL- CABLES & WIRES	Armour Rods / Aluminium Alloy Wires	Visual Examination Test	IEC 60104 :1987 Cl No:4 / IS 2121 Part 1, Cl. 7.2
15	ELECTRICAL- CABLES & WIRES	Armour Rods/Aluminium Alloy Wires	Diameter Verification	IEC 60104 :1987 Cl No:5 / IS 2121 Part 1 Cl. 7.3
16	ELECTRICAL- CABLES & WIRES	Optical Fiber	Dynamic Fatigue Test	IEC 60793-1-33
17	ELECTRICAL- CABLES & WIRES	Optical Fiber	Dynamic Tensile Strength Test	IEC 60793-1-31
18	ELECTRICAL- CABLES & WIRES	Optical Fiber	Stripability Force Test	IEC 60793-1-32

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S.No	Discipline / Group	Materials or Products tested	Component, parameter or characteristic tested / Specific Test Performed / Tests or type of tests performed	Test Method Specification against which tests are performed and / or the techniques / equipment used
19	ELECTRICAL- CABLES & WIRES	Optical Fiber Cable (OFC)	Abrasion resistance of optical fibre cable markings	IEC 60794-1-21-E2 Method E2B
20	ELECTRICAL- CABLES & WIRES	Optical Fiber Cable (OFC)	Abrasion resistance of optical fibre cable sheaths	IEC 60794-1-21-E2 Method E2A
21	ELECTRICAL- CABLES & WIRES	Optical Ground Wire Cable (OPGW)	Ultimate Tensile Strength	IEC 60794-4-10, Cl.8.3.4 :2014 / PGCIL Specification / IEEE 1138,Cl. 6.5.1.4.
22	ELECTRICAL- CABLES & WIRES	Optical Ground Wire Cable (OPGW) / OPPC	DC Resistance Test	PGCIL Specification: Section02, Cl. No. 2.1.2.1 (S No.19) & IEEE 1138, Cl.6.5.1.5
23	ELECTRICAL- CABLES & WIRES	Optical Ground Wire Cable (OPGW) / OPPC	Lay Ratio and Lay Direction	IEC 61089: 1997 / IEEE 1138, Cl. 6.7.1
24	ELECTRICAL- CABLES & WIRES	Optical Ground Wire Cable (OPGW) / Optical Fiber Cable (OFC)	Diameter Test	IEC 61089 CL. 6.6.1.3
25	ELECTRICAL- CABLES & WIRES	Optical Ground Wire Cable (OPGW) / Optical Fiber Cable (OFC)	Seepage of Flooding Compound Test / Drip Test	EIA/TIA-455-81-B / IEEE 1138,Cl. 6.5.3.6: 2021 / IEC 60794-1-21 Method E14
26	ELECTRICAL- CABLES & WIRES	Optical Ground Wire Cable (OPGW) / Optical Fiber Cable (OFC) / OPPC	Water Ingress Test / Water Penetration Test	EIA/TIA-455-82-B / IEC 60794-1-22 Method F5 / IEEE 1138, Cl. 6.5.3.5
27	ELECTRONICS-MISCELLANEOUS PRODUCTS	Optical Fiber	Damp Heat / High Temperature and High Humidity	IEC 60793-1-50
28	ELECTRONICS-MISCELLANEOUS PRODUCTS	Optical Fiber	Dry Heat (Steady State) Test / Accelerated Aging (Temperature)	IEC 60793-1-51
29	ELECTRONICS-MISCELLANEOUS PRODUCTS	Optical Fiber	Humidity Cycling	EIA/TIA 455-73
30	ELECTRONICS-MISCELLANEOUS PRODUCTS	Optical Fiber	Temperature Cycling / Change of Temperature	EIA/TIA 455-3B / IEC 60793-1-52
31	ELECTRONICS-MISCELLANEOUS PRODUCTS	Optical Fiber	Water Immersion Tests	IEC 60793-1-53
32	ELECTRONICS-MISCELLANEOUS PRODUCTS	Optical Fiber / Optical Fiber Cable (OFC)	Attenuation Variation with Wavelength	EIA/TIA 455-78A / IEC 60793-1-40 Method A
33	ELECTRONICS-MISCELLANEOUS PRODUCTS	Optical Fiber / Optical Fiber Cable (OFC)	Attenuation with Bending (Bend Performance)	EIA/TIA 455-62C-2020 / IEC 60793-1-47

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34	ELECTRONICS-MISCELLANEOUS PRODUCTS	Optical Fiber / Optical Ground Wire Cable (OPGW) / Optical Fiber Cable (OFC) / OPPC	Chromatic Dispersion	EIA/TIA-455-175C-2020 / IEC 60793-1-42
35	ELECTRONICS-MISCELLANEOUS PRODUCTS	Optical Fiber / Optical Ground Wire Cable (OPGW) / Optical Fiber Cable (OFC) / OPPC	Point Discontinuities of Attenuation	IEC 60793-1-40 Method C
36	ELECTRONICS-MISCELLANEOUS PRODUCTS	Optical Fiber / Optical Ground Wire Cable (OPGW) / Optical Fiber Cable (OFC) / OPPC	Zero Dispersion Wavelength	IEC 60793-1-42
37	ELECTRONICS-MISCELLANEOUS PRODUCTS	Optical Fiber / Optical Ground Wire Cable (OPGW) / Optical Fiber Cable (OFC) / OPPC	Attenuation Tes At 1310 nm, 1550 nm, 1383 nm & 1625 nm	EIA/TIA-455-78C:2020, IEC 60793-1-40 Method C
38	ELECTRONICS-MISCELLANEOUS PRODUCTS	Optical Fiber / Optical Ground Wire Cable (OPGW) / Optical Fiber Cable (OFC) / OPPC	Clad / Coating Concentricity Error	IEC 60793-1-21
39	ELECTRONICS-MISCELLANEOUS PRODUCTS	Optical Fiber / Optical Ground Wire Cable (OPGW) / Optical Fiber Cable (OFC) / OPPC	Clad Diameter	IEC 60793-1-20, Method B
40	ELECTRONICS-MISCELLANEOUS PRODUCTS	Optical Fiber / Optical Ground Wire Cable (OPGW) / Optical Fiber Cable (OFC) / OPPC	Clad Non-Circularity	EIA/TIA 455-176B:2020, IEC 60793-1-20 Method B
41	ELECTRONICS-MISCELLANEOUS PRODUCTS	Optical Fiber / Optical Ground Wire Cable (OPGW) / Optical Fiber Cable (OFC) / OPPC	Coating Non-Circularity	IEC 60793-1-21
42	ELECTRONICS-MISCELLANEOUS PRODUCTS	Optical Fiber / Optical Ground Wire Cable (OPGW) / Optical Fiber Cable (OFC) / OPPC	Core Clad Concentricity Error	EIA/TIA 455-176B:2020, IEC 60793-1-20, Method B
43	ELECTRONICS-MISCELLANEOUS PRODUCTS	Optical Fiber / Optical Ground Wire Cable (OPGW) / Optical Fiber Cable (OFC) / OPPC	Core Diameter	IEC 60793-1-20, Method B
44	ELECTRONICS-MISCELLANEOUS PRODUCTS	Optical Fiber / Optical Ground Wire Cable (OPGW) / Optical Fiber Cable (OFC) / OPPC	Curl Test	IEC 60793-1-34
45	ELECTRONICS-MISCELLANEOUS PRODUCTS	Optical Fiber / Optical Ground Wire Cable (OPGW) / Optical Fiber Cable (OFC) / OPPC	Cut Off Wavelength	IEC 60793-1-44
46	ELECTRONICS-MISCELLANEOUS PRODUCTS	Optical Fiber / Optical Ground Wire Cable (OPGW) / Optical Fiber Cable (OFC) / OPPC	Diameter over Primary Coated Optical Fiber	IEC 60793-1-21
47	ELECTRONICS-MISCELLANEOUS PRODUCTS	Optical Fiber / Optical Ground Wire Cable (OPGW) / Optical Fiber Cable (OFC) / OPPC	Mode Field Diameter at 1310 nm & at 1550 nm	IEC 60793-1-45 Method B

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48	ELECTRONICS-MISCELLANEOUS PRODUCTS	Optical Fiber / Optical Ground Wire Cable (OPGW) / Optical Fiber Cable (OFC) / OPPC	Optical Length	IEC 60793-1-22
49	ELECTRONICS-MISCELLANEOUS PRODUCTS	Optical Fiber / Optical Ground Wire Cable (OPGW) / Optical Fiber Cable (OFC) / OPPC	Polarization Mode Dispersion	IEC 60793-1-48
50	ELECTRONICS-MISCELLANEOUS PRODUCTS	Optical Fiber / Optical Ground Wire Cable (OPGW) / Optical Fiber Cable (OFC) / OPPC	Zero Dispersion Slope	IEC 60793-1-42
51	ELECTRONICS-MISCELLANEOUS PRODUCTS	Optical Fiber Cable (OFC)	Bend Test	IEC 60794-1-21 Method E11
52	ELECTRONICS-MISCELLANEOUS PRODUCTS	Optical Fiber Cable (OFC)	Cable Aging Test	IEC 60794-1-22-F9
53	ELECTRONICS-MISCELLANEOUS PRODUCTS	Optical Fiber Cable (OFC)	Cable Bend Test at High and Low Temperature	EIA/TIA-455- 37A
54	ELECTRONICS-MISCELLANEOUS PRODUCTS	Optical Fiber Cable (OFC)	Cable Freezing Test	EIA/TIA-455- 98A / IEC 60794-1-22 Method F15
55	ELECTRONICS-MISCELLANEOUS PRODUCTS	Optical Fiber Cable (OFC)	Flexing	IEC 60794-1-21 Method E8
56	ELECTRONICS-MISCELLANEOUS PRODUCTS	Optical Fiber Cable (OFC)	Flexural Rigidity Test	TEC/GR/TX/OFC-022/02/MAR-17
57	ELECTRONICS-MISCELLANEOUS PRODUCTS	Optical Fiber Cable (OFC)	Kink	IEC 60794-1-21 Method E10
58	ELECTRONICS-MISCELLANEOUS PRODUCTS	Optical Fiber Cable (OFC)	Repeated Bend	IEC 60794-1-21 Method E6
59	ELECTRONICS-MISCELLANEOUS PRODUCTS	Optical Fiber Cable (OFC)	Static Bend Test	TEC/GR/TX/OFC-022/02/MAR-17
60	ELECTRONICS-MISCELLANEOUS PRODUCTS	Optical Fiber Cable (OFC)	Temperature Cycle Test	EIA/TIA 455-3B / IEC 60794-1-22 Method F1
61	ELECTRONICS-MISCELLANEOUS PRODUCTS	Optical Fiber Cable (OFC)	Torsion	IEC 60794-1-2 Method E7

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62	ELECTRONICS-MISCELLANEOUS PRODUCTS	Optical Ground Wire Cable (OPGW)	Bend Test	IEEE 1138 Cl. No. 6.5.2.3
63	ELECTRONICS-MISCELLANEOUS PRODUCTS	Optical Ground Wire Cable (OPGW)	MRDT Test (Strain Margin Test)	IEEE 1138, Cl. No. 6.5.1.3
64	ELECTRONICS-MISCELLANEOUS PRODUCTS	Optical Ground Wire Cable (OPGW)	Stress Strain Test	IEEE 1138 Cl No. 6.5.1.2
65	ELECTRONICS-MISCELLANEOUS PRODUCTS	Optical Ground Wire Cable (OPGW)	Temperature Cycle Test	IEEE 1138, Cl No. 6.5.3.7
66	ELECTRONICS-MISCELLANEOUS PRODUCTS	Optical Ground Wire Cable (OPGW)	Twist Test	IEEE 1138, Cl. 6.5.2.4
67	ELECTRONICS-MISCELLANEOUS PRODUCTS	Optical Ground Wire Cable (OPGW) / Optical Fiber Cable (OFC)	Crush Test	EIA/TIA-455-41A / IEEE 1138 Cl. 6.5.2.2 : 2021 / IEC 60794-1-21 Method E3
68	ELECTRONICS-MISCELLANEOUS PRODUCTS	Optical Ground Wire Cable (OPGW) / Optical Fiber Cable (OFC)	Impact	EIA/TIA-455-25D / IEC 60794-1-21 Method-E4
69	ELECTRONICS-MISCELLANEOUS PRODUCTS	Optical Ground Wire Cable (OPGW) / Optical Fiber Cable (OFC)	Sheave Test	IEEE 1138:2021 / IEEE1222:2019 / IEC 60794-1-21-E18B
70	ELECTRONICS-MISCELLANEOUS PRODUCTS	Optical Ground Wire Cable (OPGW) / Optical Fiber Cable (OFC)	Tensile Performance	IEC 60794-1-21 Method E1
71	MECHANICAL-PERFORMANCE/DURABILITY/ SAFETY TEST	Cable Tray	Dimensional Verification	IEC 61284 Cl No.8
72	MECHANICAL-PERFORMANCE/DURABILITY/ SAFETY TEST	Cable Tray	Visual Examination	IEC 61284 Cl No.7
73	MECHANICAL-PERFORMANCE/DURABILITY/ SAFETY TEST	Down Lead / Structural Mounting Clamp	Clamp Fit Test	PGCIL Specification:Section02-Cl. No.2.1.2.3(iv) / ZTTIPL/IM/OYT/FT/ 001
74	MECHANICAL-PERFORMANCE/DURABILITY/ SAFETY TEST	Down Lead / Structural Mounting Clamp	Clamp Strength Test	PGCIL Specification:Section02-Cl. No.2.1.2.3(v) / ZTTIPL/IM/OYT/ST R/001
75	MECHANICAL-PERFORMANCE/DURABILITY/ SAFETY TEST	Splice Enclosure /Joint Boxes and FODP / Down Lead Clamp / Structural Mounting Clamp	Dimensional Verification	ZTTIPL/IM/V&D /001

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76	MECHANICAL-PERFORMANCE/DURABILITY/ SAFETY TEST	Splice Enclosure /Joint Boxes and FODP / Down Lead Clamp / Structural Mounting Clamp	Visual Examination	ZTTIPL/IM/V&D/001
77	MECHANICAL-PERFORMANCE/DURABILITY/ SAFETY TEST	Suspension Clamp & It's Fittings	Clamp Slip Strength Test for Suspension Assembly / Slip Test on Standard Clamps with a specified minimum and maximum slip load	PGCIL Specification:Section02-Cl. No.2.1.2.3(ii) / IEC 61284, Cl. 11.4.2
78	MECHANICAL-PERFORMANCE/DURABILITY/ SAFETY TEST	Suspension Clamp & It's Fittings	Mechanical Strength Test for Suspension assembly / Vertical Damage & Failure Load Test	ZTTIPL/IM/SUS/MST /001 / PGCIL Specification: Section 02-Cl. No.2.1.2.3 (i) /IEC 61284 Cl. 11.4.1
79	MECHANICAL-PERFORMANCE/DURABILITY/ SAFETY TEST	Suspension Clamp & It's Fittings / Tension Clamp & It's fittings	Dimensional Verification	IEC 61284, Cl. 8
80	MECHANICAL-PERFORMANCE/DURABILITY/ SAFETY TEST	Suspension Clamp & It's Fittings / Tension Clamp & It's fittings	Visual Examination	IEC 61284, Cl. 7
81	MECHANICAL-PERFORMANCE/DURABILITY/ SAFETY TEST	Suspension Clamps/ Assembly	Slip Test on Standard Clamps with a specified minimum and maximum slip load	ZTTIPL/IM/SUS/CST/ 001 & IEC 61284 Cl.11.4.2.
82	MECHANICAL-PERFORMANCE/DURABILITY/ SAFETY TEST	Tension Clamps and Dead end Joints	Mechanical Damage and failure Load Test / Mechanical Strength Test for Tension assembly	ZTTIPL/IM/TENS/M ST/001 / PGCIL Specification:Section02-Cl. No.2.1.2.3(iii) / IEC 61284 Cl.11.5.2
83	MECHANICAL-PERFORMANCE/DURABILITY/ SAFETY TEST	Tension Clamps and Dead end Tension Joints	Tensile Test / Slip Strength Test of Tension Clamp	ZTTIPL/IM/TENS/SST /001 / PGCIL Specification:Section02-Cl. No.2.1.2.3 (iii) / IEC 61284 Cl.11.5.1
84	MECHANICAL-PERFORMANCE/DURABILITY/ SAFETY TEST	Vibration Damper	Attachment of Weights to messenger cable/ Mass Pull off test	IEC 61897, Cl. 7.8
85	MECHANICAL-PERFORMANCE/DURABILITY/ SAFETY TEST	Vibration Damper	Damper Performance Test / Dynamic Characteristics Test	PGCIL Specification:Section02-Cl. No.2.1.2.4 (a) /IEC 61897, Cl.7.11
86	MECHANICAL-PERFORMANCE/DURABILITY/ SAFETY TEST	Vibration Damper with Armor Rods	Attachment of clamp to messenger cable test	IEC 61897, Cl.7.9
87	MECHANICAL-PERFORMANCE/DURABILITY/ SAFETY TEST	Vibration Damper with Armor Rods	Clamp Bolt Tightening test	IEC 61897, Cl.7.7

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88	MECHANICAL-PERFORMANCE/DURABILITY/ SAFETY TEST	Vibration Damper with Armor Rods	Clamp Slip Test	IEC 61897, Cl.7.5
89	MECHANICAL-PERFORMANCE/DURABILITY/ SAFETY TEST	Vibration Damper with Armor Rods	Dimensional Verification	IEC 61897, Cl. 7.2
90	MECHANICAL-PERFORMANCE/DURABILITY/ SAFETY TEST	Vibration Damper with Armor Rods	Visual Examination	IEC 61897, Cl.7.1