



National Accreditation Board for Testing and Calibration Laboratories

(A Constituent Board of Quality Council of India)



SCOPE OF ACCREDITATION

Laboratory Name APAR INDUSTRIES LIMITED (UNIT: UNIFLEX CABLES - LAB DIVISION), PLOT NO 158-163, UMBERGAON, VALSAD, GUJARAT , INDIA

Accreditation Standard ISO/IEC 17025:2005

Certificate Number TC-8337 Page No. : 1 / 44

Validity 12/02/2019 to 11/02/2021 Last Amended on -

'In view of the transition deadline for ISO/IEC 17025:2017, the validity of this accreditation certificate will cease on 30.11.2020.'

S.No	Discipline / Group	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing/ Limits of Detection
Permanent Facility					
1	ELECTRICAL-CABLES & WIRES	Aerial Bunched Cables for working voltages up to and including 1100 V	Conductor Resistance	IS 14255:1995 (RA-2015) Cl.No. 10.1.a.3, IS 10810-1984 (Part-5) RA: 2016	0.00 Ohm/km to 50 Ohm/km
2	ELECTRICAL-CABLES & WIRES	Aerial Bunched Cables for working voltages up to and including 1100 V	Tensile strength (for aluminum conductor)	IS 14255:1995 (RA-2015) Cl. No. 10.1.a.1, IS 10810-1984 (Part-2) RA: 2016	0.00 N/mm ² to 200.00 N/mm ²
3	ELECTRICAL-CABLES & WIRES	Aerial Bunched Cables for working voltages up to and including 1100 V	Test for eccentricity and Thickness of insulation and sheath / Overall Dimensions	IS 14255:1995 (RA-2015) Cl.No. 10.1.e IS 10810-1984 (Part-6) RA: 2016	0.00 mm to 150.00 mm
4	ELECTRICAL-CABLES & WIRES	Aerial Bunched Cables for working voltages up to and including 1100 V	Water Absorption Test (Gravimetric)	IS 14255:1995 (RA-2015) Cl.No. 10.1.c.5, IS 10810-1984 (Part-33) RA: 2016	0.00 mg/cm ² to 20.00 mg/cm ²
5	ELECTRICAL-CABLES & WIRES	Aerial Bunched Cables for working voltages up to and including 1100V	Ageing in air oven	IS 14255:1995 (RA-2015) Cl. No.10.1.c.2, IS 10810-1984 (Part-11) RA: 2016	0.00 N/mm ² to 200.00 N/mm ²
6	ELECTRICAL-CABLES & WIRES	Aerial Bunched Cables for working voltages up to and including 1100V	Breaking load on Messenger Conductor	IS 14255:1995 (RA-2015) Cl.No 6.5, IS10810-1984 (Part-2) RA: 2016	0.00 kN to 25 kN
7	ELECTRICAL-CABLES & WIRES	Aerial Bunched Cables for working voltages up to and including 1100V	Carbon Content Test	IS 14255:1995 (RA-2015) Cl.No. 10.1.d.3, IS 10810-1984 (Part-32) RA: 2016	0.00 % to 8.00 %



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8	ELECTRICAL-CABLES & WIRES	Aerial Bunched Cables for working voltages up to and including 1100V	Elongation on Messenger Conductor	IS-14255:1995,(RA-2015) Cl.No. 6.5 , IS10810-1984 (Part-2) RA: 2016	0.00 % to 30.00 %
9	ELECTRICAL-CABLES & WIRES	Aerial Bunched Cables for working voltages up to and including 1100V	High Voltage test at room temperature	IS:14255 :1995 (RA-2015) Cl.No. 10.1.g, IS: 10810 -1984 (Part-45) RA: 2016	0.00 kV to 150.00 kV
10	ELECTRICAL-CABLES & WIRES	Aerial Bunched Cables for working voltages up to and including 1100V	Hot set test	IS 14255:1995 (RA-2015) Cl.No. 10.1.c.3, IS 10810-1984 (Part-30) RA: 2016	0.00 % to 200 %
11	ELECTRICAL-CABLES & WIRES	Aerial Bunched Cables for working voltages up to and including 1100V	Insulation Resistance 500V to 5000V	IS 14255:1995 (RA-2015) Cl.No. 10.1.d.f., IS:10810-1984 (Part-43) RA: 2016	0.00 MOhm-cm to 100000000000 MOhm-cm
12	ELECTRICAL-CABLES & WIRES	Aerial Bunched Cables for working voltages up to and including 1100V	Tensile strength and elongation at break on Insulation and Sheath	IS 14255:1995 (RA-2015) Cl.No. 10.1.c.i &10.1.d.i, IS 10810-1984 (Part-7) RA: 2016	0.00 N/mm ² to 50.00 N/mm ²
13	ELECTRICAL-CABLES & WIRES	Aerial Bunched Cables for working voltages up to and including 1100V,	Shrinkage Test	IS 14255:1995 (RA-2015) Cl.No. 10.1.c.4, IS 10810-1984 (Part-12) RA: 2016	0.00 % to 50.00 %
14	ELECTRICAL-CABLES & WIRES	Aerial Bunched Cables for working voltages upto and including 1100 V	Bending Test	IS 14255:1995 (RA-2015) Cl.No 11.4, IS 10810-1984 (Part-50) RA: 2016	Qualitative(Cable should not break)
15	ELECTRICAL-CABLES & WIRES	Conductors for Insulated Conductors	Conductor Resistance	IEC: 60228: 2004-11, BSEN: 60228: 2005	0.00 Ohm/km to 50 Ohm/km



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16	ELECTRICAL-CABLES & WIRES	Conductors for Insulated Conductors	Tensile strength (for aluminum conductor)	CI.No. 4.2,4.3, BSEN: 60228 : 2005	0.00 N/mm ² to 200.0 N/mm ²
17	ELECTRICAL-CABLES & WIRES	Cross linked polyethylene Insulated thermoplastic sheathed Cables for working voltages Up to 66 kV	Test for eccentricity and Thickness of insulation and sheath / Overall Dimensions	IS : 7098 (Part-3)-1993 (RA-2014) CI No. : 19.1.b.1), 19.1.e & 19.1.g.1, IS 10810-1984 (Part-6) RA: 2016	0.00 mm to 150.00 mm
18	ELECTRICAL-CABLES & WIRES	Cross Linked Polyethylene insulated Thermoplastic sheathed cable for working voltages form 3.3 kV to 33kV	Dielectric Power Factor Test as a function of Voltage	IS:7098 (Part-2)-2011 (RA-2016) CI.No. 19.1.x).a), IS 10810 1984 (Part-48) RA: 2016	0.00 to 0.200
19	ELECTRICAL-CABLES & WIRES	Cross Linked Polyethylene insulated Thermoplastic Sheathed cables for working voltage form 3.3 kV to 33 kV	High Voltage Test (4 hour Test)	IS:7098 (Part-2)-2011 (RA-2016) CI.No. 20.7, IS 10810-1984 (Part-45) RA: 2016	0.00 kV to 100 kV
20	ELECTRICAL-CABLES & WIRES	Cross Linked Polyethylene insulated Thermoplastic Sheathed cables for working voltage form 3.3 kV to 33kV	Heat Cycle Test	IS:7098 (Part-2)-2011 (RA-2016) CI.No. 19.1.xii, IS 10810-1984 (Part-49) RA: 2016	Qualitative
21	ELECTRICAL-CABLES & WIRES	Cross linked polyethylene insulated Thermoplastic sheathed cables for working voltage From 3.3 kV to 33 kV	Wrapping test (for aluminum)	IS:7098 (Part-2)-2011 (RA-2016) CI.No. 19.1.i).c), IS 10810-1984 (Part-3) RA: 2016	Qualitative(No crack or scale should be observed by naked eye)



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22	ELECTRICAL- CABLES & WIRES	Cross Linked Polyethylene insulated Thermoplastic Sheathed cables for working voltage from 3.3 kV to 33kV	Dielectric Power factor Test as a function of Temperature	IS:7098 (Part-2)-2011 (RA-2016) Cl.No. 19.1.x) b), IS 10810-1984 (Part-48) RA : 2016	0.00 to 0.200
23	ELECTRICAL- CABLES & WIRES	Cross Linked Polyethylene Insulated Thermoplastic Sheathed cables for working voltage from 3.3kV to 33kV	Impulse Withstand test	IS: 7098 (Part 2) : 2011 (RA-2016) Cl.19.1.xiii. IS 10810-1984 (Part-47) RA: 2016	0.00 kVp to 800 kVp
24	ELECTRICAL- CABLES & WIRES	Cross linked polyethylene insulated Thermoplastic sheathed cables for working voltage up to & including 1100 V	Annealing test (For copper conductor)	IS : 7098 (Part-1)-1988 (RA-2015) Cl No. : 15.1.a.1, IS 10810-1984 (Part-1) RA: 2016	0.00 % to 40.00 %
25	ELECTRICAL- CABLES & WIRES	Cross linked polyethylene insulated Thermoplastic sheathed cables for working voltage up to & including 1100 V	Wrapping test (for aluminum)	IS:7098 (Part-1)-1988 (RA-2015) Cl.No. 15.1.a.3, IS 10810-1984 (Part-3) RA: 2016	Qualitative(No crack or scale should be observed by naked eye)
26	ELECTRICAL- CABLES & WIRES	Cross linked polyethylene insulated Thermoplastic sheathed cables for working voltage up to 3.3 kV to 33 kV	Annealing test (For copper conductor)	IS : 7098 (Part-2)-2011 (RA-2016) Cl. No. : 19.1.i).a ,IS 10810-1984 (Part-1) RA: 2016	0.00 % to 40.00 %



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27	ELECTRICAL- CABLES & WIRES	Cross linked polyethylene insulated Thermoplastic sheathed cables for working voltage Up to 66 kV	Annealing test (For copper conductor)	IS : 7098 (Part-3)-1993 (RA-2014) Cl. No. : 19.1.i).a , IS 10810-1984 (Part-1) RA: 2016	0.00 % to 40.00 %
28	ELECTRICAL- CABLES & WIRES	Cross Linked Polyethylene Insulated Thermoplastic Sheathed cables for working voltages From 3.3 kV to 33 kV	Hot deformation test /Pressure Test at High Temperature	IS:7098 (Part-2)-2011 (RA-2016) Cl.No. 19.1.vi).d), IS 10810-1984 (Part-15) RA: 2016	0.00 % to 100.00 %
29	ELECTRICAL- CABLES & WIRES	Cross Linked Polyethylene Insulated Thermoplastic Sheathed cables for working voltages 3.3 kV to 11 Kv	Torsion Test on Galvanized steel wire for Armouring	IS:7098 (Part-2)-2011 (RA- 2016) Cl.No. 19.1.ii), IS 10810-1984 (Part-38) RA: 2016	Qualitative(Wire should not break)
30	ELECTRICAL- CABLES & WIRES	Cross Linked Polyethylene Insulated Thermoplastic Sheathed cables for working voltages 3.3 kV to 33 kV	Uniformity of Zinc coating (Dip Test)	IS:7098 (Part-2)-2011 (RA-2016) Cl.No. 19.1.II), IS 10810-1984 (Part-40) RA: 2016	Qualitative(No red deposition should be occurred)
31	ELECTRICAL- CABLES & WIRES	Cross Linked Polyethylene Insulated Thermoplastic Sheathed cables for working voltages From 3.3 kV to 33 kV	Hot Set Test	IS:7098 (Part-2)- 2011 (RA-2016) Cl. No. 19.1.III).d), IS 10810 (Part-30) RA: 2016	0.00 % to 200 %



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32	ELECTRICAL- CABLES & WIRES	Cross Linked Polyethylene Insulated Thermoplastic Sheathed cables for working voltages From 3.3 kV to 33 Kv	Armour Coverage Percentage Test	IS:7098 (Part-2)-2011 (RA-2016) Cl.No. 17.1.1, IS:7098-2011 (Part-2) RA: 2016	0.00 % to 100.00 %
33	ELECTRICAL- CABLES & WIRES	Cross Linked Polyethylene Insulated Thermoplastic Sheathed cables for working voltages from 3.3 kV to 33 kV	Carbon Content Test	IS:7098 (Part 2)-2011 (RA-2016) Cl.No.19.1.VI).h), IS 10810-1984 (Part-32) RA: 2016	0.00 % to 8.00 %
34	ELECTRICAL- CABLES & WIRES	Cross Linked Polyethylene Insulated Thermoplastic sheathed cables for working voltages from 3.3 kV to 33 kV	Dielectric Power Factor Test as a function of temperature	IS:7098 (Part-2)-2011 (RA-2016) Cl.No. 19.1.x).b), IS 10810- 1984 (Part-48) RA: 2016	0.00 to 0.200
35	ELECTRICAL- CABLES & WIRES	Cross Linked Polyethylene Insulated Thermoplastic sheathed cables for working voltages from 3.3 kV to 33 kV	Dielectric Power Factor Test as a function of voltage	IS:7098 (Part-2)-2011 (RA-2016) Cl.No. 19.1.x).a), IS 10810- 1984 (Part-48) RA: 2016	0.00 to 0.200
36	ELECTRICAL- CABLES & WIRES	Cross Linked Polyethylene Insulated Thermoplastic Sheathed cables for working voltages From 3.3 kV to 33 kV	Dimension for armouring material	IS:7098 (Part-2)-2011 (RA-2016) Cl.No. 19.1.2, IS 10810-1984 (Part-36) RA: 2016	0.00 mm to 25.00 mm



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37	ELECTRICAL- CABLES & WIRES	Cross Linked Polyethylene Insulated Thermoplastic Sheathed cables for working voltages From 3.3 kV to 33 kV	Flame Retardant Test on Single cable (Swedish Chimney)	IS:7098 (Part-2)- 2011 (RA-2016) Cl.No. 19.1.3.C1.b) & Cl.No. 19.1.3.C2.b), IS:10810-1988 (Part-61) RA: 2015	0.00 mm to 1000 mm
38	ELECTRICAL- CABLES & WIRES	Cross Linked Polyethylene Insulated Thermoplastic Sheathed cables for working voltages From 3.3 kV to 33 kV	Flammability test	IS:7098 (Part-2)-2011 (RA-2016) Cl.No.19.1.XV, IS 10810-1984 (Part-53) RA: 2016	0.00 mm to 650.00 mm
39	ELECTRICAL- CABLES & WIRES	Cross Linked Polyethylene Insulated Thermoplastic Sheathed cables for working voltages From 3.3 kV to 33 Kv	Mass of Zinc coating	IS:7098 (Part-2)-2011 (RA-2016) Cl.No 19.1.II, IS 10810 (Part-41) RA: 2016	0.00 gm/m ² to 400.00 gm/m ²
40	ELECTRICAL- CABLES & WIRES	Cross Linked Polyethylene Insulated Thermoplastic Sheathed cables for working voltages from 3.3 kV to 33 kV	Oxygen Index Test /Temperature Index Test	IS:7098 (Part 2)-2011 (RA-2016) Cl.No. 19.1.3.C1.a), d) & Cl.No. 19.1.3.C2.a), f), IS 10810-1998 (Part-58) RA: 2014	21.0 % to 40.0 %
41	ELECTRICAL- CABLES & WIRES	Cross Linked Polyethylene Insulated Thermoplastic Sheathed cables for working voltages From 3.3 kV to 33 Kv	Resistivity & Conductance test of Armour (Wires/strips)	IS:7098 (Part- 2)-2011 (RA-2016) Cl.No. 19.1.ii, IS 10810-1984 (Part-42) RA: 2016	0.00 Ohm-cm to 0.000017 Ohm-cm



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42	ELECTRICAL- CABLES & WIRES	Cross Linked Polyethylene Insulated Thermoplastic Sheathed cables for working voltages From 3.3 kV to 33 Kv	Tensile strength &Elongation at break for armouring Material	IS:7098 (Part-2) -2011 (RA-2016) Cl.No.19.1. IS 10810-1984 (Part- 37) RA: 2016	0.00 N/mm ² to 600.00 N/mm ²
43	ELECTRICAL- CABLES & WIRES	Cross Linked Polyethylene Insulated Thermoplastic Sheathed cables for working voltages From 3.3 kV to 33 kV	Tensile strength and elongation at break on Insulation and Sheath	IS:7098 (Part-2) : 2011 (RA- 2016) Cl.No. 19.1.iii).a) & 19.1.VI).a), IS 10810- 1984 (Part-7) RA: 2016	0.00 N/mm ² to 50.00 N/mm ²
44	ELECTRICAL- CABLES & WIRES	Cross Linked Polyethylene Insulated Thermoplastic Sheathed cables for working voltages from 3.3 kV to 33 kV	Test on extruded semiconducting screens-Volume Resistivity	IS:7098 (Part-2):2011 (RA-2016) Cl. No. 19.1.v).b) IS:7098-2011 (Part-2) RA: 2016	0.00 Ohm-m to 5000.00 Ohm-m
45	ELECTRICAL- CABLES & WIRES	Cross Linked Polyethylene Insulated Thermoplastic Sheathed cables for working voltages from 3.3 kV to 33 kV	Thermal ageing test for complete cable/Additional Ageing Test on pieces of Completed Cables	IS:7098 (Part-2)-2011 (RA-2016) Cl. No. 19.1.vii), IS:7098-2011 (Part-2) RA: 2016	0.00 N/mm ² to 200 N/mm ²
46	ELECTRICAL- CABLES & WIRES	Cross Linked Polyethylene Insulated Thermoplastic Sheathed cables for working voltages From 3.3 kV to 33 kV	Winding/ Wrapping Test on Galvanized steel strip for Armouring	IS:7098 (Part-2)-2011 (RA-2016) Cl.No. 19.1.II), IS 10810-1984 (Part-39) RA: 2016	Qualitative(wire should be break)



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47	ELECTRICAL- CABLES & WIRES	Cross Linked Polyethylene Insulated Thermoplastic Sheathed cables for working voltages From 3.3 kV to 33kV	Ageing in air oven	IS:7098 (Part-2)-2011 (RA-2016) Cl.No. 19.1.iii).b) & 19.1.vi).b), IS 10810-1984 (Part-11) RA: 2016	0.00 N/mm ² to 200.00 N/mm ²
48	ELECTRICAL- CABLES & WIRES	Cross Linked Polyethylene Insulated Thermoplastic Sheathed cables for working voltages From 3.3 kV to 33Kv	Cold Bend Test	IS:7098 (Part- 2)-2011 (RA-2016) Cl. No.19.4, IS 10810-1984 (Part-21) RA: 2016	Qualitative(No Crack Should be observed)
49	ELECTRICAL- CABLES & WIRES	Cross Linked Polyethylene Insulated Thermoplastic Sheathed cables for working voltages From 3.3 kV to 33kV	Conductor Resistance	IS:7098 (Part-2)-2011 (RA-2016) Cl.No. 19.1.i).d), IS 10810-1984 (Part-5) RA: 2016	0.00 Ohm/km to 50 Ohm/km
50	ELECTRICAL- CABLES & WIRES	Cross Linked Polyethylene Insulated Thermoplastic Sheathed cables for working voltages From 3.3 kV to 33kV	Halogen Acid Gas Evolution /Corrosive & halogen acid gas	IS:7098 (Part-2)-2011 (RA-2016) Cl. No.19.1.3.C2.e) ,IS 10810 (Part-59) RA: 2015	0.10 % to 40.00 %
51	ELECTRICAL- CABLES & WIRES	Cross Linked Polyethylene Insulated Thermoplastic Sheathed cables for working voltages From 3.3 kV to 33kV	High Voltage test at room temperature	IS:7098 (Part-2)-2011 (RA-2016) Cl.No.19.1.xiv), IS:10810-1984 (Part-45) RA: 2016	0.00 kV to 150.00 kV



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52	ELECTRICAL- CABLES & WIRES	Cross Linked Polyethylene Insulated Thermoplastic Sheathed cables for working voltages From 3.3 kV to 33kV	Insulation Resistance 500V to 5000V	IS:7098 (Part-2)-2011 (RA-2016) Cl. No. 19.1.xi IS:10810-1984 (Part-43) RA: 2016	0.00 MOhm-cm to 100000000000 MOhm-cm
53	ELECTRICAL- CABLES & WIRES	Cross Linked Polyethylene Insulated Thermoplastic Sheathed cables for working voltages From 3.3 kV to 33kV	Shrinkage Test	IS 7098 (Part-2) (RA-2016) Cl.No.19.1.iii).e), 19.1.VI).c), IS 10810-1984 (Part-12) RA: 2016	0.00 % to 50.00 %
54	ELECTRICAL- CABLES & WIRES	Cross Linked Polyethylene Insulated Thermoplastic Sheathed cables for working voltages From 3.3 kV to 33kV	Tensile strength (for aluminum conductor)	IS:7098 (Part-2)- 2011 (RA-2016) Cl.No. 19.1.i).b), IS 10810-1984 (Part-2) RA: 2016	0.00 N/mm ² to 200.00 N/mm ²
55	ELECTRICAL- CABLES & WIRES	Cross Linked Polyethylene Insulated Thermoplastic Sheathed cables for working voltages From 3.3 kV to 33kV	Test for eccentricity and Thickness of insulation and sheath / Overall Dimensions	IS:7098 (Part-2)-2011 (RA-2016) Cl.No. 19.1.iv IS 10810-1984 (Part-6) RA: 2016	0.00 mm to 150.00 mm
56	ELECTRICAL- CABLES & WIRES	Cross Linked Polyethylene Insulated Thermoplastic Sheathed cables for working voltages From 3.3 kV to 33kV	Thermal stability	IS:7098 (Part-2)-2011 (RA-2016) Cl.No. 19.1.vi).g), IS 10810-1988 (Part-60) RA: 2015	0.00 min to 500.00 min



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57	ELECTRICAL- CABLES & WIRES	Cross Linked Polyethylene Insulated Thermoplastic Sheathed cables for working voltages From 3.3 kV to 33kV	Water Absorption Test (Gravimetric)	IS:7098 (Part-2)-2011 (RA-2016) Cl.No. 19.1.iii).f), IS 10810- 1984 (Part-33) RA: 2016	0.00 mg/cm ² to 20.00 mg/cm ²
58	ELECTRICAL- CABLES & WIRES	Cross Linked Polyethylene Insulated Thermoplastic Sheathed cables for working voltages From 3.3 kV to 33kV,	Heat Shock test on Insulation & Sheath	IS:7098 (Part-2)-2011 (RA-2016) Cl.No. 19.1.vi).f) IS 10810- 1984 (Part-14) RA: 2016	Qualitative(No crack should be observed)
59	ELECTRICAL- CABLES & WIRES	Cross Linked Polyethylene insulated Thermoplastic Sheathed cables for working voltages From 3.3 kV to 33kV,	Loss of Mass test	IS:7098 (Part-2)- 2011(RA-2016) Cl. No. 19.1.vi).e, IS 10810 (Part-10) RA: 2016	0.00 mg/cm ² to 3.00 mg/cm ²
60	ELECTRICAL- CABLES & WIRES	Cross Linked Polyethylene Insulated Thermoplastic Sheathed cables for working voltages from 3.3 kV to 33 kV	Flame Retardant Test on Bunched cable	IS:7098 (Part-2)-2011 (RA-2016) Cl.No. 19.1.3.C1.c) & Cl. No. 19.1.3.C2.c), IS 10810- 1993 (Part-62) RA: 2014	0.00 m to 3.50 m
61	ELECTRICAL- CABLES & WIRES	Cross Linked Polyethylene insulated Thermoplastic Sheathed cables for working voltages from 3.3kV to 33kV	Partial Discharge Test	IS:7098 (Part-2)-2011 (RA-2016) Cl.No. 19.1.viii, IS:10810-1984 (Part-46) RA: 2016	1 pC to 1000 pC



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S.No	Discipline / Group	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing/ Limits of Detection
62	ELECTRICAL- CABLES & WIRES	Cross Linked Polyethylene Insulated Thermoplastic Sheathed cables for working voltages From 66 kV to 220 kV	Hot deformation test /Pressure Test at High Temperature	IS : 7098 (Part-3)-1993 (RA-2014) CI.No.19.1.g.v), IS 10810-1984 (Part-15) RA: 2016	0.00 % to 100.00 %
63	ELECTRICAL- CABLES & WIRES	Cross Linked Polyethylene Insulated Thermoplastic Sheathed cables for working voltages from 66 kV to 220 kV	Hot Set test	IS : 7098 (Part-3):1993 (RA-2014) CI.No. 19.1.b.iv), IS 10810- 1984 (Part-30) RA: 2016	0.00 % to 200 %
64	ELECTRICAL- CABLES & WIRES	Cross Linked Polyethylene Insulated Thermoplastic Sheathed cables for working voltages From 66 kV to 220 kV	Thermal stability	IS : 7098 (Part-3)-1993 (RA-2014) CI. No. 19.1.g.vii), IS 10810- 1988 (Part-60) RA: 2015	0.00 min to 500.00 min
65	ELECTRICAL- CABLES & WIRES	Cross Linked Polyethylene Insulated Thermoplastic Sheathed cables for working voltages From 66 kV to 220 kV,	Shrinkage Test	IS : 7098 (Part-3)-1993 (RA- 2014) CI. No. 19.1.b.v) & 19.1.g.vi), IS 10810-1984 (Part- 12) RA: 2016	0.00 % to 50.00 %
66	ELECTRICAL- CABLES & WIRES	Cross Linked Polyethylene Insulated Thermoplastic Sheathed cables for working voltages up to 66 kV	Ageing in air oven	IS : 7098 (Part -3)-1993 (RA-2014) CI.No. 19.1.b.III) & 19.1.g.ii), IS 10810 (Part-11) RA: 2016	0.00 N/mm ² to 200.00 N/mm ²



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S.No	Discipline / Group	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing/ Limits of Detection
67	ELECTRICAL- CABLES & WIRES	Cross Linked Polyethylene Insulated Thermoplastic Sheathed cables for working voltages Up to 66 kV	Conductor Resistance	IS : 7098 (Part-3)-1993 (RA-2014) Cl. No. : 19.1.a).II, IS 10810- 1984 (Part-5) RA: 2016	0.00 Ohm/km to 50 Ohm/km
68	ELECTRICAL- CABLES & WIRES	Cross Linked Polyethylene Insulated Thermoplastic Sheathed cables for working voltages Up to 66 kV	High Voltage test at room temperature	IS : 7098-(Part-3):1993 (RA-2014) Cl.No.19.2.1.j, IS: 10810-1984 (Part-45) RA: 2016	0.00 kV to 150.00 kV
69	ELECTRICAL- CABLES & WIRES	Cross Linked Polyethylene Insulated Thermoplastic Sheathed cables for working voltages Up to 66 kV	Tensile strength and elongation at break on Insulation and Sheath	IS : 7098 (Part-3):1993 (RA-2014) Cl. No.: 19.1.b.II, IS 10810- 1984 (Part-7) RA: 2016	0.00 N/mm ² to 50.00 N/mm ²
70	ELECTRICAL- CABLES & WIRES	Cross Linked Polyethylene Insulated Thermoplastic Sheathed cables for working voltages up to 66 kV,	Loss of Mass test	IS : 7098 (Part-3)-1993 (RA-2014) Cl.No. 19.1.g.iii), IS 10810- 1984 (Part-10) RA: 2016	0.00 mg/cm ² to 3.00 mg/cm ²
71	ELECTRICAL- CABLES & WIRES	Cross Linked Polyethylene Insulated Thermoplastic Sheathed cables for working voltages up to and including 1100 V	Armour Coverage Percentage Test	IS:7098 (Part-1)-1988 (RA-2015) Cl.No. 13.1.2, IS:7098-1988 (Part-1) RA: 2015	0.00 % to 100.00 %



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S.No	Discipline / Group	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing/ Limits of Detection
72	ELECTRICAL- CABLES & WIRES	Cross Linked Polyethylene Insulated Thermoplastic Sheathed cables for working voltages up to and including 1100 V	Conductor Resistance	IS:7098 (Part-1)-1988 (RA-2015) Cl.No. 15.1.a.iv, IS 10810- 1984 (Part-5) RA: 2016	0.00 Ohm/km to 50 Ohm/km
73	ELECTRICAL- CABLES & WIRES	Cross Linked Polyethylene Insulated Thermoplastic Sheathed cables for working voltages up to and including 1100 V	Flame Retardant Test on Single cable (Swedish Chimney)	IS:7098 (Part-1)-1988 (RA-2015) Cl.No. 16.10, 15.1.1.b, IS:10810-1988 (Part- 61) RA: 2015	0.00 mm to 1000 mm
74	ELECTRICAL- CABLES & WIRES	Cross Linked Polyethylene Insulated Thermoplastic Sheathed cables for working voltages up to and including 1100 V	Hot deformation test /Pressure Test at High Temperature	IS:7098 (Part-1)-1988 (RA-2015) Cl. No. 15.1.e.5, IS 10810-1984 (Part-15) RA: 2016	0.00 % to 100.00 %
75	ELECTRICAL- CABLES & WIRES	Cross Linked Polyethylene Insulated Thermoplastic Sheathed cables for working voltages up to and including 1100 V	Hot Set Test	IS:7098 (Part 1)-1988 (RA-2015) Cl.No. 15.1.d.3, IS 10810- 1984 (Part-30) RA: 2016	0.00 % to 200 %
76	ELECTRICAL- CABLES & WIRES	Cross Linked Polyethylene Insulated Thermoplastic Sheathed cables for working voltages up to and including 1100 V	Insulation Resistance 500V to 5000V	IS:7098 (Part-1):1988 (RA-2015) Cl.No. 15.1.f, IS:10810-1984 (Part-43) RA: 2016	0.00 MOhm-cm to 100000000000 MOhm- cm



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S.No	Discipline / Group	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing/ Limits of Detection
77	ELECTRICAL- CABLES & WIRES	Cross Linked Polyethylene Insulated Thermoplastic Sheathed cables for working voltages up to and including 1100 V	Tensile strength &Elongation at break for armouring Material	IS:7098 (Part-1)-1988 (RA-2015) Cl. No.15.1.b.2.i &ii, Amend-03, IS 10810 (Part-37) Reao.15.1.b.2.i &ii, Amend-03, IS 10810 (Part-37) RA: 2016	0.00 N/mm ² to 600.00 N/mm ²
78	ELECTRICAL- CABLES & WIRES	Cross Linked Polyethylene Insulated Thermoplastic Sheathed cables for working voltages up to and including 1100 V	Test for eccentricity andThickness of insulationand sheath / OverallDimensions	IS:7098 (Part-1)-1988 (RA-2015) Cl.No.15.1.c IS 10810-1984 (Part- 6) RA: 2016	0.00 mm to 150 mm
79	ELECTRICAL- CABLES & WIRES	Cross Linked Polyethylene Insulated Thermoplastic Sheathed cables for working voltages up to and including 1100 V	Thermal stability	IS:7098 (Part-1)-1988 (RA-2015) Cl.No. 15.1.e.vii), IS 10810- 1988 (Part-60) RA: 2015	0.00 min to 500.00 min
80	ELECTRICAL- CABLES & WIRES	Cross Linked Polyethylene Insulated Thermoplastic Sheathed cables for working voltages up to and including 1100 V	Uniformity of Zinc coating (Dip Test)	IS:7098 (Part-1)-1988 (RA-2015) Cl. No. 15.1.b.2.5, IS10810 (Part-40) RA: 2016	Qualitative(No red deposition should be occurred)
81	ELECTRICAL- CABLES & WIRES	Cross Linked Polyethylene Insulated Thermoplastic Sheathed cables for working voltages up to and including 1100 V,	High Voltage test at room temperature	IS:7098 (Part 1)-1988 (RA-2015) Cl. No.15.1.g, IS: 10810- 1984 (Part-45) RA: 2016	0.00 kV to 150.00 kV



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S.No	Discipline / Group	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing/ Limits of Detection
82	ELECTRICAL- CABLES & WIRES	Cross Linked Polyethylene Insulated Thermoplastic Sheathed cables for working voltages up to and including 1100 V,	Loss of Mass test	IS:7098 (Part-1)-1988 (RA-2015) Cl.No. 15.1.e.3, IS 10810- 1984 (Part-10) RA: 2016	0.00 mg/cm ² to 3.00 mg/cm ²
83	ELECTRICAL- CABLES & WIRES	Cross Linked Polyethylene Insulated Thermoplastic Sheathed cables for working voltages up to and including 1100V	Cold Bend Test	IS 7098 (Part-1):1988 (RA-2015) Cl.No. 15.4.a, IS 10810-1984 (Part-20) RA: 2016	Qualitative(No crack should be observed)
84	ELECTRICAL- CABLES & WIRES	Cross Linked Polyethylene Insulated Thermoplastic Sheathed cables for working voltages up to and including 1100V	Dimension for armouring material	IS:7098 (Part-1)-1988 (RA-2015) Cl.No. 15.1.b.1, IS 10810- 1984 (Part-36) RA: 2016	0.00 mm to 25.00 mm
85	ELECTRICAL- CABLES & WIRES	Cross Linked Polyethylene Insulated Thermoplastic Sheathed cables for working voltages up to and including 1100V	Flame Retardant Test on Bunched cable	IS:7098 (Part 1)-1988 (RA-2015) Cl. No. 15.1.1.c, IS 10810- 1993 (Part-62) RA: 2014	0.00 m to 3.50 m
86	ELECTRICAL- CABLES & WIRES	Cross Linked Polyethylene Insulated Thermoplastic Sheathed cables for working voltages up to and including 1100V	Flammability test	IS:7098 (Part-1)-1988 (RA-2015) Cl.No. 15.1.h, IS 10810-1984 (Part-53) RA: 2016	0.00 mm to 650.00 mm



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S.No	Discipline / Group	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing/ Limits of Detection
87	ELECTRICAL- CABLES & WIRES	Cross Linked Polyethylene Insulated Thermoplastic Sheathed cables for working voltages up to and including 1100V	Mass of Zinc coating	IS:7098 (Part-1):1988 (RA-2015) Cl. No. 15.1.b.2.6, IS10810 (Part-41) RA: 2016	0.00 gm/m ² to 400.00 gm/m ²
88	ELECTRICAL- CABLES & WIRES	Cross Linked Polyethylene Insulated Thermoplastic Sheathed cables for working voltages up to and including 1100V	Resistivity &Conductance test of Armour (Wires/strips)	IS:7098 (Part-1)-1988 (RA-2015) Cl.No. 15.1.b.2.7, IS 10810- 1984 (Part-42) RA: 2016	0.00 Ohm-cm to 0.000017 Ohm-cm
89	ELECTRICAL- CABLES & WIRES	Cross Linked Polyethylene Insulated Thermoplastic Sheathed cables for working voltages up to and including 1100V	Shrinkage Test	IS 7098 (Part-1) :1988 (RA-2015) Cl.No 15.1.d.iv, IS 10810- 1984 (Part-12) RA: 2016	0.00 % to 50.00 %
90	ELECTRICAL- CABLES & WIRES	Cross Linked Polyethylene Insulated Thermoplastic Sheathed cables for working voltages up to and including 1100V	Tensile strength and elongation at break on Insulation and Sheath	IS:7098 (Part-1)-1988 (RA-2015) Cl.No. 15.1.d.1, IS :10810- 1984 (Part-7) RA: 2016	0.00 N/mm ² to 50.00 N/mm ²
91	ELECTRICAL- CABLES & WIRES	Cross Linked Polyethylene Insulated Thermoplastic Sheathed cables for working voltages up to and including 1100V	Torsion Test on Galvanized steel wire for Armouring	IS:7098 (Part-1)-1988 (RA-2015) Cl.No. 15.1.b.2.3, IS 10810- 1984 (Part-38) RA: 2016	Qualitative(Wire should not break)



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S.No	Discipline / Group	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing/ Limits of Detection
92	ELECTRICAL- CABLES & WIRES	Cross Linked Polyethylene Insulated Thermoplastic Sheathed cables for working voltages up to and including 1100V	Winding/ Wrapping Test on Galvanized steel strip for Armouring	IS:7098 (Part-1)-1988 (RA-2015) CI.No.15.1.b.2.iv, (Amend.-3), IS 10810- 1984 (Part-39) RA: 2016	Qualitative(Wire should not break)
93	ELECTRICAL- CABLES & WIRES	Cross Linked Polyethylene Insulated Thermoplastic Sheathed cables for working voltages up to and including 1100V,	Ageing in air oven	IS:7098 (Part-1)-1988 (RA-2015) CI.No. 15.1.d.2, IS 10810- 1984 (Part-11) RA: 2016	0.00 N/mm ² to 200.00 N/mm ²
94	ELECTRICAL- CABLES & WIRES	Cross Linked Polyethylene Insulated Thermoplastic Sheathed cables for working voltages up to and including 1100V,	Heat Shock test on Insulation & Sheath	IS:7098 (Part-1)-1988 (RA-2015) CI.No. 15.1.e.6, IS 10810- 1984 (Part-14) RA: 2016	Qualitative(No crack should be observed)
95	ELECTRICAL- CABLES & WIRES	Cross Linked Polyethylene Insulated Thermoplastic Sheathed cables for working voltages upto and including 1100V	Cold Impact test	IS:7098 (Part-1)-1988 (RA-2015) CI.No. 15.4.b, IS 10810-1984 (Part-21) RA: 2016	Qualitative(No crack should be observed)
96	ELECTRICAL- CABLES & WIRES	Cross Linked Polyethylene Insulated Thermoplastic Sheathed cables for working voltages upto and including 1100V	Halogen Acid Gas Evolution /Corrosive & halogen acid gas	IS:7098 (Part-1)-1988 (RA-2015) CI.No. 15.1.1.f, IS 10810-1988 (Part-59) RA: 2015	0.10 % to 40.00 %



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S.No	Discipline / Group	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing/ Limits of Detection
97	ELECTRICAL- CABLES & WIRES	Cross Linked Polyethylene Insulated Thermoplastic Sheathed cables for working voltages upto and including 1100V	Oxygen Index Test /Temperature Index Test	IS:7098 (Part-1)-1988 (RA-2015) Cl.No. 15.1.1.C1.a&d, 15.1.1.C2.a&g, Amend.-01, IS 10810- 1998 (Part-58) RA: 2014	0.00 % to 40.00 %
98	ELECTRICAL- CABLES & WIRES	Cross Linked Polyethylene Insulated Thermoplastic Sheathed cables for working voltages upto From 66 kV to 220 kV,	Heat Shock test on Insulation & Sheath	IS :7098 (Part-3)-1993 (RA-2014) Cl.No. 19.1.g.iv), IS 10810- 1984 (Part-14) RA: 2016	Qualitative(No crack should be observed)
99	ELECTRICAL- CABLES & WIRES	Cross Linked PolyethyleneInsulated Thermoplastic Sheathed cables for working voltages upto and including 1100V	Water Absorption Test(Gravimetric)	IS:7098 (Part-1)-1988 (RA-2015) Cl. No.15.1.d.v, IS 10810- 1984 (Part-33) RA: 2016	0.00 mg/cm ² to 20 mg/cm ²
100	ELECTRICAL- CABLES & WIRES	Low Carbon Galvanized Steel Wires, Formed Wires and Tapes for Armouring of Cables	Dimension for armouring material	IS 3975:1999 (RA- 2009) Cl.No.7, IS 10810-1984 (Part-36) RA: 2016	0.00 mm to 25.00 mm
101	ELECTRICAL- CABLES & WIRES	Low Carbon Galvanized Steel Wires, Formed Wires and Tapes for Armouring of Cables	Mass of Zinc Coating	IS 3975:1999 (RA- 2009) Cl. No. 9.1, IS 10810-1984 (Part-41) RA: 2016	0.00 gm/m ² to 400.00 gm/m ²



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S.No	Discipline / Group	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing/ Limits of Detection
102	ELECTRICAL-CABLES & WIRES	Low Carbon Galvanized Steel Wires, Formed Wires and Tapes for Armouring of Cables	Resistivity & Conductance test of Armour (Wires/strips)	IS 3975:1999 (RA-2009) Cl.No. 8.4., IS 10810-1984 (Part-42) RA: 2016	0.00 Ohm-cm to 0.000017 Ohm-cm
103	ELECTRICAL-CABLES & WIRES	Low Carbon Galvanized Steel Wires, Formed Wires and Tapes for Armouring of Cables	Tensile strength & Elongation at break for armouring Material	IS 3975:1999 (RA-2009) Cl. 8.1, IS 10810-1984 (Part-37) RA: 2016	0.00 N/mm ² to 600.00 N/mm ²
104	ELECTRICAL-CABLES & WIRES	Low Carbon Galvanized Steel Wires, Formed Wires and Tapes for Armouring of Cables	Torsion Test on Galvanized steel wire for Armouring	IS 3975: 1999 (RA-2009) Cl.No. 8.2, IS 10810-1984 (Part-38) RA: 2016	Qualitative(Wire should not break)
105	ELECTRICAL-CABLES & WIRES	Low Carbon Galvanized Steel Wires, Formed Wires and Tapes for Armouring of Cables	Uniformity of Zinc coating (Dip Test)	IS 3975:1999 (RA-2009) Cl.No. 9..2, IS 10810-1984 (Part-40) RA: 2016	Qualitative(No red deposition should be occurred)
106	ELECTRICAL-CABLES & WIRES	Low Carbon Galvanized Steel Wires, Formed Wires and Tapes for Armouring of Cables	Winding/ Wrapping Test on Galvanized steel strip for Armouring	IS 3975:1999 (RA-2009) Cl.No. 8.3, IS10810-1984 (Part-39) RA: 2016	Qualitative(Wire should not break)



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S.No	Discipline / Group	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing/ Limits of Detection
107	ELECTRICAL- CABLES & WIRES	Polyvinyl chloride insulated unsheathed and sheathed cables/cords with rigid and flexible conductor for rated voltage up to & including 1100 V	Annealing test (For copper conductor)	IS: 694-2010 (RA: 2015), CI.No.10.3.a.1, IS:10810-1984 (Part-1), RA: 2016	0.00 % to 40.00 %
108	ELECTRICAL- CABLES & WIRES	Polyvinyl Chloride Insulated unsheathed and sheathed cables/cords with rigid and flexible conductor for rated voltages up to and including 1100 V	Oxygen Index Test /Temperature Index Test	IS 694:2010 (RA-2015) CI.No. 10.3.c.11,12, IS:10810-1998 (Part-58) RA: 2014	0.00 % to 40.00 %
109	ELECTRICAL- CABLES & WIRES	Polyvinyl Chloride Insulated unsheathed and sheathed cables/cords with rigid and flexible conductor for rated voltages up to and including 1100 V	Thermal stability at 200°C	IS 694:2010(RA 2015) Table 1, SI.No.iii), c), 7) IS 10810-1988 (Part-60) RA: 2016	0.00 min to 500.00 min
110	ELECTRICAL- CABLES & WIRES	Polyvinyl Chloride Insulated unsheathed and sheathed cables/cords with rigid and flexible conductor for rated voltages up to and including 1100 V,	Loss of Mass test	IS 694:2010 (RA-2015) CI. No. 10.iii.c.2, IS 10810-1984 (Part-10) RA: 2016	0.00 mg/cm ² to 3.00 mg/cm ²



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111	ELECTRICAL- CABLES & WIRES	Polyvinyl Chloride Insulated unsheathed and sheathed cables/cords with rigid and flexible conductor for rated voltages up to and including 1100 V,	Test for eccentricity and Thickness of insulation and sheath / Overall Dimensions	IS 694:2010 (RA-2015) Cl. No. 10.3.b, IS 10810-1984 (Part-6) RA: 2016	0.00 mm to 150.00 mm
112	ELECTRICAL- CABLES & WIRES	Polyvinyl Chloride Insulated unsheathed and sheathed cables/cords with rigid and flexible conductor for rated voltages up to and including 1100V	Cold Bend Test	IS 694:2010 (RA-2015) Cl.No. 10.iii.c.8, IS:10810-1984 (Part-20) RA: 2016	Qualitative(No crack should be observed)
113	ELECTRICAL- CABLES & WIRES	Polyvinyl Chloride Insulated unsheathed and sheathed cables/cords with rigid and flexible conductor for rated voltages up to and including 1100V	Cold Impact Tset	IS 694:2010 (RA-2015) Cl.No. 10.3.c.9, IS 10810-1984 (Part-21) RA: 2016	Qualitative(No Crack Should Be Observed)
114	ELECTRICAL- CABLES & WIRES	Polyvinyl Chloride Insulated unsheathed and sheathed cables/cords with rigid and flexible conductor for rated voltages up to and including 1100V	Conductor Resistance	IS 694:2010 (RA-2015) Cl.No. 10.3.a.4, IS 10810-1984 (Part-5) RA: 2016	0.00 Ohm/km to 50 Ohm/km



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S.No	Discipline / Group	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing/ Limits of Detection
115	ELECTRICAL- CABLES & WIRES	Polyvinyl Chloride Insulated unsheathed and sheathed cables/cords with rigid and flexible conductor for rated voltages up to and including 1100V	Flammability test	IS 694:2010 (RA-2015) CI.No.10.3.e.5, IS 10810-1984 (Part-53) RA: 2016	0.00 mm to 650 mm
116	ELECTRICAL- CABLES & WIRES	Polyvinyl Chloride Insulated unsheathed and sheathed cables/cords with rigid and flexible conductor for rated voltages up to and including 1100V	Halogen Acid Gas Evolution /Corrosive & halogen acid gas	IS 694:2010 (RA-2015) CI.No. 10.3.c.13, IS 10810-1988 (Part-59) RA: 2015	0.10 % to 40.00 %
117	ELECTRICAL- CABLES & WIRES	Polyvinyl Chloride Insulated unsheathed and sheathed cables/cords with rigid and flexible conductor for rated voltages up to and including 1100V	High Voltage test (Water immersion)	IS 694:2010 (RA-2015) CI.No.10.1, IS:10810-1984 (Part-45) RA: 2016	0.00 kV to 30.00 kV
118	ELECTRICAL- CABLES & WIRES	Polyvinyl Chloride Insulated unsheathed and sheathed cables/cords with rigid and flexible conductor for rated voltages up to and including 1100V	High Voltage test at room temperature	IS 694:2010 (RA-2015) CI.No. 10.2., IS:10810-1984 (Part-45) RA: 2016	0.00 kV to 150.00 kV



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S.No	Discipline / Group	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing/ Limits of Detection
119	ELECTRICAL- CABLES & WIRES	Polyvinyl Chloride Insulated unsheathed and sheathed cables/cords with rigid and flexible conductor for rated voltages up to and including 1100V	Insulation Resistance 500V to 5000V	IS 694:2010 (RA-2015) Cl.No. 10.3.e.3, IS:10810-1984 (Part-43) RA: 2016	0.00 MOhm-cm to 100000000000 MOhm-cm
120	ELECTRICAL- CABLES & WIRES	Polyvinyl Chloride Insulated unsheathed and sheathed cables/cords with rigid and flexible conductor for rated voltages up to and including 1100V	Tensile strength and elongation at break on Insulation and Sheath	IS 694:2010 (RA-2015) Cl.No. 10.3.c.1, IS 10810-1984 (Part-7) RA: 2016	0.00 N/mm ² to 50.00 N/mm ²
121	ELECTRICAL- CABLES & WIRES	Polyvinyl Chloride Insulated unsheathed and sheathed cables/cords with rigid and flexible conductor for rated voltages up to and including 1100V	Tensile test (for aluminum)	IS 694:2010 (RA-2015) Cl.No. Table 1, Sr.No.iii, a), 2), IS 10810-1984 (Part-2) RA: 2016	0.00 N/mm ² to 200.00 N/mm ²
122	ELECTRICAL- CABLES & WIRES	Polyvinyl Chloride Insulated unsheathed and sheathed cables/cords with rigid and flexible conductor for rated voltages up to and including 1100V	Wrapping test (for aluminum)	IS 694:2010 (RA-2015) Table1, Sl.No. iii), a), 3) IS 10810-1984 (Part- 3) RA: 2016	Qualitative



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S.No	Discipline / Group	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing/ Limits of Detection
123	ELECTRICAL- CABLES & WIRES	Polyvinyl Chloride Insulated unsheathed and sheathed cables/cords with rigid and flexible conductor for rated voltages up to and including 1100V,	Ageing in air oven	IS 694:2010 (RA-2015) CI.No. 10.3.c.3, IS 10810-1984 (Part-11) RA: 2016	0.00 N/mm ² to 200.00 N/mm ²
124	ELECTRICAL- CABLES & WIRES	Polyvinyl Chloride Insulated unsheathed and sheathed cables/cords with rigid and flexible conductor for rated voltages up to and including 1100V,	Heat Shock test on Insulation & Sheath	IS 694:2010 (RA-2015) CI. No. Table 1, SI.No.iii.c.5 & iii.d.5) , IS 10810-1984 (Part-14) RA: 2015	Qualitative(No crack should be observed)
125	ELECTRICAL- CABLES & WIRES	Polyvinyl Chloride Insulated unsheathed and sheathed cables/cords with rigid and flexible conductor for rated voltages up to and including 1100V,	Hot deformation test /Pressure Test at High Temperature	IS 694:2010 (RA-2015) CI.No. 10.3.c.6, IS 10810-1984 (Part-15) RA: 2016	0.00 % to 100.00 %
126	ELECTRICAL- CABLES & WIRES	Polyvinyl Chloride Insulated unsheathed and sheathed cables/cords with rigid and flexible conductor for rated voltages up to and including 1100V,	Shrinkage Test	IS 694:2010 (RA-2015) CI.No. 10.3.c.4, IS 10810-1984 (Part-12) RA: 2016	0.00 % to 50.00 %



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S.No	Discipline / Group	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing/ Limits of Detection
127	ELECTRICAL-CABLES & WIRES	Power cable with extruded insulation and their accessories for rated voltage form 6kV to 30kV	Heat Cycle Test	IEC 60502-2:2014, Cl.No. 18.2.7, IEC 60502-2: 2014	Qualitative
128	ELECTRICAL-CABLES & WIRES	Power cable with Extruded insulation and their accessories for rated voltages from 6kV to 30kV	Water Absorption Test (Gravimetric)	IEC 60502-2:2014 Cl. No. 19.9, IEC / BS EN 60811 (Part-402): 2012	0.00 mg/cm ² to 20.00 mg/cm ²
129	ELECTRICAL-CABLES & WIRES	Power Cables with extruded insulation and their accessories	Conductor Resistance	IEC 60502-1 Edition 2.1 2009-11 Cl. No. 15.2, IEC:60228: 2004	0.00 Ohm/km to 50 Ohm/km
130	ELECTRICAL-CABLES & WIRES	Power Cables with extruded insulation and their accessories for rated voltages 6kV to 30kV	Flammability test	IEC 60502-2:2014 Cl.No.19.16, IEC 60332 (Part-1 & 2): 2004	0.00 mm to 650.00 mm
131	ELECTRICAL-CABLES & WIRES	Power Cables with extruded insulation and their accessories for rated voltages from 6kV to 30kV,	Loss of Mass test	IEC 60502-2:2014 Cl.No.19.8, IEC/BS EN:60811 (Part-409): 2012	0.00 mg/cm ² to 3.00 mg/cm ²
132	ELECTRICAL-CABLES & WIRES	Power Cables with extruded insulation and their accessories for rated voltage from 6kV to 30kV	High Voltage test (4 hour Test)	IEC 60502-1 Edition 2.1 2009-11 Cl.No 17.3, IS:10810-1984 (Part-45) RA: 2016	0.00 kV to 100 kV



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S.No	Discipline / Group	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing/ Limits of Detection
133	ELECTRICAL-CABLES & WIRES	Power Cables with extruded insulation and their accessories for rated voltages from 6kV to 30kV	Hot set test	IEC 60502-2: 2014 CI.No.19.13, IEC/BS EN 60811 (Part-507): 2012	0.00 % to 200 %
134	ELECTRICAL-CABLES & WIRES	Power Cables with extruded insulation and their accessories for rated voltages from 6kV to 30kV	Impulse withstand Test	IEC 60502-2:2014 CI No. 18.2.8, IEC 60502-2:: 2014	0.00 kVp to 800 kVp
135	ELECTRICAL-CABLES & WIRES	Power Cables with extruded insulation and their accessories for rated voltages 6kV to 30kV	Cold Bend Test	IEC 60502-2:2014 CI.No. 19.10, IEC/BSEN 60811 (Part-504): 2012	Qualitative(No crack should be observed)
136	ELECTRICAL-CABLES & WIRES	Power Cables with extruded insulation and their accessories for rated voltages 6kV to 30kV	Cold Impact Test	IEC 60502-2:2014 CI.No. 19.10, IEC/BS EN 60811 (Part-506): 2012	Qualitative(No Crack should be observed)
137	ELECTRICAL-CABLES & WIRES	Power Cables with extruded insulation and their accessories for rated voltages 6kV to 30kV	Elongation Test at low Temperature	IEC 60502-2:2014 CI.No. 18.8,19.10, IEC/BS EN 60811 (Part-505): 2012	0.00 % to 600.00 %
138	ELECTRICAL-CABLES & WIRES	Power Cables with extruded insulation and their accessories for rated voltages 6kV to 30kV	Thermal stability at 200°C	IEC 60502-2: 2014 CI.No. 19.19, IEC/BS EN:60811 (Part-405): 2012	0.00 min to 500.00 min



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S.No	Discipline / Group	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing/ Limits of Detection
139	ELECTRICAL-CABLES & WIRES	Power Cables with extruded insulation and their accessories for rated voltages for 1kV to 3kV	Impulse Withstand test	IEC 60502-1 Edition 2.1 2009-11 CI.No.17.4, IEC 60502-1: 2009	0.00 kVp to 800 kVp
140	ELECTRICAL-CABLES & WIRES	Power Cables with extruded insulation and their accessories for rated voltages from 1 kV to 3 kV	Ageing in air oven	IEC 60502-1 Edition 2.1 2009-11, CI.No. 18.4, BS EN:60811 (Part-401): 2012	0.00 N/mm ² to 200.00 N/mm ²
141	ELECTRICAL-CABLES & WIRES	Power Cables with extruded insulation and their accessories for rated voltages from 1kV to 3 kV	Carbon Content Test	IEC 60502-1 Edition 2.1 2009-11, CI.No. 18.15, IEC/BS EN 60811 (Part-605): 2012	0.00 % to 8.00 %
142	ELECTRICAL-CABLES & WIRES	Power Cables with extruded insulation and their accessories for rated voltages from 1kV to 3 kV	Cold Bend Test	IEC 60502-1 Edition 2.1 2009-11 CI.No. 18.8, IEC/BSEN 60811 (Part-504): 2012	Qualitative(No Crack should be observed)
143	ELECTRICAL-CABLES & WIRES	Power Cables with extruded insulation and their accessories for rated voltages from 1kV to 3 kV	Cold Impact Test	IEC 60502-1 Edition 2.1 2009-11, CI. No.18.8, IEC/BS EN 60811 (Part-506): 2012	Qualitative(No Crack Should be observed)
144	ELECTRICAL-CABLES & WIRES	Power Cables with extruded insulation and their accessories for rated voltages from 1kV to 3 kV	Elongation Test at low Temperature	IEC 60502-1 Edition 2.12009-11, IEC/BS EN 60811 (Part-505): 2012	0.00 % to 600.00 %



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S.No	Discipline / Group	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing/ Limits of Detection
145	ELECTRICAL-CABLES & WIRES	Power Cables with extruded insulation and their accessories for rated voltages from 1kV to 3 kV	Flame Retardant Test on Bunched cable	IEC 60502-1 Edition 2.1 2009-11, Cl. No.18.14, IEC 60332-3 (Part 22, 23, 24): 2000	0.00 m to 3.50 m
146	ELECTRICAL-CABLES & WIRES	Power Cables with extruded insulation and their accessories for rated voltages from 1kV to 3 kV	Flammability test	IEC 60502-1 Edition 2.1 2009-11, Cl.No. 18.14, IEC 60332 (Part-1 & 2): 2004	0.00 mm to 650.00 mm
147	ELECTRICAL-CABLES & WIRES	Power Cables with extruded insulation and their accessories for rated voltages from 1kV to 3 kV	Halogen Acid Gas Evolution /Corrosive & halogen acid gas	IEC 60502-1 Edition 2.12009-11, IEC 60754 (Part-1): 2011	0.10 % to 40.00 %
148	ELECTRICAL-CABLES & WIRES	Power Cables with extruded insulation and their accessories for rated voltages from 1kV to 3 kV	High Voltage test at room temperature	IEC 60502-1 Edition 2.1 2009-11 Cl.No. 15.3, IEC/BS EN 60811 Part- (301 & 302): 2012	0.00 kV to 150.00 kV
149	ELECTRICAL-CABLES & WIRES	Power Cables with extruded insulation and their accessories for rated voltages from 1kV to 3 kV	Hot deformation test /Pressure Test at High Temperature	IEC 60502-1 Edition 2.1 2009-11, Cl.No. 18.7, IEC / BS EN:60811 (Part-508): 2012	0.00 % to 100.00 %
150	ELECTRICAL-CABLES & WIRES	Power Cables with extruded insulation and their accessories for rated voltages from 1kV to 3 kV	Hot set test	IEC 60502-1 Edition 2.1 2009-11 Cl. No.18.11, IEC/BS EN 60811 (Part-507): 2012	0.00 % to 200 %



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S.No	Discipline / Group	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing/ Limits of Detection
151	ELECTRICAL-CABLES & WIRES	Power Cables with extruded insulation and their accessories for rated voltages from 1kV to 3 kV	Insulation Resistance 500V to 5000V	IEC 60502-1 Edition 2.1 2009-11 Cl. No. 17.1.2, IEC / BS EN 60811 (Part-301 & 302) : 2012	0.00 MOhm-cm to 100000000000 MOhm-cm
152	ELECTRICAL-CABLES & WIRES	Power Cables with extruded insulation and their accessories for rated voltages from 1kV to 3 kV	Tensile strength and elongation at break on Insulation and Sheath	IEC 60502-1 Edition 2.1 2009-11, Cl. No. 18.3, IEC/BS EN:60811 (Part-501): 2012	0.00 N/mm ² to 50.00 N/mm ²
153	ELECTRICAL-CABLES & WIRES	Power Cables with extruded insulation and their accessories for rated voltages from 1kV to 3 kV	Test for and Thickness of insulation and sheath / Overall Dimensions	IEC 60502-1 Edition 2.1 2009-11, Cl. No. 18.1, IEC/ BS EN 60811 (Part-201,202 & 203): 2012	0.00 mm to 150.00 mm
154	ELECTRICAL-CABLES & WIRES	Power Cables with extruded insulation and their accessories for rated voltages from 1kV to 3 kV	Thermal ageing test for complete cable/Additional Ageing Test on pieces of Completed Cables	IEC 60502-1 Edition 2.1 2009-11 Cl. No. 18.5, IEC 60502-1: 2009	0.00 N/mm ² to 200.00 N/mm ²
155	ELECTRICAL-CABLES & WIRES	Power Cables with extruded insulation and their accessories for rated voltages from 1kV to 3 kV	Thermal stability	IEC 60502-1 Edition 2.1 2009-11, IEC/BS EN:60811 (Part-405): 2012	0.00 min to 500.00 min
156	ELECTRICAL-CABLES & WIRES	Power Cables with extruded insulation and their accessories for rated voltages from 1kV to 3 kV	Water Absorption Test (Gravimetric)	IEC 60502-1 Edition 2.12009-11, Cl. No. 18.7, IEC / BS EN 60811 (Part-402): 2012	0.00 mg/cm ² to 20.00 mg/cm ²



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S.No	Discipline / Group	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing/ Limits of Detection
157	ELECTRICAL-CABLES & WIRES	Power Cables with extruded insulation and their accessories for rated voltages from 1kV to 3 kV,	Heat Shock test on Insulation & Sheath	IEC 60502-1 Edition 2.1 2009-11 Cl. No.18.9, IEC/BS EN:60811 (Part-509): 2012	Qualitative(No crack should be observed)
158	ELECTRICAL-CABLES & WIRES	Power Cables with extruded insulation and their accessories for rated voltages from 1kV to 3 kV,	Loss of Mass test	IEC 60502-1 Edition 2.1 2009-11, Cl. No. 18.6, IEC/ BS EN:60811 (Part-409): 2012	0.00 mg/cm ² to 3.00 mg/cm ²
159	ELECTRICAL-CABLES & WIRES	Power Cables with extruded insulation and their accessories for rated voltages from 1kV to 3 kV,	Shrinkage Test	IEC 60502-1 Edition 2.1 2009-11, IEC/BS EN:60811 (Part-502 & 503): 2012	0.00 % to 50.00 %
160	ELECTRICAL-CABLES & WIRES	Power Cables with extruded insulation and their accessories for rated voltages from 6 kV to 30 kV	Carbon Content Test	IEC 60502-2:2014 Cl.No. 19.17, IEC/BS EN 60811 (Part-605): 2012	0.00 % to 8.00 %
161	ELECTRICAL-CABLES & WIRES	Power Cables with extruded insulation and their accessories for rated voltages from 6 kV to 30 kV	Dielectric Power Factor test as a function of temperature	IEC-60502-2:2014 Cl.No. 18.2.6, IEC 60502-2: 2014	0.00 to 0.2
162	ELECTRICAL-CABLES & WIRES	Power Cables with extruded insulation and their accessories for rated voltages from 6 kV to 30 kV	Test Method for Measurement of Insulation Thickness	IEC 60502-2:2014 Cl.No. 17.5, IEC/ BS EN 60811 (Part-201): 2012	0.00 mm to 150.00 mm



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163	ELECTRICAL-CABLES & WIRES	Power Cables with extruded insulation and their accessories for rated voltages from 6kV to 30kV	High Voltage test (4 Hour test)	IEC 60502-2:2014, Cl No. 16.4, 17.9, 18.2.9, 18.3.4 , IS 10810 (Part-45) RA: 2016	0.00 kV to 100 kV
164	ELECTRICAL-CABLES & WIRES	Power Cables with extruded insulation and their accessories for rated voltages from 6kV to 30kV	Ageing in air oven	IEC 60502-2:2014 Cl. No. 19.5, BS EN:60811 (Part-401): 2012	0.00 N/mm ² to 200.00 N/mm ²
165	ELECTRICAL-CABLES & WIRES	Power Cables with Extruded insulation and their accessories for rated voltages from 6kV to 30kV	Conductor Resistance	IEC 60502-2:2014 Cl.No. 16.2, IEC 60228: 2004	0.00 Ohm/km to 50 Ohm/km
166	ELECTRICAL-CABLES & WIRES	Power Cables with extruded insulation and their accessories for rated voltages from 6kV to 30kV	High Voltage test at room temperature	IEC 60502-2:2014 Cl. No. 18.2.9, IEC/BS EN:60811 (Part-301 & 302): 2012	0.00 kV to 150.00 kV
167	ELECTRICAL-CABLES & WIRES	Power cables with extruded insulation and their accessories for rated voltages from 6kV to 30kV	High Voltage test at room temperature	IEC 60502-2:2014, Cl. No.18.2.9, IEC/BS EN:60811 (Part-301 & 302) : 2012	0.00 kV to 150 kV
168	ELECTRICAL-CABLES & WIRES	Power Cables with extruded insulation and their accessories for rated voltages from 6kV to 30kV	Hot deformation test /Pressure Test at High Temperature	IEC 60502-2:2014 Cl.No. 19.9, IEC / BS EN:60811 (Part-508): 2012	0.00 % to 100.00 %



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S.No	Discipline / Group	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing/ Limits of Detection
169	ELECTRICAL-CABLES & WIRES	Power Cables with extruded insulation and their accessories for rated voltages from 6kV to 30kV	Insulation Resistance 500V to 5000V	IEC 60502-2:2014 CI.No. 20.3, IEC / BS EN 60811 Part-(301 & 302) : 2012	0.00 MOhm-cm to 100000000000 MOhm-cm
170	ELECTRICAL-CABLES & WIRES	Power Cables with Extruded insulation and their accessories for rated voltages from 6kV to 30kV	Test Method for Measurement of Overall Dimensions	IEC 60502-2:2014 CI.No. 17.5 & 17.8, IEC/ BS EN 60811 (Part-203): 2012	0.00 mm to 150.00 mm
171	ELECTRICAL-CABLES & WIRES	Power Cables with extruded insulation and their accessories for rated voltages from 6kV to 30kV	Test Method for Measurement of Thickness of non metallic Sheath	IEC 60502-2:2014 CI.No. 17.5, IEC/ BS EN 60811 (Part-202): 2012	0.00 mm to 150.00 mm
172	ELECTRICAL-CABLES & WIRES	Power Cables with extruded insulation and their accessories for rated voltages from 6kV to 30kV	Thermal ageing test for complete cable/Additional Ageing Test on pieces of Completed Cables	IEC 60502-2: 2014 CI.No. 19.5, IEC 60502-2: 2014	0.00 N/mm ² to 200.00 N/mm ²
173	ELECTRICAL-CABLES & WIRES	Power Cables with extruded insulation and their accessories for rated voltages from 6kV to 30kV,	Heat Shock test on Insulation & Sheath	IEC 60502-2:2014 CI.No. 19.11, IEC/BS EN:60811 (Part-509): 2012	Qualitative(No crack should be observed)
174	ELECTRICAL-CABLES & WIRES	Power Cables with extruded insulation and their accessories for rated voltages from 6kV to 30kV,	Shrinkage Test	IEC 60502-2:2014 CI.No. 18.16,19.18, IEC/BS EN:60811 (Part 502 & 503): 2012	0.00 % to 50.00 %



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175	ELECTRICAL-CABLES & WIRES	Power Cables with extruded insulation and their accessories for rated voltages from 6kV to 30kV,	Tensile strength and elongation at break on Insulation and Sheath	IEC 60502-2:2014 CI.No. 19.5, IEC/BS EN:60811 (Part-501): 2012	0.00 N/mm ² to 50.00 N/mm ²
176	ELECTRICAL-CABLES & WIRES	Pvc insulated (Heavy Duty) Electric cables for working voltage from 3.3kV to 11kV	Heat Cycle Test	IS 1554 (Part-2)-1988 (RA-2010) CI.No. 18.1.j, IS 10810-1984 (Part-49) RA: 2016	Qualitative
177	ELECTRICAL-CABLES & WIRES	PVC insulated (Heavy Duty) Electric cables for working voltages form 3.3kV to 11kV	Impulse Withstand Test	IS 1554 (Part-2)-1988 (RA-2010) CI.No. 18.1.k, IS 10810-1984 (Part-47) RA: 2016	0.00 kVp to 800 kVp
178	ELECTRICAL-CABLES & WIRES	PVC insulated (Heavy Duty) Electric cables for working voltages form 3.3kV to 11kV	Partial Discharge Test	IS 1554 (Part-2)-1988 (RA-2010) CI.No 18.1.f, IS 10810-1984 (Part-46) RA: 2016	1 pC to 1000 pC
179	ELECTRICAL-CABLES & WIRES	PVC Insulated (Heavy Duty) Electric cables for working voltages from 3.3 kV to 11 kV	Dielectric Power Factor Test as a function of temperature	IS 1554 (Part-2)-1988 (RA-2010) CI.No. 18.1.h) 2) IS 10810-1984 (Part-48) RA: 2016	0.00 to 0.200
180	ELECTRICAL-CABLES & WIRES	PVC Insulated (Heavy Duty) Electric cables for working voltages From 3.3 kV to 11 kV	Flame Retardant Test on Bunched cable	IS:1554 (Part-2):1988 (RA-2010) CI.No. 18.1.3.C1.c) & 18.1.3.C2.c),IS 10810-1993 (Part-62) RA: 2014	0.00 m to 3.50 m



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S.No	Discipline / Group	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing/ Limits of Detection
181	ELECTRICAL-CABLES & WIRES	PVC Insulated (Heavy Duty) Electric cables for working voltages From 3.3 kV to 11 kV	Flammability test	IS:1554 (Part-2)-1988 (RA-2010) Cl.No. 18.1.n, IS 10810-1984 (Part-53) RA: 2016	0.00 mm to 650.00 mm
182	ELECTRICAL-CABLES & WIRES	PVC Insulated (Heavy Duty) Electric cables for working voltages From 3.3 kV to 11 kV	Oxygen Index Test	IS:1554 (Part-2)-1988 (RA-2010) Cl.No. 18.1.3.C1.a), d) & Cl.No. 18.1.3.C2.a), g) , IS 10810-1998 (Part-58) RA: 2014	0.00 % to 40.00 %
183	ELECTRICAL-CABLES & WIRES	PVC Insulated (Heavy Duty) Electric cables for working voltages From 3.3 kV to 11 kV	Tensile strength & Elongation at break for armouring Material	IS:1554 (Part-2):1988 (RA-2010) Cl.No. 18.1.b, IS 10810-1984 (Part-37) RA: 2016	0.00 N/mm ² to 600.00 N/mm ²
184	ELECTRICAL-CABLES & WIRES	PVC Insulated (Heavy Duty) Electric cables for working voltages From 3.3 kV to 11 kV	Torsion Test on Galvanized steel wire for Armouring	IS:1554 (Part-2)-1988 (RA-2010) Cl.No. 18.1.b, IS 10810-1984 (Part-38) RA: 2016	Qualitative(Wire should not break)
185	ELECTRICAL-CABLES & WIRES	PVC Insulated (Heavy Duty) Electric cables for working voltages From 3.3 kV to 11 kV	Winding/ Wrapping Test on Galvanized steel strip for Armouring	IS:1554 (Part-2)-1988 (RA-2010) Cl. No. 18.1.b, IS 10810-1984 (Part-39) RA: 2016	Qualitative(Wire should not break)
186	ELECTRICAL-CABLES & WIRES	PVC Insulated (Heavy Duty) Electric cables for working voltages From 3.3 kV to 11kV	Conductor Resistance	IS:1554 (Part-2)-1988(RA-2010) Cl.No. 18.1.a.4, IS 10810-1984 (Part-5) RA: 2016	0.00 Ohm/km to 50 Ohm/km
187	ELECTRICAL-CABLES & WIRES	PVC Insulated (Heavy Duty) Electric cables for working voltages From 3.3 kV to 11kV	Shrinkage Test	IS 1554 (Part-2) :1988 (RA-2010) Cl.No. 18.1.d.3, IS 10810-1984 (Part-12) RA: 2016	0.00 % to 50.00 %

This is annexure to 'Certificate of Accreditation' and does not require any signature.



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188	ELECTRICAL-CABLES & WIRES	PVC Insulated (Heavy Duty) Electric cables for working voltages From 3.3 kV to 11kV	Thermal stability	IS:1554 (Part-2)-1988 (RA-2010) Cl.No. 18.1.d.7, IS 10810-1988 (Part-60) RA: 2015	0.00 min to 500.00 min
189	ELECTRICAL-CABLES & WIRES	PVC Insulated (Heavy Duty) Electric cables for working voltages From 3.3 kV to 11kV,	Heat Shock test on Insulation & Sheath	IS:1554 (Part-2)-1988 (RA-2010) Cl.No. 18.1.d.6, IS 10810-1984 (Part-14) RA: 2016	Qualitative(No crack should be observed)
190	ELECTRICAL-CABLES & WIRES	PVC Insulated (Heavy Duty) Electric cables for working voltages From 3.3 kV to 11kV,	Loss of Mass test	IS:1554 (Part-2)-1988 (RA-2010) Cl.No. 18.1.d.5 IS 10810-1984 (Part-10) RA: 2016	0.00 mg/cm ² to 3.00 mg/cm ²
191	ELECTRICAL-CABLES & WIRES	PVC insulated (Heavy Duty) Electric Cables for working voltages from 3.3kV to 11kV	High Voltage test (4 Hours Test)	IS 1554 (Part-2)-1988 (RA-2010) Cl.No 19.7, IS:10810-1984 (Part-45) RA: 2016	0.00 kV to 100 kV
192	ELECTRICAL-CABLES & WIRES	PVC Insulated (Heavy Duty) Electric cables for working voltages up to 1100	Mass of Zinc coating	IS:1554 (Part-1)-1988 (RA-2010) Cl.No. 15.1.b.2.6, IS10810-1984 (Part-41) RA: 2016	0.00 gm/m ² to 400 gm/m ²
193	ELECTRICAL-CABLES & WIRES	PVC Insulated (Heavy Duty) Electric cables for working voltages up to 1100	Resistivity & Conductance test of Armour (Wires/strips)	IS:1554 (Part-1)-1988 (RA-2010) Cl.No. 15.1.b.2.7, IS 10810-1984 (Part-42) RA: 2016	0.00 Ohm-cm to 0.000017 Ohm-cm



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194	ELECTRICAL- CABLES & WIRES	PVC Insulated (Heavy Duty) Electric cables for working voltages up to 1100 V	Cold Bend Test	IS 1554 (Part-1):1988 (RA-2010) Cl.No. 15.4.a, IS 10810-1984 (Part-20) RA: 2016	Qualitative(No Crack should be observed)
195	ELECTRICAL- CABLES & WIRES	PVC Insulated (Heavy Duty) Electric cables for working voltages up to 1100 V	High Voltage test at room temperature	IS 1554 (Part-1)-1988 (RA-2010) Cl.No 15.1.g, IS: 10810-1984 (Part-45) RA: 2016	0.00 kV to 150.00 kV
196	ELECTRICAL- CABLES & WIRES	PVC Insulated (Heavy Duty) Electric cables for working voltages up to 1100 V	High Voltage test(Water immersion)	IS:1554 (Part-1)-1988 (RA-2010) Cl. No. 15.1.g, IS: 10810-1984 (Part-45) RA: 2016	0.00 kV to 30 kV
197	ELECTRICAL- CABLES & WIRES	PVC Insulated (Heavy Duty) Electric cables for working voltages up to 1100 V	Test for eccentricity and Thickness of insulation and sheath / Overall Dimensions	IS:1554 (Part-1)-1988 (RA-2010) Cl.No. 15.1.c, IS 10810-1984 (Part-6) RA: 2016	0.00 mm to 150.00 mm
198	ELECTRICAL- CABLES & WIRES	PVC Insulated (Heavy Duty) Electric cables for working voltages up to 1100 V,	Torsion Test on Galvanized steel wire for Armouring	IS:1554 (Part-1):1988 (RA-2010) Cl.No. 15.1.b.2.3, IS 10810-1984 (Part-38) RA: 2016	Qualitative(Wire should not break)
199	ELECTRICAL- CABLES & WIRES	PVC Insulated (Heavy Duty) Electric cables for working voltages up to 1100V	Armour Coverage Percentage Test	IS:1554 (Part-1)-1988 (RA-2010) Cl.No. 13.1.2, IS:1554-1988 (Part-1) RA: 2010	0.00 % to 100.00 %
200	ELECTRICAL- CABLES & WIRES	PVC Insulated (Heavy Duty) Electric cables for working voltages up to 1100V	Conductor Resistance	IS:1554 (Part-1):1988 (RA-2010) Cl.No. 15.1.a.4, IS 10810-1984 (Part-5) RA: 2016	0.00 Ohm/km to 50 Ohm/km



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S.No	Discipline / Group	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing/ Limits of Detection
201	ELECTRICAL-CABLES & WIRES	PVC Insulated (Heavy Duty) Electric cables for working voltages up to 1100V	Dimension for armouring material	IS:1554 (Part-1)-1988 (RA-2010) Cl.No. 15.1.b.1, IS 10810-1984 (Part-36) RA: 2016	0.00 mm to 25.00 mm
202	ELECTRICAL-CABLES & WIRES	PVC Insulated (Heavy Duty) Electric cables for working voltages up to 1100V	Flame Retardant Test on Bunched cable	IS:1554 (Part-1):1988 (RA-2010) Cl. No. 15.1.1.c, IS 10810-1993 (Part-62) RA: 2014	0.00 m to 3.50 m
203	ELECTRICAL-CABLES & WIRES	PVC Insulated (Heavy Duty) Electric cables for working voltages up to 1100V	Flame Retardant Test on Single cable (Swedish Chimney)	IS:1554 (Part-1)-1988 (RA-2010) Cl.No. 15.1.1.b, IS:10810-1988 (Part-61) RA: 2015	0.00 mm to 1000 mm
204	ELECTRICAL-CABLES & WIRES	PVC Insulated (Heavy Duty) Electric cables for working voltages up to 1100V	Halogen Acid Gas Evolution /Corrosive & halogen acid gas	IS:1554 (Part-1)-1988 (RA-2010) Cl.No. 15.1.1.f, IS 10810-1988 (Part-59) RA: 2015	0.10 % to 40.00 %
205	ELECTRICAL-CABLES & WIRES	PVC Insulated (Heavy Duty) Electric cables for working voltages up to 1100V	Oxygen Index Test /Temperature Index Test	IS:1554 (Part-1)-1988 (RA-2010) Cl. No. 15.1.1 .C1.a & d , 15.1.1 .C2. a & g Amend.01, IS 10810-1998 (Part-58) RA: 2014	0.00 % to 40.00 %
206	ELECTRICAL-CABLES & WIRES	PVC Insulated (Heavy Duty) Electric cables for working voltages up to 1100V	Winding/ Wrapping Test on Galvanized steel strip for Armouring	IS:1554 (Part-1)-1988 (RA-2010) Cl. No. 15.1.b.2.4, IS 10810-1984 (Part-39) RA: 2016	Qualitative(Wire should not break)



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S.No	Discipline / Group	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing/ Limits of Detection
207	ELECTRICAL- CABLES & WIRES	PVC Insulated (Heavy Duty) Electric cables for working voltages up to 1100V,	Ageing in air oven	IS:1554 (Part-1):1988 (RA-2010) CI.No.15.1.d.2, IS 10810-1984 (Part-11) RA: 2016	0.00 N/mm ² to 200.00 N/mm ²
208	ELECTRICAL- CABLES & WIRES	PVC Insulated (Heavy Duty) Electric cables for working voltages up to 1100V,	Heat Shock test on Insulation & Sheath	IS:1554 (Part- 1)-1988 (RA-2010) CI.No 15.1.d.6, IS 10810-1984 (Part-14) RA: 2016	Qualitative(No crack should be observed)
209	ELECTRICAL- CABLES & WIRES	PVC Insulated (Heavy Duty) Electric cables for working voltages up to 1100V,	Hot deformation test /Pressure Test at High Temperature	IS:1554 (Part-1)-1988 (RA-2010) CI. No. 15.1.d.4, IS 10810-1984 (Part-15) RA: 2016	0.00 % to 100.00 %
210	ELECTRICAL- CABLES & WIRES	PVC Insulated (Heavy Duty) Electric cables for working voltages upto 1100V	Tensile strength and elongation at break on Insulation and Sheath	IS:1554 (Part-1)-1988 (RA-2010) CI.No. 15.1.d.1, IS 10810 (Part-7) RA: 2016	0.00 N/mm ² to 50.00 N/mm ²
211	ELECTRICAL- CABLES & WIRES	PVC Insulated (Heavy Duty) Electrical cables for working voltages up to 1100 V	Annealing test (For copper conductor)	IS : 1554 (Part-1)-1984 (RA-2010) CI. No : 15.1.a.1, IS 10810 - 1984 (Part-1) RA: 2016	0.00 % to 40.00 %
212	ELECTRICAL- CABLES & WIRES	PVC Insulated (Heavy Duty) Electrical cables for working voltages up to 1100 V	Wrapping test (for aluminum)	IS 1554 (Part-1)-1988 (RA-2010) CI.No. 15.1.a.3, IS 10810-1984 (Part-3) RA: 2016	Qualitative(No crack or scale should be observed by naked eye)
213	ELECTRICAL- CABLES & WIRES	PVC Insulated (Heavy Duty) Electrical cables for working voltages up to 3.3 kV to 11 kV	Annealing test (for copper)	IS : 1554 (Part-2)-1988 (RA -2010) CI.No. 18.1.a).1), IS 10810-1984 (Part-1) RA: 2016	0.00 % to 40.00 %



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S.No	Discipline / Group	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing/ Limits of Detection
214	ELECTRICAL-CABLES & WIRES	PVC Insulated (Heavy Duty) Electrical cables for working voltages up to 3.3 kV to 11 kV	Wrapping test (for aluminum)	IS:1554 (Part-2)-1988 (RA-2010) Cl. No. 18.1.a.3, IS 10810-1984 (Part-3) RA: 2016	Qualitative(No crack or scale should be observed by naked eye)
215	ELECTRICAL-CABLES & WIRES	PVC Insulated (Heavy Duty)Electric cables for working voltages 3.3 kV to 11 kV	Flame Retardant Test on Single cable (Swedish Chimney)	IS:1554 (Part-2)-1988 (RA-2010) Cl.No. 19.10, 18.2.2.C1.b) & .C2.b), IS:10810-1988 (Part-61) RA: 2015	0.00 mm to 1000 mm
216	ELECTRICAL-CABLES & WIRES	PVC Insulated (Heavy Duty)Electric cables for working voltages 3.3 kV to 11kV	Water Absorption Test (Gravimetric)	IS:1554 (Part-2)-1988 (RA-2010) Cl.No. 18.1.d.8, IS 10810-1984 (Part-33) RA: 2016	0.00 mg/cm ² to 20 mg/cm ²
217	ELECTRICAL-CABLES & WIRES	PVC Insulated (Heavy Duty)Electric cables for working voltages From 3.3 kV to 11 kV	Armour Coverage Percentage Test	IS:1554 (Part-2):1988 (RA-2010) Cl.No. 16.1.2, IS:1554-1988 (Part-2) RA: 2010	0.00 % to 100.00 %
218	ELECTRICAL-CABLES & WIRES	PVC Insulated (Heavy Duty)Electric cables for working voltages from 3.3 kV to 11 kV	Dielectric Power Factor Test as a function of voltage	IS 1554 (Part-2)-1988 (RA-2010) Cl.No. 18.1.h) 1) IS 10810-1984 (Part-48) RA: 2016	0.00 to 0.200
219	ELECTRICAL-CABLES & WIRES	PVC Insulated (Heavy Duty)Electric cables for working voltages From 3.3 kV to 11 kV	Dimension for armouring material	IS:1554 (Part-2)-1988 (RA-2010) Cl. No. 18.1.b, IS 10810-1984 (Part-36) RA: 2016	0.00 mm to 25.00 mm
220	ELECTRICAL-CABLES & WIRES	PVC Insulated (Heavy Duty)Electric cables for working voltages From 3.3 kV to 11 kV	Mass of Zinc coating	IS:1554 (Part-2):1988 (RA-2010) Cl.No. 18.1.b, IS10810-1984 (Part-41) RA: 2016	0.00 gm/m ² to 400.00 gm/m ²



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221	ELECTRICAL-CABLES & WIRES	PVC Insulated (Heavy Duty)Electric cables for working voltages From 3.3 kV to 11 kV	Resistivity &Conductance test of Armour (Wires/strips)	IS:1554 (Part-2)-1988 (RA-2010) Cl.No. 18.1.b, IS 10810-1984 (Part-42) RA: 2016	0.00 Ohm-cm to 0.000017 Ohm-cm
222	ELECTRICAL-CABLES & WIRES	PVC Insulated (Heavy Duty)Electric cables for working voltages From 3.3 kV to 11 kV	Uniformity of Zinc coating (Dip Test)	IS:1554 (Part-2)-1988 (RA-2010) Cl.No. 18.1.b ,IS 10810-1984 (Part-40) RA: 2016	Qualitative(No red deposition should be occurred)
223	ELECTRICAL-CABLES & WIRES	PVC Insulated (Heavy Duty)Electric cables for working voltages From 3.3 kV to 11kV	Cold Impact Test	IS:1554 (Part 2)-1988 (RA-2010) Cl.No. 18.4, IS10810-1984 (Part-21) RA: 2016	Qualitative(No Crack Should be observed)
224	ELECTRICAL-CABLES & WIRES	PVC Insulated (Heavy Duty)Electric cables for working voltages From 3.3 kV to 11kV	Halogen Acid Gas Evolution /Corrosive & halogen acid gas	IS:1554 (Part-2)-1988 (RA-2010) Cl.No.18.1.3.C 2.e), IS 10810-1988 (Part-59) RA: 2015	0.10 % to 40.00 %
225	ELECTRICAL-CABLES & WIRES	PVC Insulated (Heavy Duty)Electric cables for working voltages From 3.3 kV to 11kV	Insulation Resistance at 500 & 5000 V	IS:1554 (Part 2)-1988 (RA-2010) Cl.No. 18.1.e, IS:10810-1984 (Part-43) RA: 2016	0.00 MOhm-cm to 10000000000 MOhm-cm
226	ELECTRICAL-CABLES & WIRES	PVC Insulated (Heavy Duty)Electric cables for working voltages From 3.3 kV to 11kV	Tensile strength and elongation at break on Insulation and Sheath	IS:1554 (Part-2)-1988 (RA-2010) Cl.No.18.1.d.1, IS 10810-1984 (Part-7) RA: 2016	0.00 N/mm ² to 50.00 N/mm ²
227	ELECTRICAL-CABLES & WIRES	PVC Insulated (Heavy Duty)Electric cables for working voltages From 3.3 kV to 11kV	Test for eccentricity and Thickness of insulation and sheath / Overall Dimensions	IS:1554 (Part-2):1988 (RA-2010) Cl.No. 18.1.c IS 10810-1984 (Part-6) RA: 2016	0.00 mm to 150.00 mm



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228	ELECTRICAL-CABLES & WIRES	PVC Insulated (Heavy Duty)Electric cables for working voltages From 3.3 kV to 11kV,	Ageing in air oven	IS:1554 (Part-2)-1988 (RA-2010) Cl. No. 18.1.d.2, IS 10810-1984 (Part-11) RA: 2016	0.00 N/mm ² to 200.00 N/mm ²
229	ELECTRICAL-CABLES & WIRES	PVC Insulated (Heavy Duty)Electric cables for working voltages From 3.3 kV to 11kV,	Hot deformation test /Pressure Test at High Temperature	IS:1554 (Part-2)-1988 (RA-2010) Cl.No. 18.1.d.4, IS 10810-1984 (Part-15) RA: 2016	0.00 % to 100.00 %
230	ELECTRICAL-CABLES & WIRES	PVC Insulated (Heavy Duty)Electric cables for working voltages up to 1100 V	Cold Impact test	IS:1554 (Part-1)-1988 (RA-2010) Cl.No. 15.4.b, IS 10810-1984 (Part-21) RA: 1984	Qualitative(No Crack Should be observed)
231	ELECTRICAL-CABLES & WIRES	PVC Insulated (Heavy Duty)Electric cables for working voltages Up to 1100 V	Tensile strength &Elongation at break for armouring material	IS:1554 (Part-1)-1988 (RA-2010) Cl.No. 15.1.b.2.1, IS 10810-1984 (Part-37) RA: 2016	0.00 N/mm ² to 2000.00 N/mm ²
232	ELECTRICAL-CABLES & WIRES	PVC Insulated (Heavy Duty)Electric cables for working voltages up to 1100 V	Tensile strength (for aluminum conductor)	IS:1554 (Part-1)-1988 (RA-2010) Cl.No.15.1.a.2, IS 10810- 1984 (Part-2) RA: 2016	0.00 N/mm ² to 200 N/mm ²
233	ELECTRICAL-CABLES & WIRES	PVC Insulated (Heavy Duty)Electric cables for working voltages up to 1100 V,	Loss of Mass test	IS:1554 (Part-1)-1988 (RA-2010) Cl.No. 15.1.d.5, IS 10810-1984 (Part-10) RA: 2016	0.00 mg/cm ² to 3.00 mg/cm ²



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234	ELECTRICAL-CABLES & WIRES	PVC Insulated (Heavy Duty)Electric cables for working voltages up to 1100V	Flammability test	IS:1554 (Part-1)-1988 (RA-2010) Cl.No. 15.1.h, IS 10810-1984 (Part-53) RA: 2016	0.00 mm to 650.00 mm
235	ELECTRICAL-CABLES & WIRES	PVC Insulated (Heavy Duty)Electric cables for working voltages up to 1100V	Insulation Resistance at 500 to 5000 V	IS:1554 (Part 1)-1988 (RA-2010) Cl. 15.1.e, IS:10810-1984 (Part-43) RA: 2016	0.00 MOhm-cm to 100000000000 MOhm-cm
236	ELECTRICAL-CABLES & WIRES	PVC Insulated (Heavy Duty)Electric cables for working voltages up to 1100V	Thermal stability	IS:1554 (Part-1)-1988 (RA-2010) Cl. No. 15.1.d.7, IS 10810-1988 (Part-60) RA: 2016	0.00 min to 500.00 min
237	ELECTRICAL-CABLES & WIRES	PVC Insulated (Heavy Duty)Electric cables for working voltages up to 1100V	Uniformity of Zinc coating (Dip Test)	IS:1554 (Part-1)-1988 (RA-2010) Cl.No 15.1.b, IS10810-1984 (Part-40) RA: 2016	Qualitative(No red deposition should be occurred)
238	ELECTRICAL-CABLES & WIRES	PVC Insulated (Heavy Duty)Electric cables for working voltages up to From 3.3 kV to 11kV	Tensile strength (for aluminum conductor)	IS:1554 (Part-2):1988 (RA-2010) Cl. No.18.1.a.2, IS 10810-1984 (Part-2) RA: 2016	0.00 N/mm ² to 200.00 N/mm ²
239	ELECTRICAL-CABLES & WIRES	PVC Insulated (Heavy Duty)Electric cables for working voltages upto 1100V	Shrinkage Test	IS 1554 (Part-1)-1988 (RA-2010) Cl.No. 15.1.d.3 , IS 10810-1984 (Part-12) RA: 2016	0.00 % to 50.00 %
240	ELECTRICAL-CABLES & WIRES	Specification for Pvc Insulation and Sheath of Electric cables	Test of Colour fastness to water	IS-5831:1984 RA: 2016	Qualitative((Colour should not fade))



National Accreditation Board for Testing and Calibration Laboratories

(A Constituent Board of Quality Council of India)



SCOPE OF ACCREDITATION

Laboratory Name APAR INDUSTRIES LIMITED (UNIT: UNIFLEX CABLES - LAB DIVISION), PLOT NO 158-163, UMBERGAON, VALSAD, GUJARAT , INDIA

Accreditation Standard ISO/IEC 17025:2005

Certificate Number TC-8337 Page No. : 44 / 44

Validity 12/02/2019 to 11/02/2021 Last Amended on -

'In view of the transition deadline for ISO/IEC 17025:2017, the validity of this accreditation certificate will cease on 30.11.2020.'

S.No	Discipline / Group	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing/ Limits of Detection
241	ELECTRICAL-CABLES & WIRES	Test Method to determine density of smoke from the burning or decomposition of plastics	Smoke Density Rating	ASTM-D 2843: 1999	0.00 % to 100.00 %
242	ELECTRICAL-CABLES & WIRES	Testing of Flame Propagation Characteristics	Flame Retardant Test on Single cable (Swedish Chimney)	SS 424 1475 : 1975	0.00 mm to 1000.00 mm
243	ELECTRICAL-CABLES & WIRES	UV Exposure of non metallic materials	UV Test	ASTM G-151, ASTM G-154 06: 2016	0.00 N/mm ² to 200 N/mm ²