



AB 261



LABORATORY OF CABLE TESTING AND ENVIROMENTAL TESTS

TEST REPORT No. 5576-ZLK/2019

PL-1/11-EN w. 1.5

Degree of protection provided by enclosures.

IP67 tests of lamp enclosure SP-401.

**ZESPÓŁ LABORATORIÓW
BADAWCZYCH**

**Świadczy usługi
w zakresie badań:**

- kompatybilności elektromagnetycznej (EMC)
- środowiskowych
- elektrycznych
- mechanicznych
- trudnopalności materiałów
- funkcjonalności
- stopnia ochrony IP
- ♦ aparatury rozdzielczej
- ♦ stacji transformatorowych
- ♦ silników elektrycznych
- ♦ kabli i przewodów
- ♦ urządzeń gazometrycznych
- ♦ innych urządzeń elektrycznych i elektronicznych
- ♦ podzespołów stosowanych w kolejnictwie, branży automotive i siłach zbrojnych RP

Report for:

**Solutions4GA Sp. z o.o.
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01-476 Warszawa**

Order:

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1. Equipment Under Test (EUT):

Table 1.

No	Name according to the supplier	Serial number	Delivery date	Manufacturer	Laboratory code
1	Lamp enclosure SP-401	-	27.02.2019	Solutions4GA	5576/2019



Fig. 1. Test sample 5576 – before the IPx7 test.



Fig. 2. Test sample 5576 in the dust chamber – before the IP6x test.

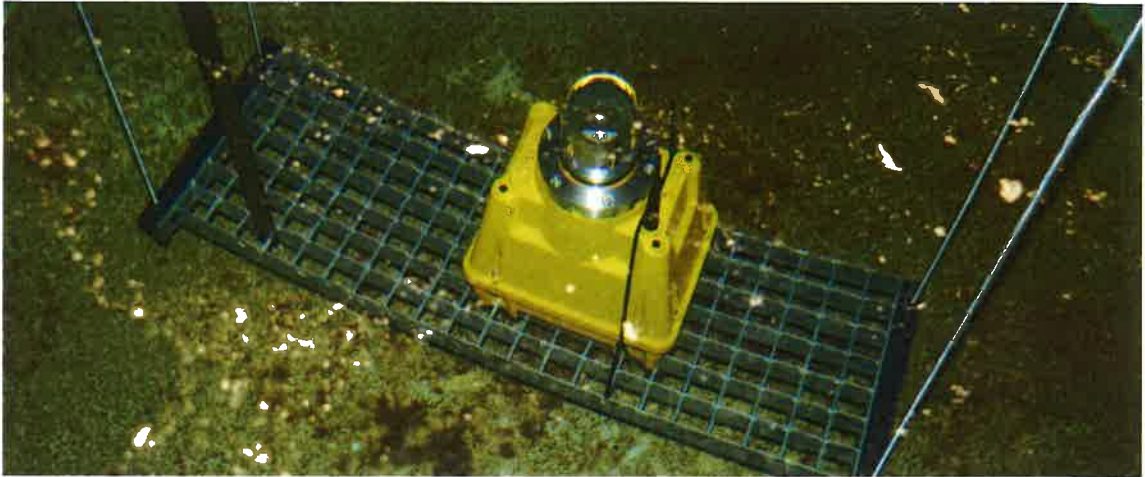


Fig. 3. Test sample 5576 at the test stand - during the IPx7 test.



Fig. 4. Test sample 5576 - Visual internal inspection after the IPx7 test.

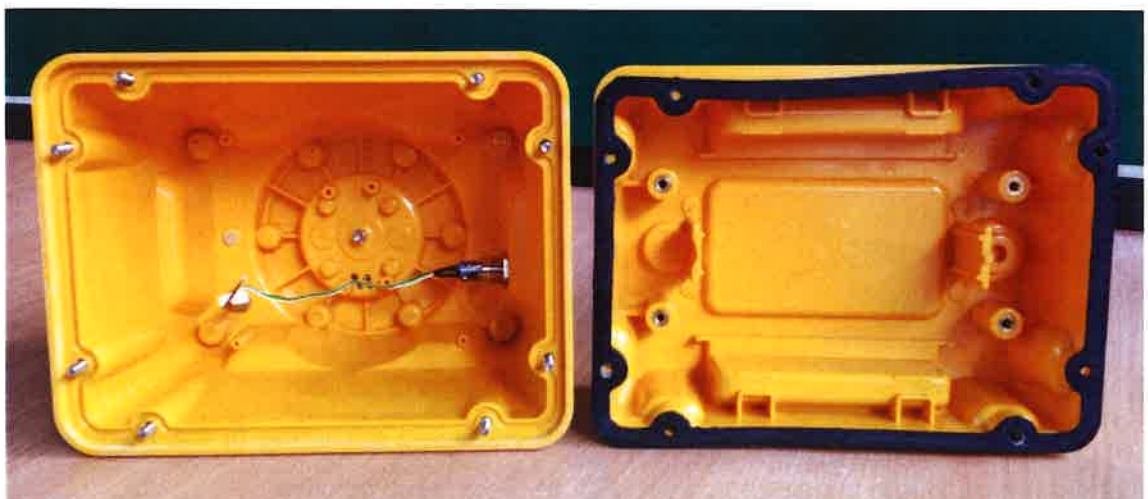


Fig. 5. Test sample 5576 - Visual internal inspection after the IP6x test.

2. Test plan

Table 2.

No.	Tested feature / test method	Remarks	A ¹⁾
1	Protection against penetration of dust: IP6x test, according to the standard PN-EN 60529:2003+A2:2014-07+AC:2017-12		A
2	Protection against water immersion: IPx7 test, according to the standard PN-EN 60529:2003+A2:2014-07+AC:2017-12		A

1) A" means the accredited testing; „-“ means the non-accredited testing.

3. Description and results of tests

3.1. Protection against penetration of dust: IP6x test.

3.1.1. Test procedure

Test was performed in accordance with the recommendations of PN-EN 60529:2003+A2:2014-07+AC:2017-12, clause 13.4: test IP6x – protection against dust (category 1 enclosure).

Test parameters:

- Type of dust: Talcum powder, grain size <75 µm
- The amount of dust: 2 kg
- The dust chamber size: 1 m³
- Test duration: 8 h
- Underpressure: 1972... 1994 Pa

3.1.2. Test equipment

- dust chamber SD1000S ZL/1160/P,
- stopwatch ZL/1102/A
- rotameter ZL/0993/A
- manometer MRC ZL/1161/A
- hytherograph ZL/0454/A

3.1.3. Test results

After the test, the EUT was opened and inspected according to the point 2 of test report. Dust did not penetrate into tested object (Fig. 5). Test result positive.

3.2. Protection against water immersion: IPx7 test.

3.2.1. Test procedure

The purpose of the test is to check the device's tightness against short-term immersion at deep between 0.15 m and 1 m. Test was performed in accordance with standard PN-EN 60529:2003+A2:2014-07+AC:2017-12, clause 14.2.7 - protection against water penetration.

Test conditions:

- temperature of water: 17,2 °C
- temperature of EUT: 18,7 °C
- test duration: 30 min.

3.2.2. Test equipment

- water tank ZL/1168/P
- stopwatch ZL/1102/A
- thermometer ZL/1156/B

3.2.3. Test results

After the test, the EUT was opened and inspected according to the clause 2 of test report (Fig. 4). Water did not penetrate into tested object. Test result positive.

4. Test dates, conditions and personnel:

Test dates	Climatic conditions		Tested by
Start: 3.03.2019	Ambient temperature	(17±20) °C	Cezary Kaczmarek Marcin Patoła Arkadiusz Szveda
End: 4.03.2019	Relative air humidity	(36-48) %	
	Atmospheric pressure	(978±998) hPa	

5. Distribution list of test reports:

Copy No.	Recipients
1	Solutions4GA Sp. z o.o. ul. Sylwestra Kaliskiego 57, 01-476 Warszawa
2	Institute of Innovative Technologies EMAG Laboratory of cable testing and environmental tests

E N D O F R E P O R T

