

Laboratory Finolex J-Power Systems Pvt. Ltd., Gat No. 1142-1149, At Post-Shirwal, Tal-Khandala, Dist-Satara, Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Discipline Electrical Testing **Issue Date** 07.11.2016

Certificate Number T-3042 **Valid Until** 06.11.2018

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S. No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
I. CABLES AND ACCESSORIES				
1.	Cables & Accessories, Power Cables With Extruded XLPE Insulation Upto 220KV	Partial Discharge	IS 7098 (Part 3): 1993 (RA 2003) (Clause. 19.2.1/h & 20.11), IEC 60840: 2011, IEC 62067: 2011/ IS 10810: 1984	(0.01 pC to 624 pC) / 0.01 pC
		Conductor Resistance	IS 7098 Part 3: 1993 (RA 2003) (Clause. 19.1/a.ii & 19.2.1/a), IS 8130: 1984 (RA 2001), IEC 60840: 2011, IEC 62067: 2011/ IS 10810: 1984, IEC 60228: 2004-11, IEC 60287-1-1	(1 $\mu\Omega$ to 20 k Ω) / 1 $\mu\Omega$
		High Voltage	IS 7098 (Part 3): 1993 (RA 2003) (Clause. 19.2.1/j), IEC 60840: 2011, IEC 62067: 2011/ IS 10810: 1984	(0.1 kV to 750 kV) / 0.1 kV
		Thickness & Dimension Of Insulation & Outer Sheath	IS 7098 (Part 3): 1993 (RA 2003) (Clause. 19.1/b.i & 19.1/g.1), IEC 60840: 2011, IEC 62067: 2011/ IS 10810: 1984, IEC 60811-1-1 2001-07	(0.005 mm to 100 mm)/0.005 mm & (0.001 mm to 450 mm) / 0.001 mm

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	Cables & Accessories, Power Cables With Extruded XLPE Insulation Upto 220KV	Thickness Of Metallic Sheath	IS 7098 (Part 3): 1993 (RA 2003) (Clause. 19.1/e), IEC 60840: 2011, IEC 62067: 2011/IS 10810: 1984	(0.001 mm to 25 mm) / 0.001 mm
		Diameter Of XLPE Insulated Core & Overall Diameter	IS 7098 (Part 3): 1993 (RA 2003) (Clause. 19.1/b.i), IEC 60840: 2011, IEC 62067: 2011/ IS 10810: 1984	(0.02 mm to 300 mm) /0.02 mm
		Conductor Examination	IEC 60840: 2011, IEC 62067: 2011/ IEC 60228: 2004-11	Conductor 150 mm ² to 2500 mm ²
		Tensile Strength & Elongation At Break/ Test		
		Before Ageing On Insulation & Outer Sheath	IS 7098 (Part 3): 1993 (RA 2003) (Clause. 19.1/b.ii & 19.1/g.2.i & 19.1/g.3.ii), IEC 60840: 2011, IEC 62067: 2011/ IS 10810: 1984, IEC 60811-1-1: 2001-07	Pull Force – (0.001 kg to 5000 kgf) /0.001 kg
		Thermal Ageing On Oven/After Ageing On Insulation & Outer Sheath	IS 7098 (Part 3): 1993 (RA 2003) (Clause.19.1/b.iii & 19.1/g.2.ii & 19.1/g.3.iii), IE 60840: 2011, IEC 62067: 2011/IS 10810: 1984, IEC-60811-1-2: 1985	(30 °C to 175 °C) / 0.1 °C & (0.001 kg to 5000 kgf) / 0.001 kg

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	Cables & Accessories, Power Cables With Extruded XLPE Insulation Upto 220 KV	Hot Set Test On XLPE Insulation	IS 7098 (Part 3): 1993 (RA 2003) (Clause. 19.1/b iv), IEC 60840: 2011, IEC 62067: 2011/ IS 10810: 1984, IEC 60811-2-1: 2001-11	(30 °C to 250 °C) /0.1 °C & Hot Set less than 175 % & Permanent Set 15%
		Shrinkage on Xlpe Insulation	IS 7098 (Part 3): 1993 (RA 2003) (Clause. 19.1/b.v), IEC 60840: 2011/ IS 10810: 1984, IEC 60811-1-3	(30 °C) /0.1 °C & (0.02 mm to 300 mm) /0.02 mm
		Shrinkage on PVC / PE Outer Sheath	IS 7098 (Part 3): 1993 (RA 2003) (Clause. 19.1/g.2.vi), IEC 60840: 2011/IS 10810: 1984, IEC 60811-1-3	(30 °C to 250 °C) /0.1 °C & (0.02 mm to 300 mm) /0.02 mm
		Resistivity For Semiconducting Layers	IS 7098 (Part 3): 1993 (RA 2003) (Clause. 19.1/c), IEC 60840: 2011, IEC 62067: 2011	(1 μΩ to 20 kΩ) / 1 μΩ
		Loss Of Mass On PVC Outer Sheath	IS 7098 (Part 3): 1993 (RA 2003) (Clause. 19.1/g.2.iii), IS 5831: 1984 (RA 2001), IEC 60840: 2011, IEC 62067: 2011/ IS 10810: 1984, IEC-60811-3-2	(0.0001 g to 220 g) / (0.0001 g & less than 2.0 mg) /cm ²
		Heat Shock On PVC Outer Sheath	IS 7098 (Part 3): 1993 (RA 2003) (Clause. 19.1/g.2.iv), IS 5831: 1984, IEC 60840: 2011, IEC 62067: 2011/IS:10810: 1984, IEC 60811-3-1	(30 °C to 250 °C) /0.1 °C & (0.02 mm to 300 mm) /0.02 mm

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	Cables & Accessories, Power Cables With Extruded XLPE Insulation Upto 220 KV	Thermal Stability On PVC Outer Sheath	IS 7098 (Part 3): 1993 (RA 2003) (Clause. 19.1/g.2.vii), IS 5831: 1984, IS 10810: 1984	(30 °C to 210 °C) /0.1 °C
		Hot Deformation Test On PVC/PE Outer Sheath / Pressure Test At High Temperature On PVC/PE Outer Sheath	IS 7098 (Part 3): 1993 (RA 2003) (Clause. 19.1/g.2.v&19.1/g.3.iv), IS 5831: 1984 (RA 2001), IEC 60840: 2011, IEC 62067: 2011/ IS 10810: 1984, IEC 60811-3-1	(30 °C to 250 °C) /0.1 °C & (0.02 mm to 300 mm) /0.02 mm
		Electrical Test On Over Sheath Of The Cable	IEC 60840: 2011, IEC 62067: 2011/ IS 10810: 1984, IEC 60229	(0.1 kV to 60 kV) /0.1 kV
		Measurement Of Capacitance	IS 7098 (Part 3): 1993 (RA 2003) (Clause. 19.1/n), IEC 60840: 2011, IEC 62067: 2011/ IS 10810: 1984	(2 nF to 2000 µF) / 0.001 nF
		Water Tightness / Water Penetration	IS 7098 (Part 3): 1993 (RA 2003) (Clause. 19.1/j), IEC 60840: 2011, IEC 62067: 2011	(1 A to 7000 A) /1A
		Thermal Ageing On Complete Cable Sample / Ageing On Pieces Of Complete Cable To Check Compatibility Of Materials		

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	Cables & Accessories, Power Cables With Extruded XLPE Insulation Upto 220 KV	Tensile Strength & Elongation At Break For Insulation & Outer Sheath	IS 7098 (Part 3): 1993 (RA 2003) (Clause. 19.1/k ii), IS 5831: 1984 (RA 2001), IEC 60840: 2011, IEC 62067: 2011/ IEC 60811-1-2 1985	(0.001 kg to 5000 kgf) /0.001 kg
		Resistivity For Semiconducting Layers	IS 7098 (Part 3): 1993 (RA 2003) (Clause. 19.1/k.iii)	(1 $\mu\Omega$ to 20 k Ω) / 1 $\mu\Omega$
		Bending Followed By PD / Bending On The Cable Followed By PD	IS 7098 (Part 3): 1993 (RA 2003) (Clause. 19.1/m), IEC 60840: 2011, IEC 62067: 2011	(0.01 pC to 624 pC) / 0.01 pC
		Tan- Δ (Dielectric Power Factor) & Capacitance Measurement At Ambient Temperature	IS 7098 (Part 3): 1993 (RA 2003) (Clause. 19.1/n), IS 10810: (1984)	50pF & 400 KV RMS / < 1X10 ⁻⁵
		Impulse With Stand Followed By HV Lighting Impulse Voltage Followed By Power Frequency Voltage	IS 7098 (Part 3): 1993 (RA 2003) (Clause. 19.1/r), IEC 60840: 2011, IEC 62067: (2011)	(1kV to 2000 kV) /1kV & (0.1 kV to 750) /0.1kV

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