TEST REPORT

Customer:	**ELCA ID: E-367 to E377** Dated: 25/02/2015
Akshar Brass Industries **Plot No: 4027,** **GIDC, Phase-III,** **Dared, Jamnagar – 361004.** **Gujarat, India.**	Received via Customer Document: ABI/415/14-15 DT: - 25/01/2015

Sample Description:

Brass Cable Glands: 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

Standards Applied:

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

Sampling: 3 samples of the 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 were pre-conditioned in an oven at temperature 85°C for 168 hours followed by 24 hours at temperature (20±5)°C and Relative Humidity (50±10)%.

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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

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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 Twist 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

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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	Remarks
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

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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	17	25	No Defects Observed. Acceptable
E-368	A2 20L	17	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

TEST FOR INGRESS PROTECTION (IP 66 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 the 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 (Degrees of Protection provided by enclosures 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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Sr.no.	ELCA ID/ sample size	Name of test	Observations after test
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
Result: The cable glands satisfy the requirements of IP 66.			

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Checked by:

for ELCA LABORATORIES

(Authorized Signatory)
N. Kalyan / Kartik Iyer
Proprietor/ C.E.O