

Laboratory Aditya Birla Insulators (A Unit of Grasim Industries Limited), P.O
Prabhas Nagar, Rishra, Hooghly, West Bengal, Kolkata

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-7801

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Validity 30.08.2018 to 29.08.2020

Last Amended on --

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
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CHEMICAL TESTING

I. METALLIC COATINGS & TREATMENT SOLUTIONS				
1.	Porcelain Insulators	Bulk Density	ASTM:C-373-14a IS 1528 (Part 15)	1.5 g/cc to 3.5 g/cc
		Closed porosity	IS 1528 (Part 15)	0.5%v/v to 15.0 %v/v
		Alumina	IS 9749	10 % to 50 %
2.	Insulators Metal Parts	Mass of Zinc Coating	IS 6745	100 g/m ² to 3000 g/m ²
		Uniformity of Zinc Coating	IS 2633	Qualitative

Mandeep Kumar
Convenor

Anuja Anand
Program Manager

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ELECTRICAL TESTING

I. INSULATING MATERIALS & INSULATORS				
1.	Porcelain Insulators Insulator strings Single/Twin/Triple/ Quad Tension type (11/33) kV (String testing)	Mechanical Strength on Insulator string	IS 2486, Cl. No. 11.1	20 kN to 1000 kN
2.	Porcelain Insulators and Insulators String type (Unit Testing) Insulator type 11/33 kV on Suspension Mode	Thermal Mechanical Performance (on a Tension Mode string of 20 units of 11 KV)	IEC 60383, Cl. No. 20, 33.1 IEC 60575, Cl. No. 3	20 kN to 500 kN 20 kN to 200 kN (-)50°C to +50°C
		Power Frequency Withstand and Flashover (Dry)	IS 731 ,Cl. No. 10.4 IS 2544, Cl. No. 9.4 IS 5300 IS 1445 IEC 60383, Cl. No. 14, 34, 35	5 kV to 250 kV
		Dry Lightning Impulse Withstand and Flashover	IS 731, Cl. No. 10.3, IEC 60383 ,Cl. No. 13,34,35 IEC 60060-1, Cl. No. 19.1	50 kV to 750 kV
		Insulation Resistance (11 kV)	PGCIL Q.P. No. INB-316	10 MΩ to 10000 MΩ
		Under Oil Puncture withstand test (11 kV)	IS 731.Cl. No. 10.10 IS 2544 ,Cl. No. 9.9 IS 1445, Cl. No. 7.6 IEC 60383, Cl. No. 15	5 kV to 250 kV

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		Impulse Puncture Withstand Voltage Test (Steep Wave Front Withstand) on Suspension Mode (11 kV)	IEC 61211 : 2004-2011, Cl. No. 5.3,5.5 & IEC 60060-1,1989-2011, Cl. No. 18.1.4	50 kVp to 600 kVp Rate of rise 2500 kV/μ Sec
		Cantilever Load Withstand (33 kV) on Suspension Mode	IS 2544 ,Cl. No. 9.6	5 kN to 200 kN
		Porosity on Ceramic Insulators (11kV)	IS 731,Cl. No. 10.1 IS 2544 IS 5300 IS1445 IEC 60383,Cl. No. 25	100 kg/cm ² to 1000 kg/cm ²
		Electro Mechanical Failing Load Test on Tension Mode (11 kV)	IS 731,Cl. No. 10.7 IEC 60383 Cl. No. 18,33.1,33.2	10 kN to 600 kN 20 kV to 100 kV
		Temperature Cycle test (33 kV)	IS 731,Cl. No. 10.6 IS 2544,Cl. No. 9.8 IS 5300 ,Cl. No. 7.6 IEC 60383, Cl. No. 23.1	2 °C to 100 °C
		Mechanical Performance Test on 20 units of 11kV	IEC 60383 IEC 60575,Cl. No. 4	10 kN to 600 kN
		Residual Strength on 25 units of (11 kV)	IEC 60797 ,Cl. No. 4	10 kN to 600 kN
		Impact Test (11 kV)	ANSI 29.1, Cl. No. 8.2.8	5 kN to 1000 kN
		Verification of Dimension & Displacement Test (33 kV)	IS 731,Cl. No. 10.5 IS 2544,Cl. No. 9.7 IS 1445 ,Cl. No. 7.5	0.1 mm to 20 mm) 0.1 mm to 20 mm)
		Axial (dial gauge)	IS 5300 ,Cl. No.7.5	10 mm to 300 mm)

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		Radial (Dial gauge Spacing) (Digital height Meter Diameter (Vernier) Creepage (scale)	IEC 60383 , Cl. No. 17, 21	5 mm to 600 mm) 5 mm to 600 mm)

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MECHANICAL TESTING

I. MECHANICAL PROPERTIES OF METALS				
1.	Insulators Metal Parts (Metal Cap, Ball Pin & Split Pin)	Hardness	IS 1586	70 HRBW to 95 HRBW
		Rockwell Hardness		
		Brinell Hardness	IS 1500	130 HBW to 350 HBW (10/3000)
		Resistance to bending	IEC 60372-II	Qualitative 16 mm, 20 mm & 24 mm
		Dimension	IS 2486-II	Qualitative
		Requirements of Ball & Socket	IEC 60120	16 mm, 20 mm, 24 mm & 28 mm
		Freedom from defect	IS 2629	Qualitative
		Verification of locking	IEC 60383	Qualitative
	h of Locking device	IEC 60383	Qualitative	
	ion	IEC 60383	5 kg to 70 kg	
	Verification of Dimension (Length, Width, Thickness)	IS 2486 (Part-IV)	2 mm to 200 mm	

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