

**TEST REPORT**  
**for Ingress Protection (IP68) Test carried out on**  
**M40 CABLE GLAND**

**Customer:****AKSHAR BRASS INDUSTRIES**

Plot No 46,47,50, 51,

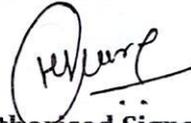
Survey No. 246,245, at

Naghedi Industrial Area,

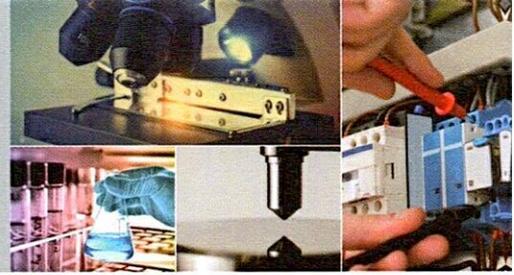
Jamnagar - 361006, Gujarat, India.

**Test Report No:** E-3158-M**Discipline:** Electrical Testing**Group:** Environmental Test Facility**Sample Received Date:**19.07.2021**ULR No.:** TC574321000014100F**Description of the Product:**

Product	Size
Cable Gland	M40

**Date:** 02<sup>nd</sup> August 2021**For ELCA LABORATORIES**  
**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 M40 Cable Gland sample submitted by M/s. Akshar Brass Industries Sample is identified as **E-3158-M**.

**Customer Challan No.:** ABI/DC/015 dated 15.07.2021

**Our Quotation / offer no.:** ELCA/QUO/21-22/219/R1 dated 02.07.2021

### Description of the Product:

Product	Size
Cable Gland	M40

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

### APPLIED STANDARD: -

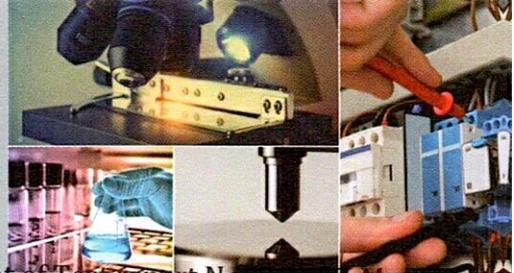
#### 1. IEC 60529:2013

#### 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. 14.2.8

#### 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, TTC Industrial Area, MIDC, Mahape, Navi Mumbai - 400710.
<b>Test Date</b>	a) Test for protection of person against access to hazardous parts on 19 <sup>th</sup> July 2021. b) Test for protection against solid foreign object 19 <sup>th</sup> July 2021. c) Test for protection against Water on 21 <sup>st</sup> July 2021.
<b>Tested By</b>	Mr. Hemant Ghare
<b>ELCA ID No.</b>	E-3158-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	28.07.2021
	Dust Chamber	ENV/006	16.03.2022
	U Tube Vacuum Gauge Manometer	ENV/008	08.10.2022
Ingress Protection Test (IPX8)	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: -

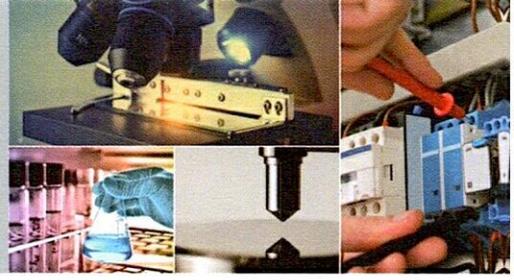
<b>Exposure Period</b>	8 Hours at 20 mbar
<b>Start time</b>	09.15 AM on 19.07.2021
<b>End time</b>	05.15 PM on 19.07.2021
<b>Equipment used</b>	ENV/026
<b>IP code</b>	First Characteristic numeral: 6 Category: 1

<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

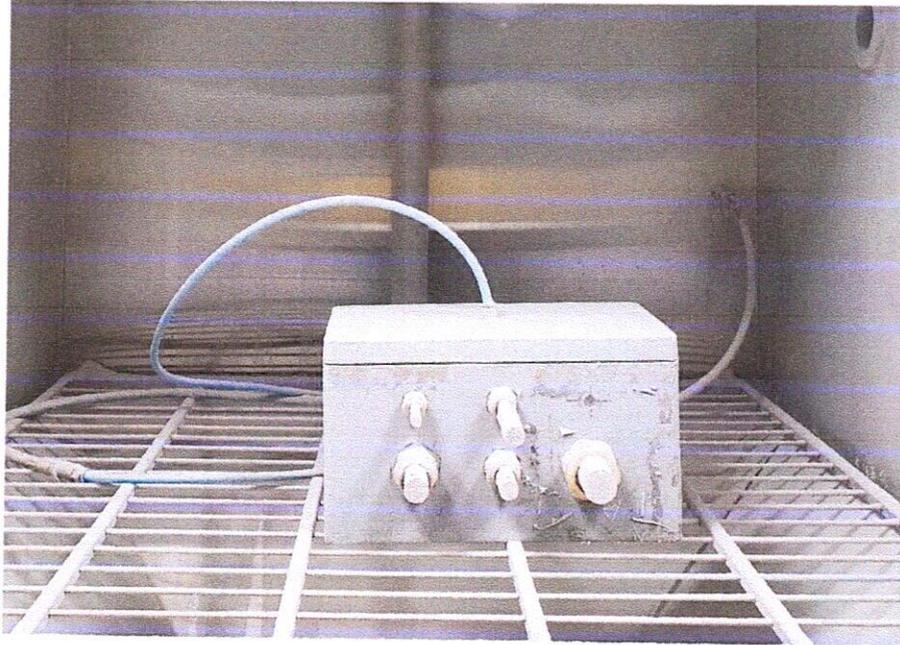
The sample was tested for water test as per following conditions:

<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>	10.00 AM dated 21.07.2021
<b>End time</b>	11.00 AM dated 21.07.2021
<b>Duration of test</b>	60 Minutes
<b>IP code</b>	Second Characteristic numeral: 8



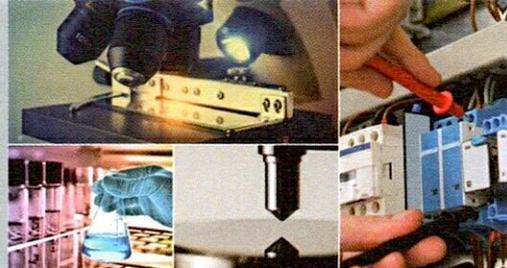
Continuation Sheet of Test report No: E-3158-M

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

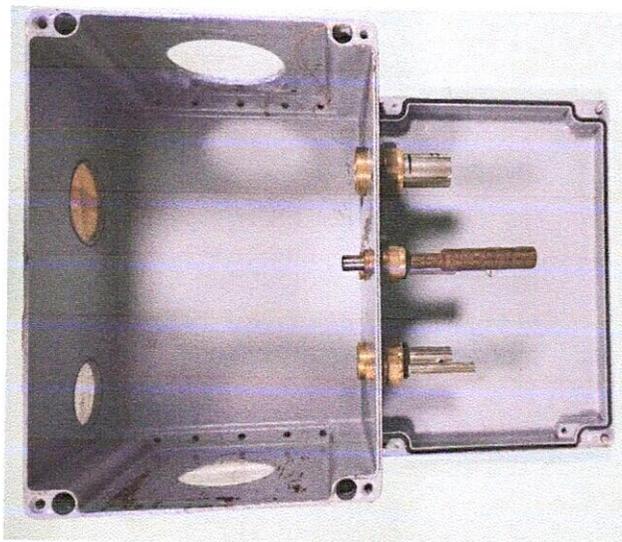


The sample during water test was seen as follows:




Continuation Sheet of Test report No: E-3158-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.

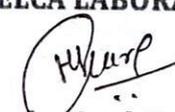
**5.0 TEST RESULT: -**

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 IP68 as per IEC 60529:2013.	

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

 Checked By: 

For ELCA LABORATORIES

  
 Authorised Signatory  
 Kartik Iyer / Hemant Ghare  
 C.E.O./ Senior Engineer