

REPORT BY

TEST SAFE AUSTRALIA

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Prepared for

Xero Manufacturing Pty Limited



Equipment

Xero Linear Lighting Systems - XTI



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Accredited Laboratory
No. 1032

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Issued by
TESTSAFE AUSTRALIA
Dealing with

DEGREES OF PROTECTION (IP CODE) OF ELECTRICAL EQUIPMENT

Report Details

This Report deals with the test and assessment of equipment in regard to the following Standard:

AS 60529:2004 Degrees of protection provided by enclosures. (IP Code)

Equipment:	Xero Linear Lighting Systems - XTI
Submitted by:	Xero Manufacturing Pty Limited 16 Voyager Circuit Glendenning NSW 2761, Australia
Manufactured by:	Xero Manufacturing Pty Limited 16 Voyager Circuit Glendenning NSW 2761, Australia
Degree of protection:	IP66/67
Depth and duration of immersion:	1m for 30 minutes (IPx7)
Enclosure Category:	1
Date of test:	2017-10-26 to 2017-12-06

1. Scope

This report covers the results of testing carried out on an enclosure to Standard AS 60529:2004. The purpose of these tests was to verify the ability of the enclosure to protect persons against access to hazardous parts and to test the enclosure for its ability to prevent ingress of foreign objects including dust and water into the enclosure.

The enclosure was submitted for testing by “Xero Manufacturing Pty Limited”.

2. Equipment

The sample submitted was a Xero Linear Lighting Systems - XTI (serial number unknown) and was identified by TestSafe a S9728-2.

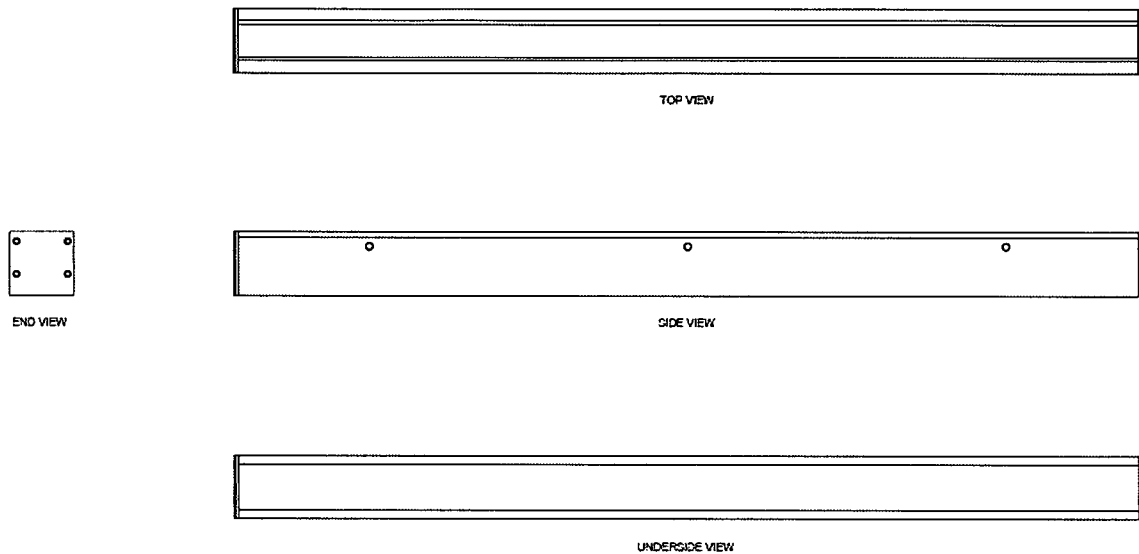


Figure 1. General overview of XERO Linear Lighting Systems – XTI

This light fitting enclosure is constructed with aluminum 6060 T5 extrusion, and translucent polycarbonate rectangle window lens. There are silicone gaskets between aluminum extrusions and window lens; there are also silicone gasket between end cap and main enclosure.

Its maximum dimension is 3378mm × 152mm × 152mm, at operation temperature from 5°C to 35°C.

This equipment has an entry hole with diameter Ø19, fitted with a cable gland with EPDM seal, which is minimum IP66/67 rated. The sample enclosure is empty for test and can be fitted with electrical lighting circuits or elements. There is no drain hole fitted to this equipment.

3. Test and assessment

The enclosure was tested to AS 60529:2004 for degree of protection IP66/67 , category 1 as nominated by the client.

The enclosure was not energized for the duration of testing and performance tests were not carried out.

3.1 Protection against access to hazardous parts – IP4X

3.1.1 Test Method

The IP4X access probe, (a test wire Ø1 mm diameter and 100 mm long), was pushed against any openings of the enclosure with the force of 1 N.

As the full diameter of the access probe did not pass through any opening, the enclosure complied with the above requirements of the standard for protection against access to hazardous parts and for protection against solid foreign objects.

**3.2 Protection against the penetration of solid foreign objects including dust – IP6X
Category 1**

3.2.1 Test Method

For this test, the unit was set up in a closed dust chamber, which maintained talcum powder in suspension. The devices were connected to a vacuum pump to maintain the pressure in the enclosure below atmospheric pressure. The enclosure was exposed to the talcum powder atmosphere for a period of 8 hours with a vacuum of -2 kPa. The talcum powder used, passed through a square meshed sieve having nominal wire diameter of Ø50 µm and a nominal width of a gap between wires of 75 µm. The amount of talcum powder installed in the test dust chamber was 2 kg/ m³ of the test chamber volume.

At the conclusion of this test, the equipment was wiped clean and examined internally. It was found that no dust had entered and the equipment met the requirements for “Degree of Protection” IP6X.

3.3 Protection against water ingress to the enclosure – IPX6

3.3.1 Test Method

The enclosure was sprayed from all practicable directions with a stream of fresh water from a hose having an Ø12.5 mm nozzle diameter delivering 100 litres of water per minute with water pressure at the nozzle adjusted to achieve the specified delivery rate. Also the core of the substantial stream of water was measured approximately Ø120 mm in diameter at 2.5 m distance from the nozzle. The distance from the nozzle to the tested enclosure surface was between 2.5 m to 3 m. During the test the water temperature did not differ by more than 5 K from the temperature of the sample under test. The test duration was not less than 3 minutes.

Following the test the sample enclosure was wiped dry on the outside and inspected internally. It was found that no water had accumulated inside and the enclosure complied with the requirements for “Degree of Protection” IPX6.

3.4 Protection against water ingress to the enclosure – IPX7

3.4.1 Test Method

The enclosure was immersed in water such that its highest point was 1 meter below the water surface. The duration of this test was 30 minutes.

Following the test the sample was wiped dry on the outside and inspected internally. It was found that no water had accumulated inside and the enclosure complied with the requirements for “Degree of Protection” IPX7.

4. Results

The enclosure complied with the requirements of AS 60529:2004 for “Degree of Protection” IP66/67 Category 1 .

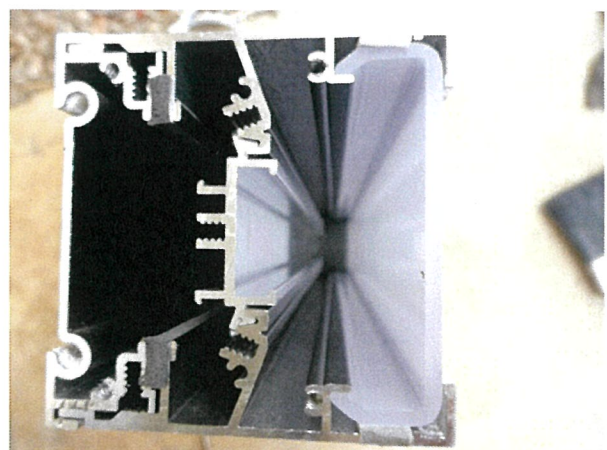
5 Additional Information

None

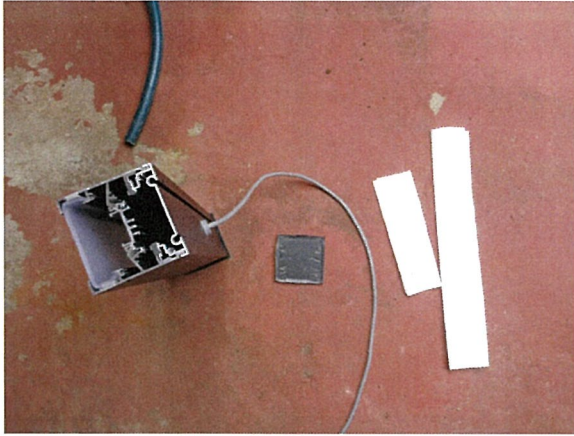
6. Photographs



Inspection after IP6x test



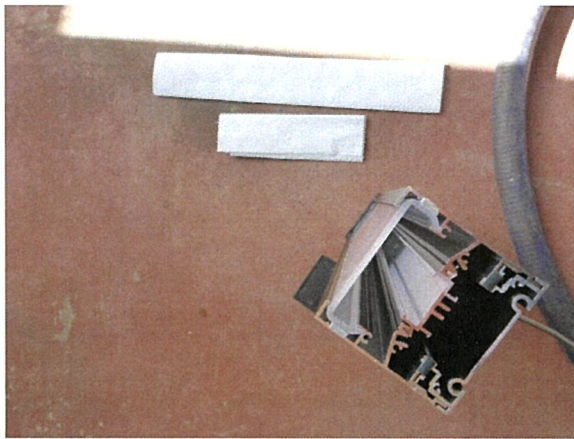
Inspection after IP6x test



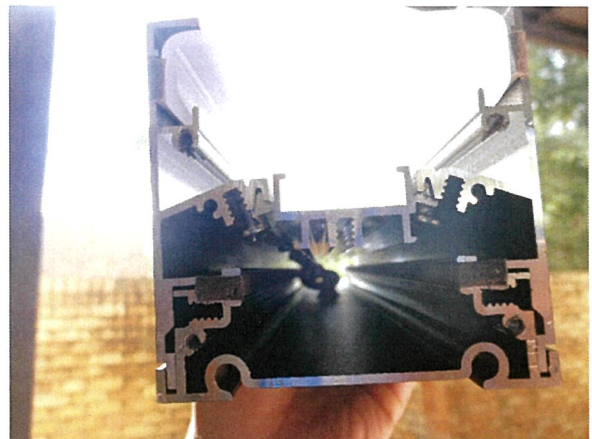
Inspection after IPx6 test



Inspection after IPx6 test



Inspection after IPx7 test



Inspection after IPx7 test

7. Drawings/documents

The following drawings/documents were used during assessment and testing processes.

Drawing/ Document No.	Drawing / Document Title	Issue/ Revision	Date (yyyy-mm-dd)
N/A	XERO Linear Lighting Systems - XTI	N/A	N/A

8. Signatures

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