**TEST REPORT****for Ingress Protection (IP67) Test carried out on  
DOUBLE COMPRESSION CABLE GLAND E1W-20L****Customer:****AKSHAR BRASS INDUSTRIES**

Plot No 46,47,50, 51,

Survey No. 246,245,

at Naghedi Industrial Area,

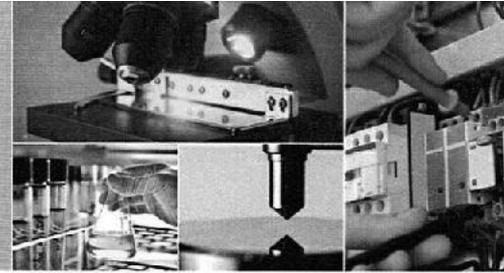
Jamnagar - 361006, Gujarat, India.

**Test Report No:** E-3194-M**Discipline:** Electrical Testing**Group:** Environmental Test Facility**Sample Received Date:** 13.08.2021**ULR No.:** TC574321000016411F**Description of the Product:**

| Product                           | Size    |
|-----------------------------------|---------|
| Double Compression<br>Cable Gland | E1W-20L |

**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**

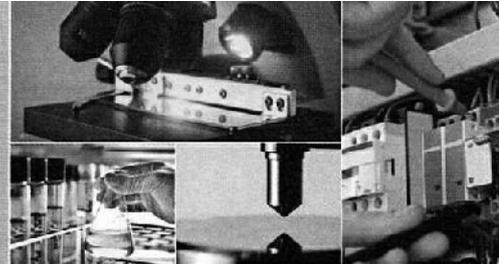
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### 1.0 GENERAL TEST DESCRIPTION

This Report presents the result of the Ingress Protection Test performed on Double Compression Cable Gland E1W-20L sample submitted by M/s. Akshar Brass Industries Sample is identified as E-3194-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-20L |

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

**APPLIED STANDARD: -**

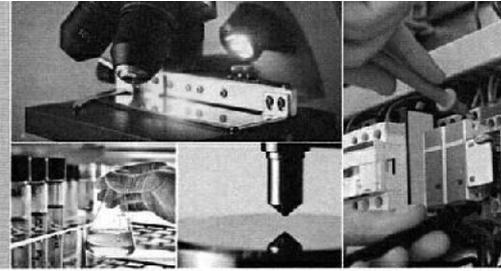
**1. IEC 60529:2013**

**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



## 2.0 TEST DATA

|                        |   |
|------------------------|---|
| <b>Test Laboratory</b> | ELCA LABORATORIES: Plot No. - Gen-62,<br>TTC Industrial Area, MIDC, Mahape, Navi Mumbai - 400710.   |
| <b>Test Date</b>       | a) Test for protection of person against access to hazardous parts on 24 <sup>th</sup> August 2021.<br>b) Test for protection against solid foreign object 24 <sup>th</sup> August 2021.<br>c) Test for protection against Water on 25 <sup>th</sup> August 2021. |
| <b>Tested By</b>       | Mr. Hemant Ghare  |
| <b>ELCA ID No.</b>     | E-3194-M  |

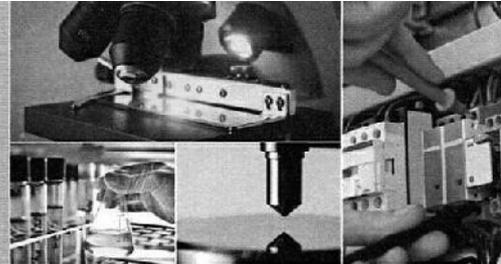
## 3.0 ENVIRONMENT CONDITIONS

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                                  | --         | --                 |



## 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: -

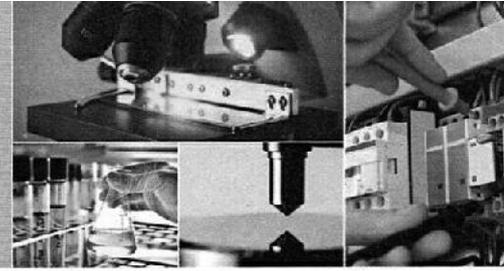
|                        |   |
|------------------------|---|
| <b>Exposure Period</b> | 8 Hours at 20 mbar                          |
| <b>Start time</b>      | 10.00 AM on 24.08.2021                      |
| <b>End time</b>        | 06.00 PM on 24.08.2021                      |
| <b>IP code</b>         | 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 50 $\mu$ m and nominal width of a gap between wires 75 $\mu$ m |
| <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

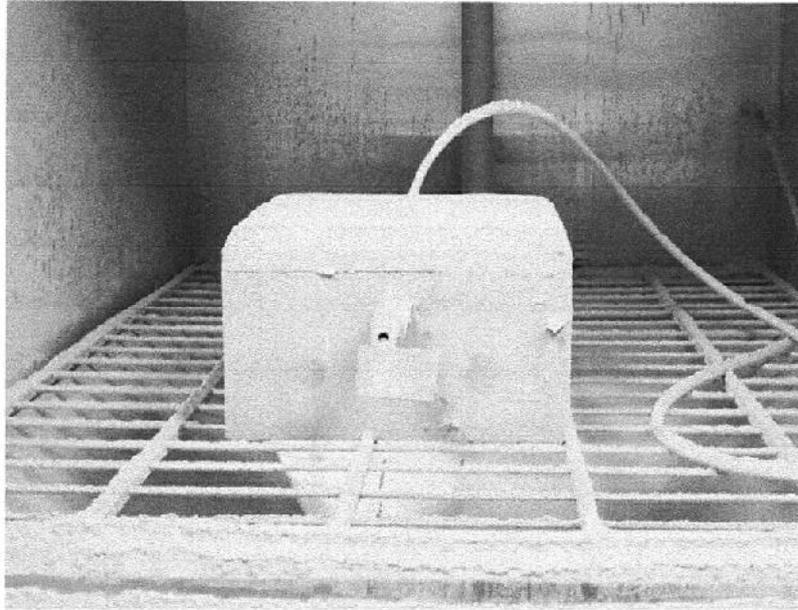
The sample was tested for water test as per following conditions:

|                                |  |
|--------------------------------|--|
| <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>              | 11.00 AM dated 25.08.2021  |
| <b>End time</b>                | 11.30 AM dated 25.08.2021  |
| <b>Duration of test</b>        | 30 Minutes   |
| <b>IP code</b>                 | Second Characteristic numeral: 7   |

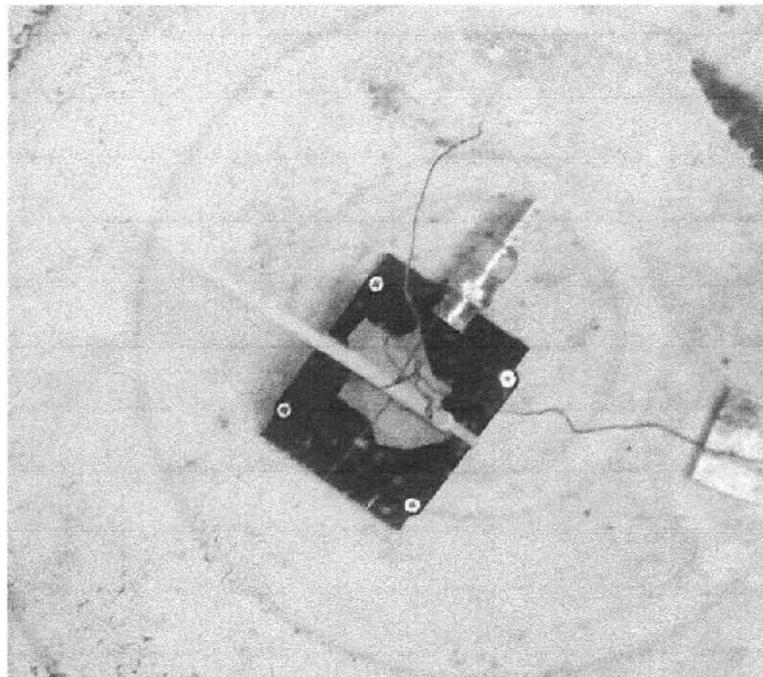


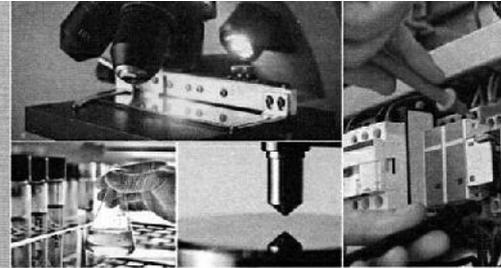
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The sample inside the chamber after protection against solid foreign object (dust test) was seen as follows:



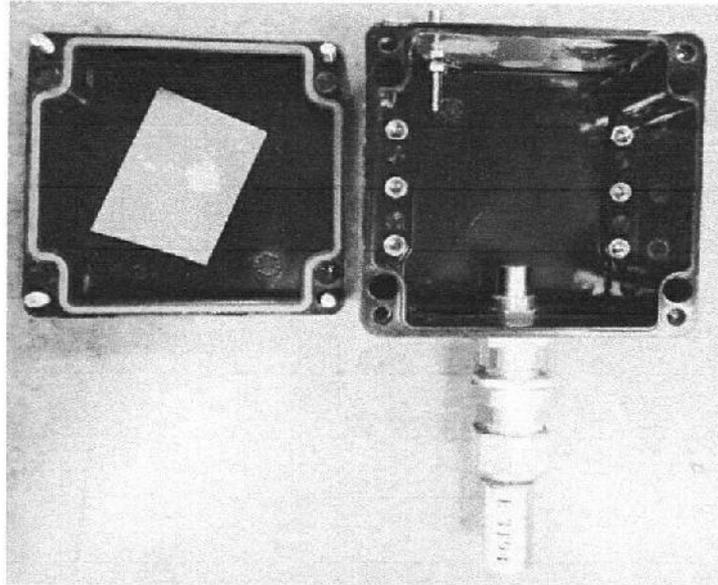
The sample during water test was seen as follows:





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



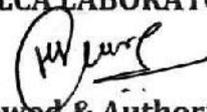
The IP test procedure is based on IEC 60529 (Degrees of Protection provided by enclosures (IP Code)). After the completion of each test sample was visually inspect.

**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-----

*Chau*  
**Harshali Chaudhari**  
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