

TEST REPORT
for Ingress Protection (IP68) Test carried out on
M32 CABLE GLAND

Customer:**AKSHAR BRASS INDUSTRIES**

Plot No 46,47,50, 51,

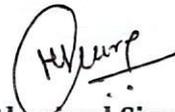
Survey No. 246,245, at

Naghedi Industrial Area,

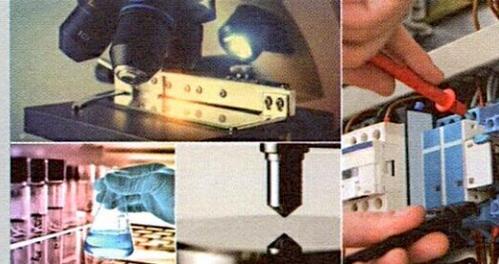
Jamnagar - 361006, Gujarat, India.

Test Report No: E-3157-M**Discipline:** Electrical Testing**Group:** Environmental Test Facility**Sample Received Date:**19.07.2021**ULR No.:** TC574321000014099F**Description of the Product:**

| Product | Size |
|-------------|------|
| Cable Gland | M32 |

Date: 02nd August 2021**For ELCA LABORATORIES**
Authorised Signatory
Kartik Iyer / Hemant Ghare
C.E.O./ Senior Engineer

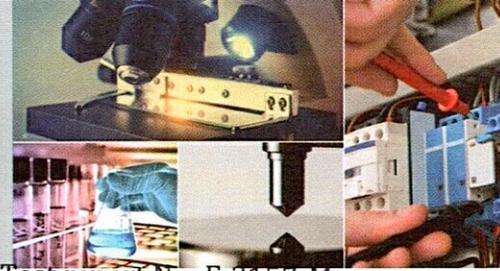
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1.0 GENERAL TEST DESCRIPTION

This Report presents the result of the Ingress Protection Test performed on M32 Cable Gland sample submitted by M/s. Akshar Brass Industries Sample is identified as **E-3157-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 | M32 |

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

APPLIED STANDARD: -

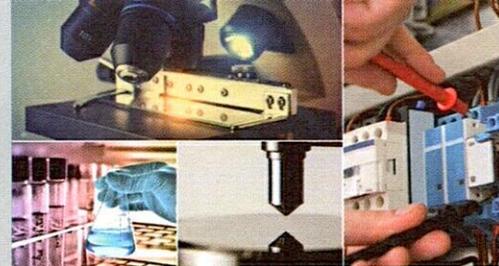
1. IEC 60529:2013

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


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2.0 TEST DATA

| | |
|------------------------|---|
| Test Laboratory | ELCA LABORATORIES: Plot No. - Gen-62, TTC Industrial Area, MIDC, Mahape, Navi Mumbai - 400710. |
| Test Date | a) Test for protection of person against access to hazardous parts on 19 th July 2021. b) Test for protection against solid foreign object 19 th July 2021. c) Test for protection against Water on 21 st July 2021. |
| Tested By | Mr. Hemant Ghare |
| ELCA ID No. | E-3157-M |

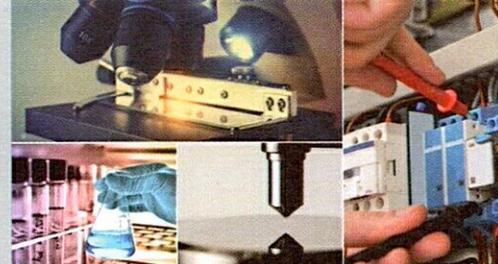
3.0 ENVIRONMENT CONDITIONS

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

| | |
|------------------------------|--|
| Ambient Temperature | 15°C - 35°C |
| Relative Humidity air | 25% - 75% |
| Air pressure | 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

| | |
|-----------------------|---|
| Equipment Used | Rigid Steel Rod of 1.0 mm dia. Object Probe |
| Equipment ID | IPD/04 |
| IP code | 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: -

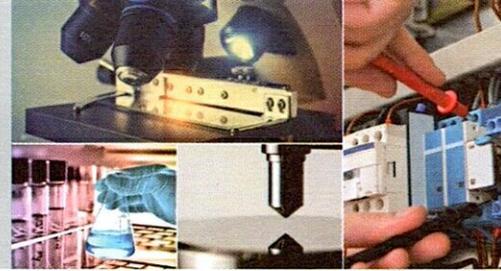
| | |
|------------------------|---|
| Exposure Period | 8 Hours at 20 mbar |
| Start time | 09.15 AM on 19.07.2021 |
| End time | 05.15 PM on 19.07.2021 |
| Equipment used | ENV/026 |
| IP code | First Characteristic numeral: 6 Category: 1 |

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

Degrees of protection against water as per Table 8

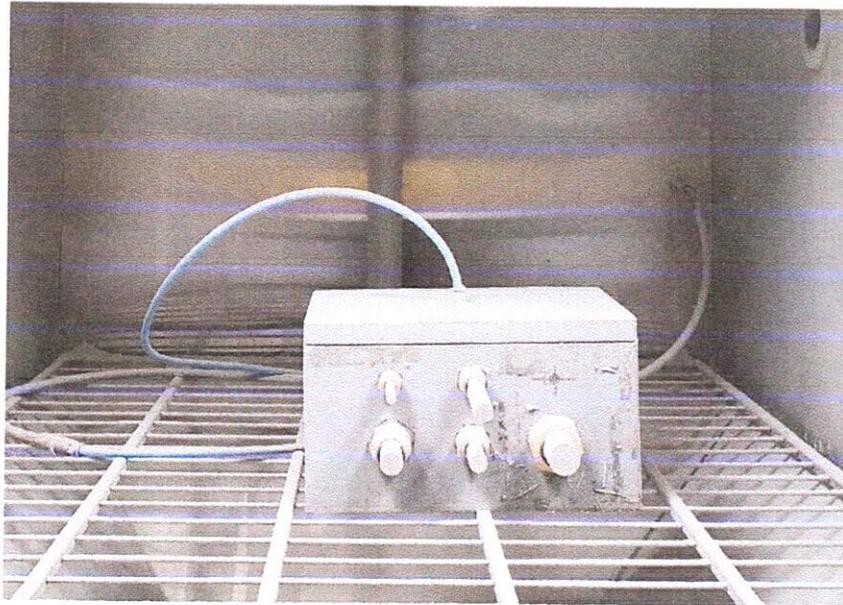
The sample was tested for water test as per following conditions:

| | |
|--------------------------------|--|
| Equipment used | Water Tank |
| Location of the samples | Lowest point of enclosure is located at 1.5 meter below the surface of the water |
| Start time | 10.00 AM dated 21.07.2021 |
| End time | 11.00 AM dated 21.07.2021 |
| Duration of test | 60 Minutes |
| IP code | Second Characteristic numeral: 8 |

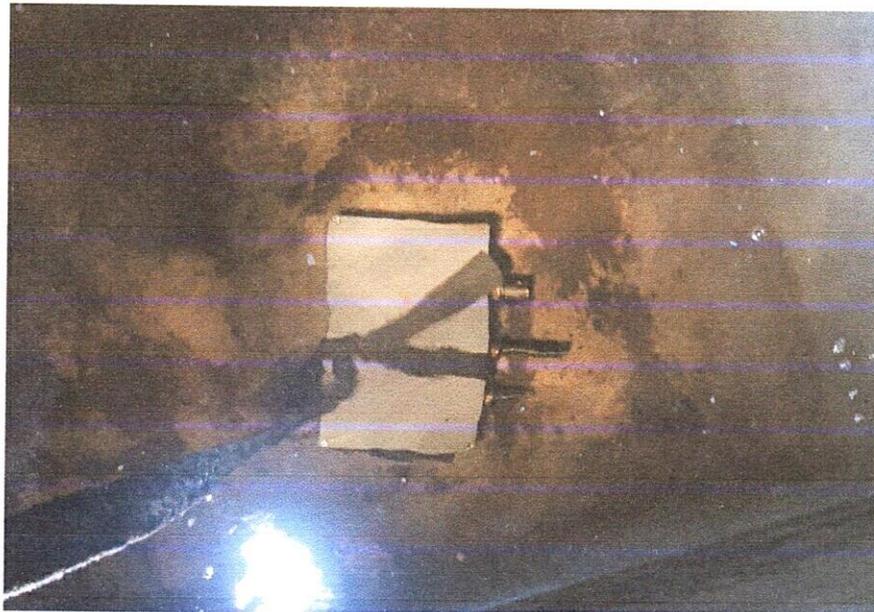


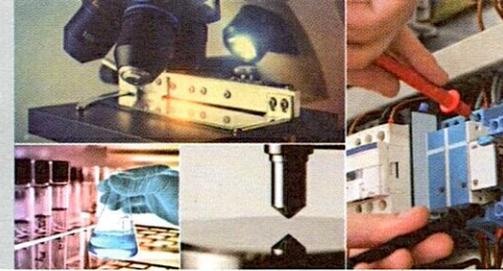
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The sample inside the chamber after protection against solid foreign object (dust test) was seen as follows:

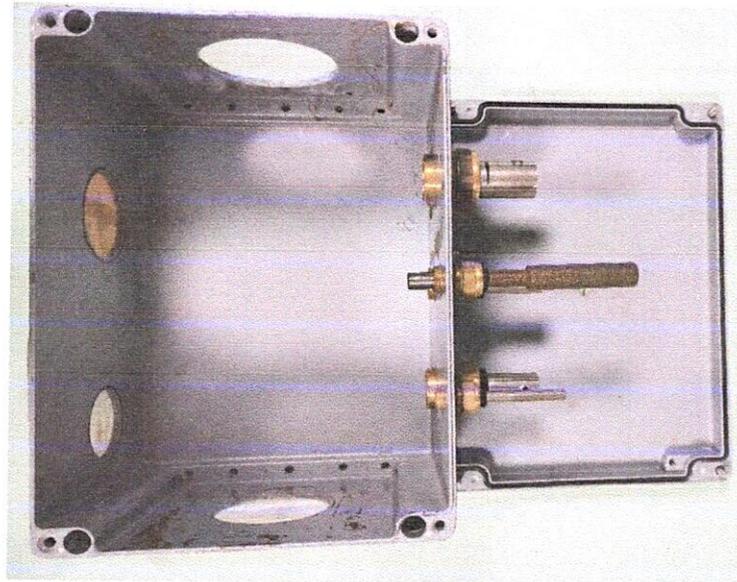


The sample during water test was seen as follows:




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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.

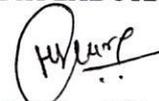
5.0 TEST RESULT: -

| Name of test | Observations after test |
|--|--|
| Tests for protection of person against access to hazardous parts (Probe Test) | Full diameter of probe did not pass through any opening. |
| Tests for protection against solid foreign object (Dust Test) | No dust was observed inside the sample. |
| Tests for protection against Water | No water observed inside the sample. |
| Result: 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

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