

**TEST REPORT**  
**for Ingress Protection (IP67) Test carried out on**  
**DOUBLE COMPRESSION CABLE GLAND E1W-20s**

Customer:

**AKSHAR BRASS INDUSTRIES**

Plot No 46,47,50, 51,

Survey No. 246,245,

at Naghedi Industrial Area,

Jamnagar - 361006, Gujarat, India.

**Test Report No:** E-3193-M

**Discipline:** Electrical Testing

**Group:** Environmental Test Facility

**Sample Received Date:** 13.08.2021

**ULR No.:** TC574321000016410F

**Description of the Product:**

Product	Size
Double Compression Cable Gland	E1W-20s

**Date:** 30<sup>th</sup> August 2021



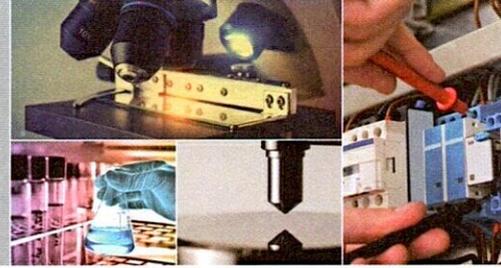
**Harshali Chaudhari**  
Checked by

**For ELCA LABORATORIES**



**Reviewed & Authorised by**  
**Authorised Signatory**  
**Kartik Iyer / Hemant Ghare**  
**C.E.O. / Senior Engineer**

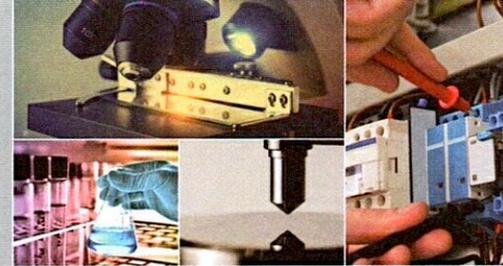
Page 1 of 7



Continuation Sheet of Test report No: E-3193-M

**CONTENTS**

- 1.0 GENERAL TEST DESCRIPTION**
- 2.0 TEST DATA**
- 3.0 ENVIRONMENTAL CONDITIONS**
- 4.0 EQUIPMENT USED**
- 5.0 TEST CONDITIONS**
- 6.0 TEST RESULT**



Continuation Sheet of Test report No: E-3193-M

**1.0 GENERAL TEST DESCRIPTION**

This Report presents the result of the Ingress Protection Test performed on Double Compression Cable Gland E1W-20s sample submitted by M/s. Akshar Brass Industries Sample is identified as **E-3193-M**.

**Customer Challan No.: Nil dated 11.08.2021**

**Our Quotation / offer no.: ELCA/QUO/21-22/394 dated 14.08.2021**

**Description of the Product:**

Product	Size
Double Compression Cable Gland	E1W-20s

All tests were carried out as per customer's requirements derived from the following standards.

**APPLIED STANDARD: -**

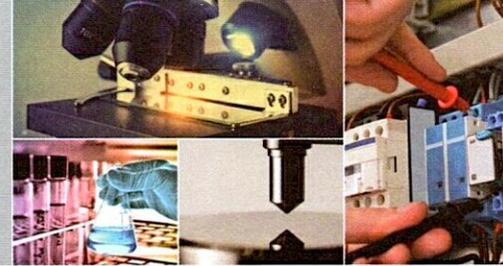
**1. IEC 60529:2013**

**Degrees of Protection provided by enclosures (IP Code)**

- a) Tests for protection of person against access to hazardous parts (First Numeral: 6)  
as per Table No. 6 and Clause No. 12.2
- b) Tests for protection against solid foreign object (First Numeral: 6)  
as per Table No. 7 and Clause No. 13.4
- c) Tests for protection against Water (Second Numeral: 8)  
as per Table No. 8 and clause No. 14.2.7

**Acceptance conditions:**

- a) Tests for protection of person against access to hazardous parts  
as per Clause No. 12.3
- b) Tests for protection against solid foreign object  
as per Clause No. 13.6.2
- c) Tests for protection against Water  
as per Clause No. 14.3


Continuation Sheet of Test report No: E-3193-M
**2.0 TEST DATA**

<b>Test Laboratory</b>	ELCA LABORATORIES: Plot No. - Gen-62, TTC Industrial Area, MIDC, Mahape, Navi Mumbai - 400710.
<b>Test Date</b>	a) Test for protection of person against access to hazardous parts on 23 <sup>rd</sup> August 2021. b) Test for protection against solid foreign object 23 <sup>rd</sup> August 2021. c) Test for protection against Water on 24 <sup>th</sup> August 2021.
<b>Tested By</b>	Mr. Hemant Ghare
<b>ELCA ID No.</b>	E-3193-M

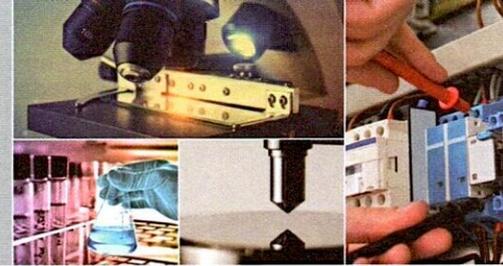
**3.0 ENVIRONMENT CONDITIONS**

Tests have been performed in a controlled laboratory environment, where the environmental conditions are maintained within the applicable ranges as follows.

<b>Ambient Temperature</b>	15°C - 35°C
<b>Relative Humidity air</b>	25% - 75%
<b>Air pressure</b>	86 kPa to 106 kPa (860 mbar to 1 060 mbar)

**4.0 EQUIPMENT USED**

TEST	Equipment Used	ELCA ID	Calibration Due on
Ingress Protection Test (IP6X)	Rigid Steel Rod of 1.0 mm dia. Object Probe	IPD/04	24.7.2022
	Dust Chamber	ENV/026	--
	Digital Timer (Dust Chamber)	ENV/026/01	16.03.2022
	Pressure Gauge (Dust Chamber)	ENV/026/02	19.03.2022
	Vacuum Gauge (Dust Chamber)	ENV/026/03	19.03.2022
Ingress Protection Test (IPX7)	Water Tank	--	--


Continuation Sheet of Test report No: E-3193-M
**5.0 TEST CONDITIONS**
**Degrees of protection of person against Access to Hazardous parts as per Table 6**

The sample was tested for protection against Access

<b>Equipment Used</b>	Rigid Steel Rod of 1.0 mm dia. Object Probe
<b>Equipment ID</b>	IPD/04
<b>IP code</b>	First Characteristic numeral: 6

**Degree of protection against solid foreign object as per Table 7**

The sample was placed in the Dust Chamber at room temperature. The test conditions are as follows: -

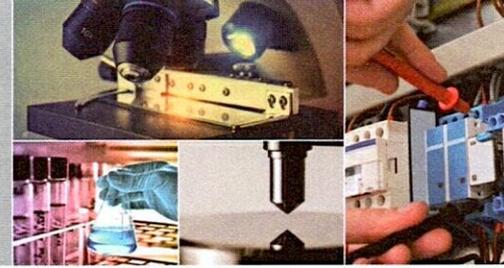
<b>Exposure Period</b>	8 Hours at 20 mbar
<b>Start time</b>	10.00 AM on 23.08.2021
<b>End time</b>	06.00 PM on 23.08.2021
<b>IP code</b>	First Characteristic numeral: 6 Category: 1

<b>Type of dust used</b>	Talcum powder
<b>Size of dust</b>	Passed through square meshed sieve of wire diameter 50µm and nominal width of a gap between wires 75 µm
<b>Weight of dust used</b>	2 kg. (2kg.per cubic meter of test chamber)
<b>Chamber volume</b>	1.0 cubic meter

**Degrees of protection against water as per Table 8**

The sample was tested for water test as per following conditions:

<b>Equipment used</b>	Water Tank
<b>Location of the samples</b>	Lowest point of enclosure is located at 1.5 meter below the surface of the water
<b>Start time</b>	12.00 AM dated 24.08.2021
<b>End time</b>	12.30 AM dated 24.08.2021
<b>Duration of test</b>	30 Minutes
<b>IP code</b>	Second Characteristic numeral: 7



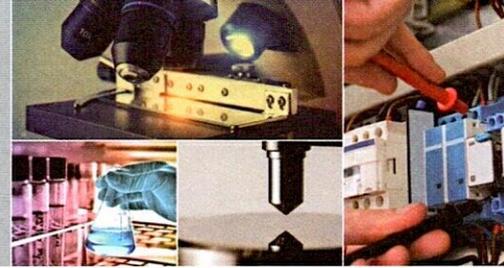
Continuation Sheet of Test report No: E-3193-M

The sample inside the chamber after protection against solid foreign object (dust test) was seen as follows:

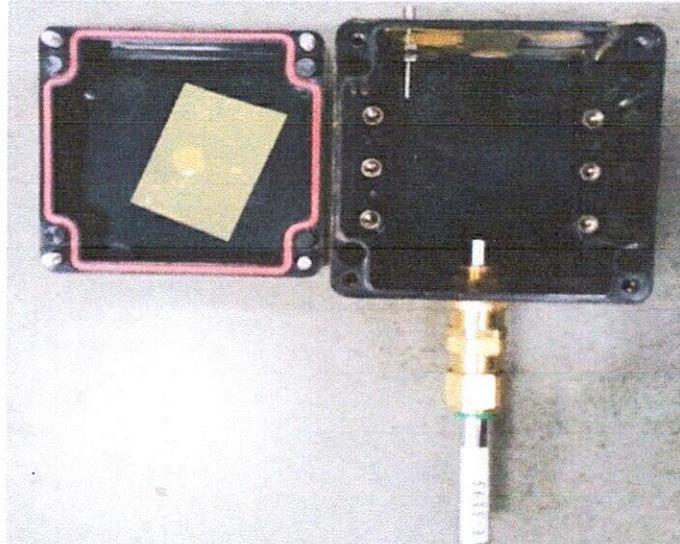


The sample during water test was seen as follows:




Continuation Sheet of Test report No: E-3193-M

The sample after dust test and water was seen as follows:



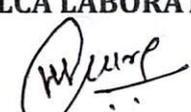
The IP test procedure is based on IEC 60529 (Degrees of Protection provided by enclosures (IP Code)). After the completion of each test sample was visually inspect.

**5.0 TEST RESULT: -**

Name of test	Observations after test
<b>Tests for protection of person against access to hazardous parts (Probe Test)</b>	Full diameter of probe did not pass through any opening.
<b>Tests for protection against solid foreign object (Dust Test)</b>	No dust was observed inside the sample.
<b>Tests for protection against Water</b>	No water observed inside the sample.
<b>Result:</b> Sample complies with test requirements of IP67 as per IEC 60529:2013.	

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

*HC*  
**Harshali Chaudhari**  
 Checked by

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**Reviewed & Authorised by**  
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Page 7 of 7