

**ELCA***Celebrating RUBY - (40th) Anniversary Year of Excellence***LABORATORIES**

AN ISO/IEC 17025 ACCREDITED MATERIAL TESTING LAB

UNIT - II, W 361, TTC INDUSTRIAL AREA, MIDC, RABALE, NAVI MUMBAI - 400 701, INDIA.

PH. : 91 (22) 2769 34 83 TELEFAX : 91 (22) 2769 3492

E-MAIL : rabale@elcalabs.com WEB : www.elcalabs.com

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CHEM.T/296 & MECH.T/297
ELEC.T/2293

TEST REPORT

<u>Customer:</u> Akshar Brass Industries Plot No: 4027, GIDC, Phase-III, Dared, Jamnagar – 361004. Gujarat, India.	ELCA ID: E-367 to E-379 Dated: 25/02/2015 Received via Customer Document: ABI/415/14-15 DT: -25/01/2015
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Sample Description:

Brass Cable Glands: Single Compression Non Armoured – A2 Cable Gland Sizes

ELCA ID No.	Cable Gland Size	Identification Mark of Sample
E-367	A2 20S	CABTEK BS6121 PT-1
E-368	A2 20L	CABTEK BS6121 PT-1
E-369	A2 25L	CABTEK BS6121 PT-1
E-370	A2 32L	CABTEK BS6121 PT-1
E-371	A2 40L	CABTEK BS6121 PT-1
E-372	A2 50S	CABTEK BS6121 PT-1
E-373	A2 50L	CABTEK BS6121 PT-1
E-374	A2 63S	CABTEK BS6121 PT-1
E-375	A2 63L	CABTEK BS6121 PT-1
E-376	A2 75S	CABTEK BS6121 PT-1
E-377	A2 75L	CABTEK BS6121 PT-1
E-378	A2 90L	CABTEK BS6121 PT-1
E-379	A2 100L	CABTEK BS6121 PT-1

Standard Applied:

BS EN 50262:1999	Cable Glands For Electrical Installations
IEC 62444: 2010	Cable Glands for Electrical Installations

Sampling: 3 samples of largest and smallest; and 1 sample of all other sizes of the same family/series.

Samples assembled with the mandrels were submitted by the customer for testing.

Surface Roughness of the mandrels was checked using Handysurf E35B Surface roughness tester. Surface roughness was observed to be ≤ 7 microns.

BS EN 50262:1999 Clause 5.4 All Samples are were pre-conditioned in an oven at temperature 85°C for 168 hours followed by 24 hours at temperature at (20±5)°C and Relative Humidity (50±10)%

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Continuation Sheet of Test report No: E-367 to E-379

TEST FOR CABLE RETENTION**Test Standard:** BS EN 50262:1999 Clause 9.1 and IEC 62444:2010 Clause 9.2 **Test Date:** 11.02.2015

Elca No.	Applied Weight (N)	Acceptance Criteria as per Specification	Observation	Remark/Results
E-367	10	Displacement Shall not exceed 3 mm	No Displacement Observed	Satisfactory
E-368	10	Displacement Shall not exceed 3 mm	No Displacement Observed	Satisfactory
E-369	20	Displacement Shall not exceed 3 mm	No Displacement Observed	Satisfactory
E-370	25	Displacement Shall not exceed 3 mm	No Displacement Observed	Satisfactory
E-371	25	Displacement Shall not exceed 3 mm	No Displacement Observed	Satisfactory
E-372	30	Displacement Shall not exceed 3 mm	No Displacement Observed	Satisfactory
E-373	45	Displacement Shall not exceed 3 mm	No Displacement Observed	Satisfactory
E-374	45	Displacement Shall not exceed 3 mm	No Displacement Observed	Satisfactory
E-375	55	Displacement Shall not exceed 3 mm	No Displacement Observed	Satisfactory
E-376	55	Displacement Shall not exceed 3 mm	No Displacement Observed	Satisfactory
E-377	70	Displacement Shall not exceed 3 mm	No Displacement Observed	Satisfactory
E-378	70	Displacement Shall not exceed 3 mm	No Displacement Observed	Satisfactory
E-379	80	Displacement Shall not exceed 3 mm	No Displacement Observed	Satisfactory

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Continuation Sheet of Test report No: E-367 to E-379

TEST FOR CABLE ANCHORAGE AND CABLE TWIST TEST**Test Standard:** BS EN 50262:1999 Clause 9.3 and IEC 62444:2010, Clause 9.3 **Test Date:** 19.02.2015

Elca No.	Applied Weight for Cable Anchorage Test (N)	Applied Weight for Cable Anchorage Test (KG)	Acceptance Criteria as per Specification	Results
E-367	35	0.2	Displacement Shall not exceed 2 mm	Satisfactory
E-368	35	0.2	Displacement Shall not exceed 2 mm	Satisfactory
E-369	60	0.7	Displacement Shall not exceed 2 mm	Satisfactory
E-370	75	1.2	Displacement Shall not exceed 2 mm	Satisfactory
E-371	75	1.2	Displacement Shall not exceed 2 mm	Satisfactory
E-372	85	1.6	Displacement Shall not exceed 2 mm	Satisfactory
E-373	95	1.8	Displacement Shall not exceed 2 mm	Satisfactory
E-374	95	1.8	Displacement Shall not exceed 2 mm	Satisfactory
E-375	110	2.0	Displacement Shall not exceed 2 mm	Satisfactory
E-376	110	2.0	Displacement Shall not exceed 2 mm	Satisfactory
E-377	125	2.4	Displacement Shall not exceed 2 mm	Satisfactory
E-378	125	2.4	Displacement Shall not exceed 2 mm	Satisfactory
E-379	130	2.8	Displacement Shall not exceed 2 mm	Satisfactory

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Continuation Sheet of Test report No: E-367 to E-379

TEST FOR RESISTANCE TO IMPACT (Category 7)**Test Standard:** BS EN 50262:1999 Clause 9.4 and IEC 62444:2010, Clause 9.5 **Test Date:** 17.02.2015

ELCA No.	Striking Element Weight(Kg)	Drop Height (Meter)	Test Temperature (°C)	Observation	Results
E-367	1	1	-25	No Cracks or damages found on impact Areas.	Satisfactory
E-368	1	1	-25	No Cracks or damages found on impact Areas.	Satisfactory
E-369	1	1	-25	No Cracks or damages found on impact Areas.	Satisfactory
E-370	1	1	-25	No Cracks or damages found on impact Areas.	Satisfactory
E-371	1	1	-25	No Cracks or damages found on impact Areas.	Satisfactory
E-372	1	1	-25	No Cracks or damages found on impact Areas.	Satisfactory
E-373	1	1	-25	No Cracks or damages found on impact Areas.	Satisfactory
E-374	1	1	-25	No Cracks or damages found on impact Areas.	Satisfactory
E-375	1	1	-25	No Cracks or damages found on impact Areas.	Satisfactory
E-376	1	1	-25	No Cracks or damages found on impact Areas.	Satisfactory
E-377	1	1	-25	No Cracks or damages found on impact Areas.	Satisfactory
E-378	1	1	-25	No Cracks or damages found on impact Areas.	Satisfactory
E-379	1	1	-25	No Cracks or damages found on impact Areas.	Satisfactory

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TEST FOR RESISTANCE TO EXCESS TORQUE**Test Standard:** BS EN 50262:1999 Clause 9.5**Test Date:** 11.02.2015

ELCA No.	Sample Description (Cable Gland)	Torque Applied (Nm)		Remarks
		Base Torque	1.5 x Base Torque	
E-367	A2 20S	14	25	No Defects Observed. Acceptable
E-368	A2 20L	14	25	No Defects Observed. Acceptable
E-369	A2 25L	23	35	No Defects Observed. Acceptable
E-370	A2 32L	23	35	No Defects Observed. Acceptable
E-371	A2 40L	30	45	No Defects Observed. Acceptable
E-372	A2 50S	30	45	No Defects Observed. Acceptable
E-373	A2 50L	33	50	No Defects Observed. Acceptable
E-374	A2 63S	43	65	No Defects Observed. Acceptable
E-375	A2 63L	43	65	No Defects Observed. Acceptable
E-376	A2 75S	43	65	No Defects Observed. Acceptable
E-377	A2 75L	43	65	No Defects Observed. Acceptable
E-378	A2 90L	50	75	No Defects Observed. Acceptable
E-379	A2 100L	50	75	No Defects Observed. Acceptable

TEST FOR INGRESS PROTECTION (IP66) TEST**Test Standard:** IEC 60529:2013**Test Date:** 18.02.2015

Sr. No	Name of the Test	IEC 60529 Standard Reference	Standard Specification	Equipment Used
1.	Protection against Solid Foreign object Indicated by the first Characteristic numerals(Dust Test) IP 6X	Cl. 13.4 Category 1	No talcum powder shall be allowed to deposit inside the enclosure at end of the test.	Dust Test Chamber for IP 6X
2.	Protection against ingress of Water Indicated by the second Characteristic numerals(Water Jet) Nozzle) IP X6	Cl 14.2.6	No water shall be allowed inside the enclosure at the end of the test.	Water Jet Nozzle 12.5mm diameter for IP X6

The IP test procedure is based on IEC 60529 (Degree of Protection Provided by enclosure IP Code). Cable glands with specified mandrels were fitted into enclosures for test purpose. After completion of each test, sample was visually inspected.

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Continuation Sheet of Test report No: E-367 to E-379

Sr. no	ELCA ID/ Sample Size	Name of Test	Observations
1.	E-367 A2-20S	IP6X	No ingress of dust observed inside the enclosure
		IPX6	No ingress of water observed inside the enclosure
2.	E-368 A2-20L	IP6X	No ingress of dust observed inside the enclosure
		IPX6	No ingress of water observed inside the enclosure
3.	E-369 A2-25L	IP6X	No ingress of dust observed inside the enclosure
		IPX6	No ingress of water observed inside the enclosure
4.	E-370 A2-32L	IP6X	No ingress of dust observed inside the enclosure
		IPX6	No ingress of water observed inside the enclosure
5.	E-371 A2-40L	IP6X	No ingress of dust observed inside the enclosure
		IPX6	No ingress of water observed inside the enclosure
6.	E-372 A2-50S	IP6X	No ingress of dust observed inside the enclosure
		IPX6	No ingress of water observed inside the enclosure
7.	E-373 A2-50L	IP6X	No ingress of dust observed inside the enclosure
		IPX6	No ingress of water observed inside the enclosure
8.	E-374 A2-63S	IP6X	No ingress of dust observed inside the enclosure
		IPX6	No ingress of water observed inside the enclosure
9.	E-375 A2-63L	IP6X	No ingress of dust observed inside the enclosure
		IPX6	No ingress of water observed inside the enclosure
10.	E-376 A2-75S	IP6X	No ingress of dust observed inside the enclosure
		IPX6	No ingress of water observed inside the enclosure
11.	E-377 A2-75L	IP6X	No ingress of dust observed inside the enclosure
		IPX6	No ingress of water observed inside the enclosure
12.	E-378 A2-90L	IP6X	No ingress of dust observed inside the enclosure
		IPX6	No ingress of water observed inside the enclosure
13.	E-379 A2-100L	IP6X	No ingress of dust observed inside the enclosure
		IPX6	No ingress of water observed inside the enclosure
Results: The Cable Glands satisfy the requirements of IP66.			

Checked by:

-----END-----OF-----REPORT-----

for ELCA LABORATORIES

(Authorized Signatory)

N. Kalyan / Kartik Iyer

Proprietor/ C.E.O