

Laboratory	ELCA Laboratories, Plot No. A-444, Road No. 37, MIDC, Wagle Indl. Area, Tal. & Dist. Thane, Maharashtra Location 1 : Plot No. A-444, Road No. 37, MIDC, Wagle Indl. Area, Tal. & Dist. Thane, Maharashtra Location 2 : W-361, TTC Industrial Area, MIDC, Rabale, Navi Mumbai, Maharashtra		
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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
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Location 2

I. ENVIRONMENTAL TEST FACILITY

1	Electrical Apparatus for Explosive Gas Atmospheres	Resistance to Impact	IEC 60079-0:2007 and 2011 Clause No 26.4.2, A 3.3, Annex C IS/IEC 60079:2007 Clause No 26.4.2, A3.4	Height : 2 m max Mass : 1 kg
		Drop Test	IEC 60079-0:2007 and 2011 Clause No 26.4.3 IS/IEC 60079-0:2007 Clause 26.4.3	1 m height on concrete surface
		Ingress Protection (IP) test for degree of protection (for Non Rotating)	IEC 60079-0 : 2007 and 2011 Clause 26.4.5 & A 3.4 IS/IEC 60079-0:2007 Clause 26.4.5 & Clause A 3.5 IEC 60529 : 2013 IS/IEC 60529:2001	IP 1X to 6X & IP X1 to X7 1 m x 1 m x 1.5 m Max Weight: 300 kg
		Ingress Protection (IP) test for degree of protection For Rotating Machines	IEC 60079-0 : 2007 Clause 26.4.5 & IEC 60034-5	IP 1X to 6X & IP X1 to X7 1 m X 1 m X 1.5 m Max Weight: 300 kg

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Location 2				
	Electrical Apparatus for Explosive Gas Atmospheres	Thermal Test - Temperature Measurement	IEC 60079-0 : 2007 and 2011 Clause 26.5.1 IS/IEC 60079-0:2007 Clause 26.5	Max. 600 °C
		Impact / HammerTest	IEC 62262 / BS EN 50102	IK 00 to IK 10 Max Weight: 10 kg Max Height: 500 mm
		Thermal Shock Test	IEC 60079-0 : 2007 and 2011 Clause 26.5.2 IS/IEC 60079-0:2007 Clause 26.5.2	Qualitative
		Small Component Ignition Test	IEC 60079-0 : 2007 and 2011 Clause 26.5.3 IS/IEC 60079-0:2007 Clause 26.5.3	Qualitative
		Torque Test for Bushings	IEC 60079-0 : 2007 and 2011 Clause 26.6 IS/IEC 60079-0:2007 Clause 26.6	2 Nm to 225 Nm

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Location 2				
	Electrical Apparatus for Explosive Gas Atmospheres	Thermal Endurance to Heat	IEC 60079-0 : 2007 and 2011 Clause 26.8 IS/IEC 60079-0:2007 Clause 26.8 IS 9000 Part 3 ASTM D2247 : 2011 IS 9000 Part 4	Temperature: 100 °C Humidity: 100 % (upto 370°C in air oven) 1 m x 1 m x 1.5 m Max Weight: 300 kg
		Thermal Endurance to Cold	IEC 60079-0 : 2007 and 2011 Clause 26.9 IS/IEC 60079-0:2007 Clause 26.9 IS 9000 Part 2	1 m x 1m x 1.5 m chamber size
		Resistance to Chemical Agents	IEC 60079-0 : 2007 and 2011 Clause 26.11 IS/IEC 60079-0:2007 Clause 26.11	48 °C to 52 °C
		Salt Spray Test	ASTM B-117 : 2011	Qualitative
		Surface Resistance Test	IEC 60079-0 : 2007 and 2011 Clause 26.13 IS/IEC 60079-0:2007 Clause 26.13	490 to 510 V DC, 2000 MΩ Time: 60 s to 70 s

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Location 2				
	Electrical Apparatus for Explosive Gas Atmospheres	Measurement of Capacitance	IEC 60079-0 : 2007 Clause 26.15 IEC 60079-0 : 2011 Clause 26.14 IS/IEC 60079-0 : 2007 Clause 26.15	Test range: 0 pF to 200 pF
		Test for Elastomeric Sealing O rings	IEC 60079-0: 2011 Clause 26.16	Temperature: 100 °C Humidity: 100 % (upto 300 °C in air oven)
		Test for Cables and Cable Glands - Test for Clamping of Non-armoured Cables, Tensile Test and Mechanical Strength	IEC 60079-0 : 2007 and 2011 A 3.1 IS/IEC 60079-0 : 2007 , A 3.1	Load: Upto 1000 N Torque: 225 Nm max
		Test for Cables and Cable Glands - Test for Clamping of Armoured cables, Tensile Test and Mechanical Strength	IEC 60079-0 : 2007 and 2011 A 3.2 IS/IEC 60079-0 : 2007 , A 3.2	Load: Upto 2000 N Torque: 225 Nm max Time: 110 s to 130 s Temperature: 15 °C to 25 °C

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Location 2				
	Electrical Apparatus for Explosive Gas Atmospheres	Test for Cables and Cable Glands - Resistance to Impact	IEC 60079-0 : 2007 and 2011 A 3.3 IS/IEC 60079-0 : 2007 , A 3.4	Qualitative
		Test for Cables and Cable Glands - IP Test	IEC 60079-0 : 2007 and 2011, A 3.4 IS/IEC 60079-0 : 2007 , A 3.5	1 m x 1 m x 1.5 m chamber size for dust test Qualitative
		Ageing Test of Sealing Rings	IS/IEC 60079-0 : 2004 , 3.3	Max: 350 °C and Min: - 60 °C
		Determination of Explosion Pressure	IS/IEC 60079-1 : 2007, Clause 15.1.2 Clause 19.3.1.2 Clause D.3.6	6000 kPa
		Over Pressure Test	IS/IEC 60079-1 : 2007, Clause 15.1.3 Clause 19.3.1.2	200 Bar (Hydraulic)
		Test for non transmission of Internal Ignition	IS/IEC 60079-1 : 2007, Clause 15.2 Clause 19.3.1.3 and 4	2 m x 2 m x 2 m Max : 300 kg

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Location 2				
	Electrical Apparatus for Explosive Gas Atmospheres	Test for Cable Glands - Sealing Test	IS/IEC 60079-1 : 2007 - C3.1	Upto 3000 kPa 225 Nm max
		Test for Cable Glands - Mechanical Test	IS/IEC 60079-1 : 2007, C3.2	2 Nm to 225 Nm
		Test for Ex Blanking Elements - Torque Test	IS/IEC 60079-1 : 2007, C3.3.1	2 Nm to 225 Nm
		Test for Ex Blanking Elements - Over Pressure Test	IS/IEC 60079-1 : 2007, C3.3.2	Upto 3000 kPa 225 Nm max
		Test for Ex Thread Adapters - Torque Test	IS/IEC 60079-1 : 2007, C3.4.1	2 Nm to 225 Nm
		Test for Ex Thread Adapters - Impact Test	IS/IEC 60079-1 : 2007, C3.4.2	Height: 2 m max Mass: 1 kg
		Test for Ex Thread Adapters - Over Pressure Test	IS/IEC 60079-1 : 2007, C3.4.3	Upto 3000 kPa

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Location 2				
2.	Electrical Apparatus for Explosive Gas Mixtures - Equipment Protection by Encapsulation "m"	Test on Compound	IEC 60079-18 : 2009, IS/IEC 60079-18: 2004 Clause 8.1	
		a) Water Absorption Test	Clause 8.1.1	220 gm max
		b) Dielectric Strength Test	Clause 8.1.2	Upto 5 kV Max
		Test on Apparatus	IEC 60079-18 : 2009, IS/IEC 60079-18: 2009 Clause 8.2	
		a) Maximum Temperature	Clause 8.2.2	500 °C max
		b) Thermal Endurance to Heat	Clause 8.2.3.1	Temperature 100°C Humidity: 100% 1 m x 1 m x 1 m Max Height: 300 kg
		c) Thermal Endurance to Cold	Clause 8.2.3.2	Upto -60°C 1 m x 1 m x 1m Max Weight: 300 kg
		d) Dielectric Strength Test	Clause 8.2.4	Upto 5 kV Max

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Location 2				
	Electrical Apparatus for Explosive Gas Atmospheres	e) Cable Pull Test	Clause 8.2.5	Upto 2000 N
		f) Pressure Test	Clause 8.2.6	Upto 3000 kPa
		h) Sealing Test for Built in Protective devices	Clause 8.2.8	NA
3.	Cable Glands Metallic	Mechanical Tests	IEC 62444: 2010/BS EN 50262:1999 / BS 6121:2005	
		Cable Retention Test	Clause 9	5600 N 225 Nm max
		Cable Anchorage	Clause 9	450 N 225 Nm max
		Cable Twist	Clause 9	225 Nm max
		Resistance to Impact	Clause 9.4	Upto 20N/20J and 1m Height
		Tightness test	Clause 9.5	225 Nm max

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Location 2				
4.	Electrical Apparatus for Explosive Gas Atmospheres	Electrical Tests Equipotential Bonding	IEC 62444: 2010/ BS EN 50262:1999 / BS 6121:2005 Clause 10.1 / 10.2	Upto 1 Ω
		Ingress Protection Tests	IEC 60529:2013	IP 1X to 6X & IP X1 to X7
	Electrical Conductors	Resistance / Resistivity Test	ASTM B 193 - 2002(14)	1 mΩ to 19.99 kΩ
		Cross Sectional Area	ASTM B 263 - 2014	Qualitative
-X-X-X-X-X-X-X-X-X-X-X-X-				