



**ELECTROTECHNICAL TESTING INSTITUTE**  
**Pod Lisem 129**  
**171 02 Praha 8 - Troja**

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## TEST REPORT

**Name of product:** Intercom

**Type of product:** 2N<sup>®</sup> Helios IP Force 9151101C, 2N<sup>®</sup> Helios IP Force 9151101CK, 2N<sup>®</sup> Helios IP Force 9151101, 2N<sup>®</sup> Helios IP Force 9151101K, 2N<sup>®</sup> Helios IP Force 9151102CR, 2N<sup>®</sup> Helios IP Force 9151102R, 2N<sup>®</sup> Helios IP Force 9151104, 2N<sup>®</sup> Helios IP Force 9151104C, 2N<sup>®</sup> Helios Force 9151201, 2N<sup>®</sup> Helios Force 9151204, 2N<sup>®</sup> Helios Force 915201K 2N<sup>®</sup> Helios IP Safety 9152101, 2N<sup>®</sup> Helios IP Safety 9152101C, 2N<sup>®</sup> Helios Safety 9152201

**Ratings:** IP 65

**Serial number:** ---

**Manufacturer:** **2N TELEKOMUNIKACE a. s.**  
Modřanská 621/72, 143 01 Praha 4, Czech Republic

**Production site:** dtto manufacturer

**EZÚ product coding system:** 105001

**Ordering firm:** **2N TELEKOMUNIKACE a. s.**  
Modřanská 621/72, 143 01 Praha 4, Czech Republic

**Number of tested samples:** 4

**Samples submitted on:** 7.2.2013

**Location of testing:** EZÚ

**Tested from** 7.2.2013 **through** 8.3.2013

**Other data:** Type representatives 2N<sup>®</sup> Helios IP Safety 9152101W, 2N<sup>®</sup> Helios IP Force 9151102CR, 2N<sup>®</sup> Helios IP Force 9151101CK and 2N<sup>®</sup> Helios IP Force 9151104C were tested.

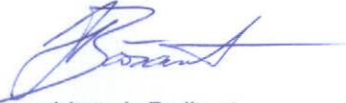
**The product was tested according to:** EN 60529/A1:2000

The test results contained in this report refer to the tested items only. The values presented in this report were measured with the accuracy specified in the testing regulations. All measuring instruments used are properly traceable.

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Compiled by: J. Šašek



  
Approved by: J. Bažant  
Testing laboratory technical manager

Phone: +420 266104111

Fax: +420 284680070

E-mail: [testing@ezu.cz](mailto:testing@ezu.cz)  
<http://www.ezu.cz>

## 1. Specimen description

Four intercoms were provided for testing:

- a) 2N® Helios IP Safety 9152101W
- b) 2N® Helios IP Force 9151102CR
- c) 2N® Helios IP Force 9151101CK
- d) 2N® Helios IP Force 9151104C

For purpose of testing, the specimens were fixed to an artificial wall.



Fig. 1 - specimen 2N® Helios IP Safety 9152101W



Fig. 2 - label of the specimen 2N® Helios IP Safety 9152101W

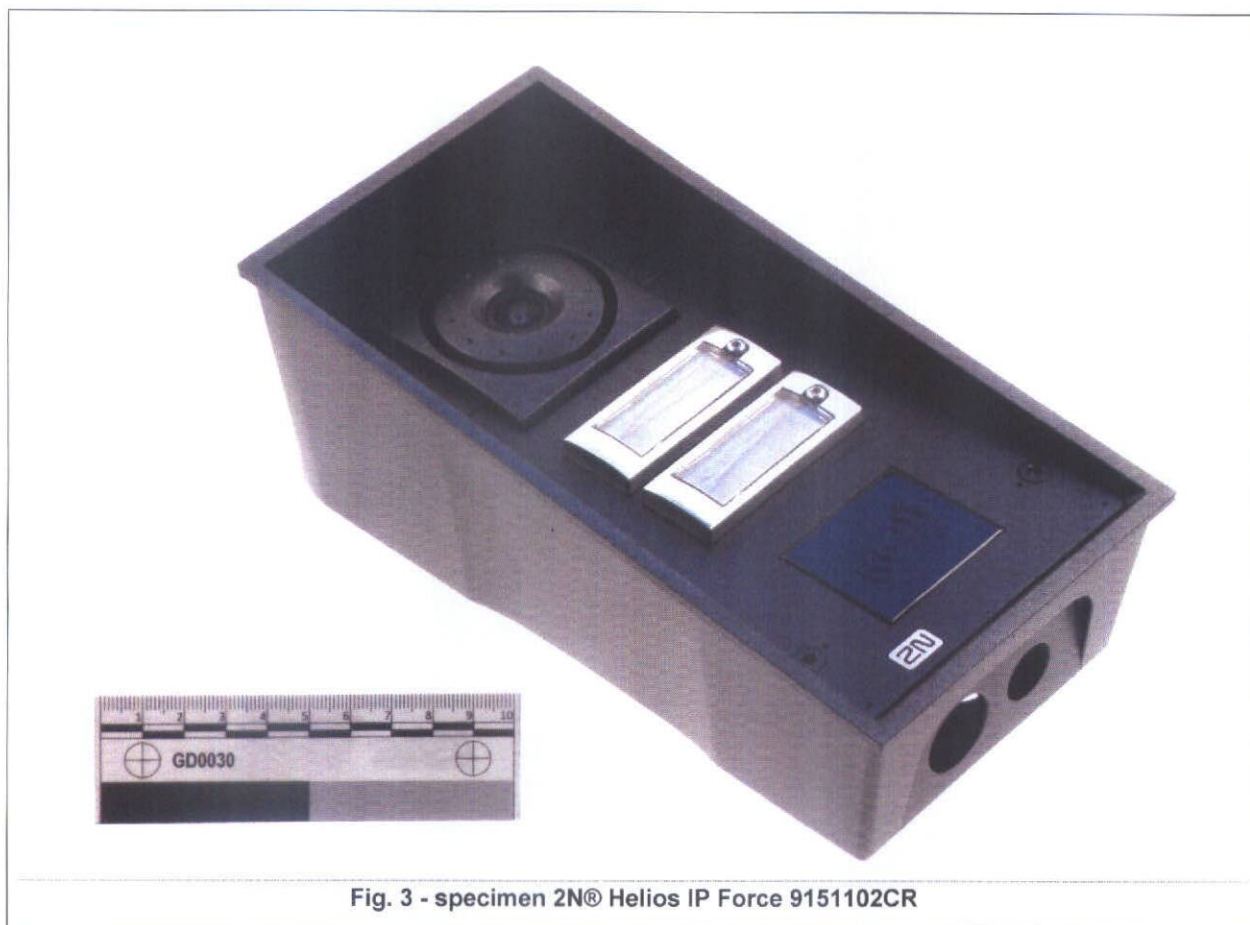


Fig. 3 - specimen 2N® Helios IP Force 9151102CR



Fig. 4 - label of the specimen 2N® Helios IP Force 9151102CR

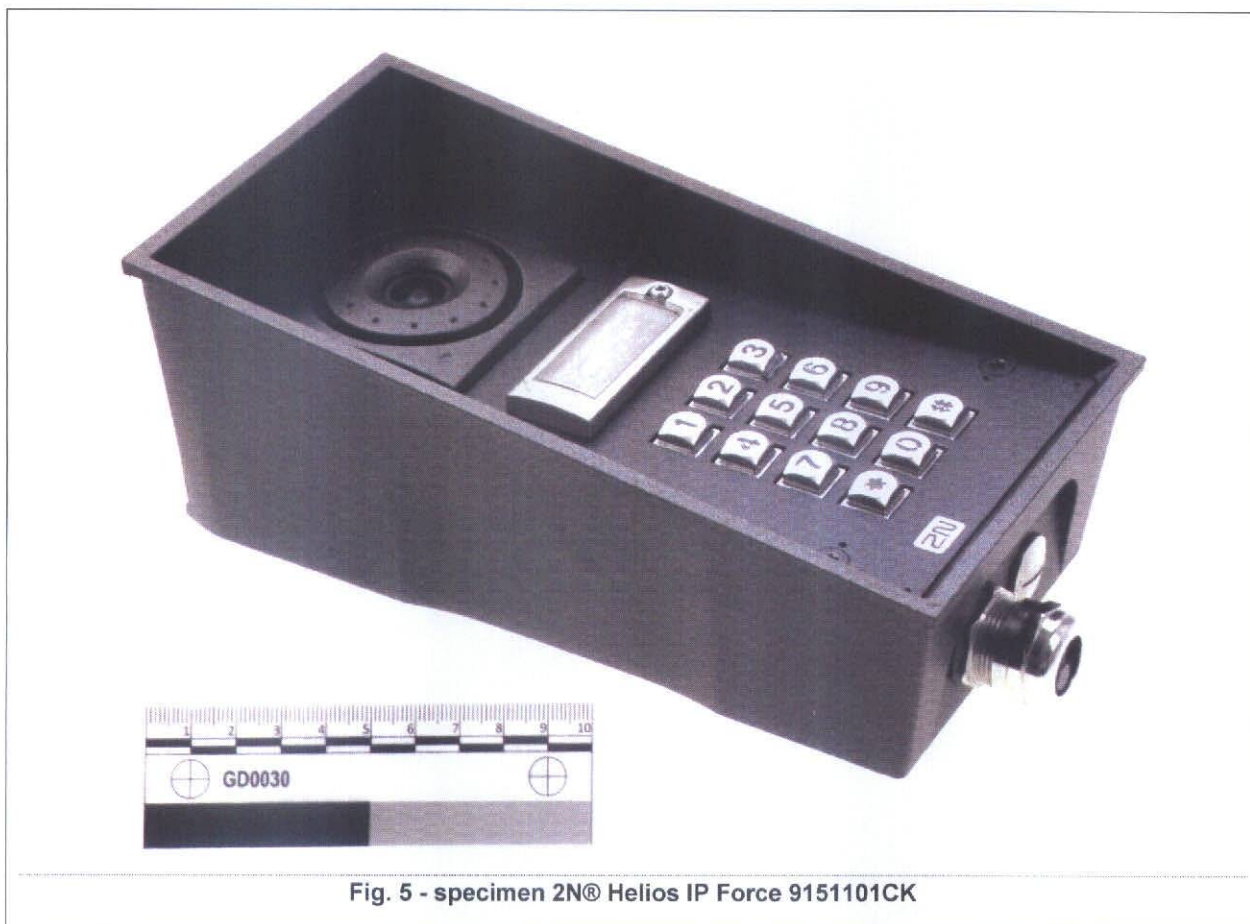


Fig. 5 - specimen 2N® Helios IP Force 9151101CK



Fig. 6 - label of the specimen 2N® Helios IP Force 9151101CK



Fig. 7 - specimen 2N® Helios IP Force 9151104C



Fig. 8 - label of the specimen 2N® Helios IP Force 9151104C

## 2. Testing

### 2.1. Tests of protection provided by enclosures

according to EN 60529/A1:2000

#### 2.1.1. Test of protection against penetration of dust - IP 6X

according to EN 60529/A1:2000, cl. 13.4 and 13.6

##### Test apparatus:

dust chamber VST 1150, inv. No. 834490

##### Test parameters:

The specimens were tested in an operating position.  
dust filling of the chamber: talc  
temperature / relative humidity during the test: 55 °C / 30 %  
underpressure outlet: via bushing  
underpressure: 2 kPa  
duration of test: 8 h

##### Findings:

During the test, no dust penetrated into the specimens.

*passed*

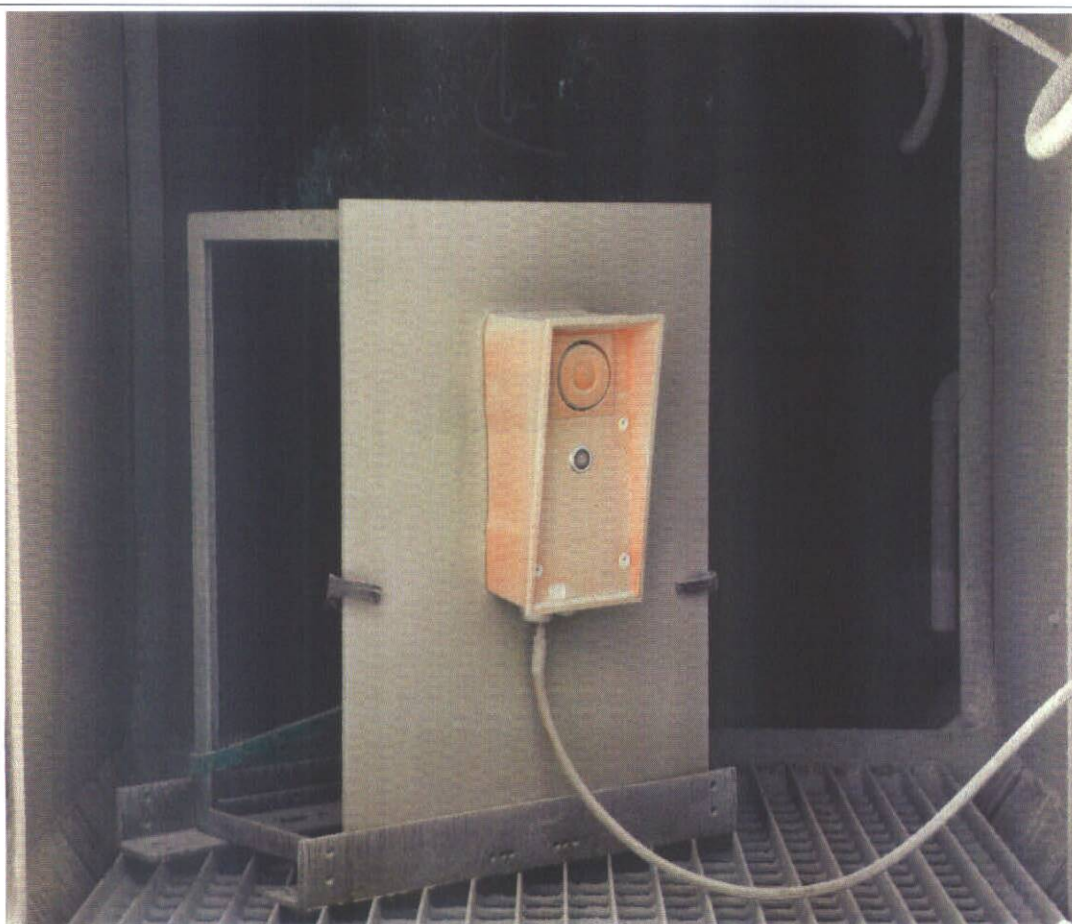


Fig. 9 - specimen 2N® Helios IP Safety 9152101W after IP 6X test

**2.1.2. Test of protection against water jets - IP X5**

according to EN 60529/A1:2000, cl. 14.2, 14.2.5 and 14.3

**Test apparatus:**

water jet hose nozzle with internal diameter of 6,3 mm, inv. No. 4695  
stopwatch SECCO, cal. No. N700477

**Test parameters:**

The specimens were tested in an operating position.

testing: see Fig. 10

water flow rate:  $12,5 \text{ l} \cdot \text{min}^{-1} \pm 5 \%$

distance from the surface of the specimen:  $2,5 \pm 3 \text{ m}$

duration of test: 3 min

**Findings:**

During the test, no water penetrated into the specimens.

*passed*



Fig. 10 - IP X5 testing of specimen 2N® Helios IP Force 9151101CK

### 3. Photodocumentation - design of the specimen

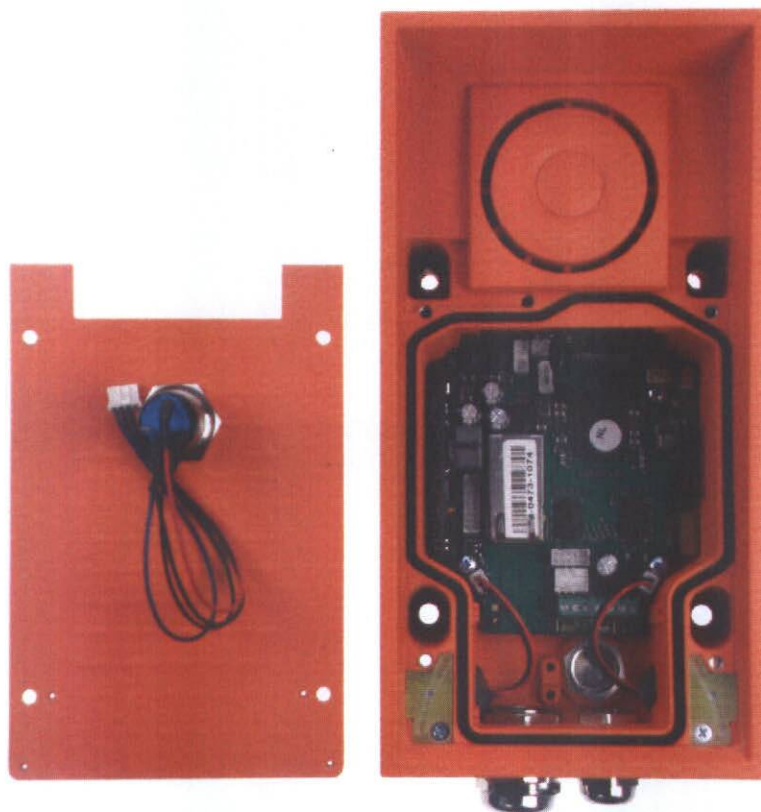


Fig. 11 - sealing of the specimen 2N® Helios IP Safety 9152101W

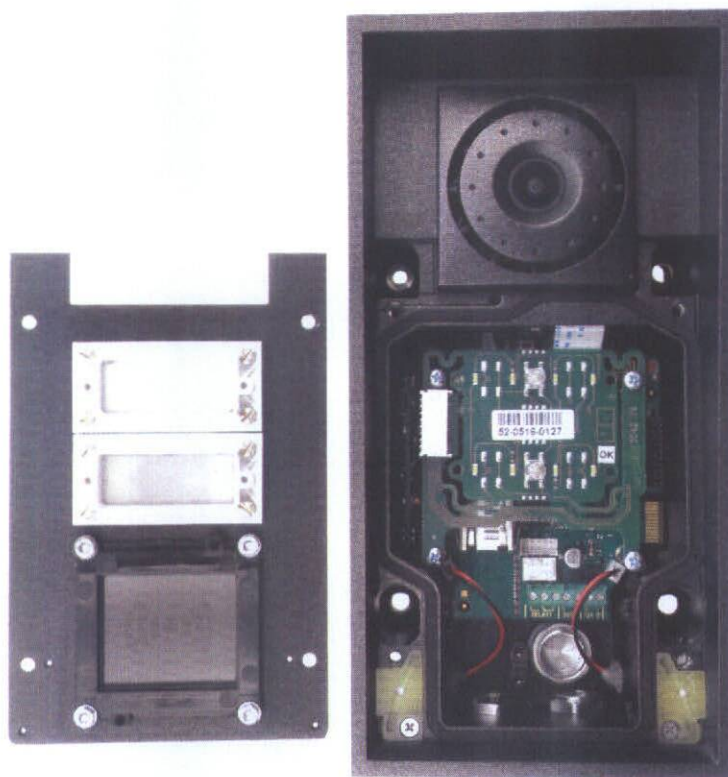


Fig. 12 - sealing of the specimen 2N® Helios IP Force 9151102CR





Fig. 13 - sealing of the specimen 2N® Helios IP Force 9151101CK

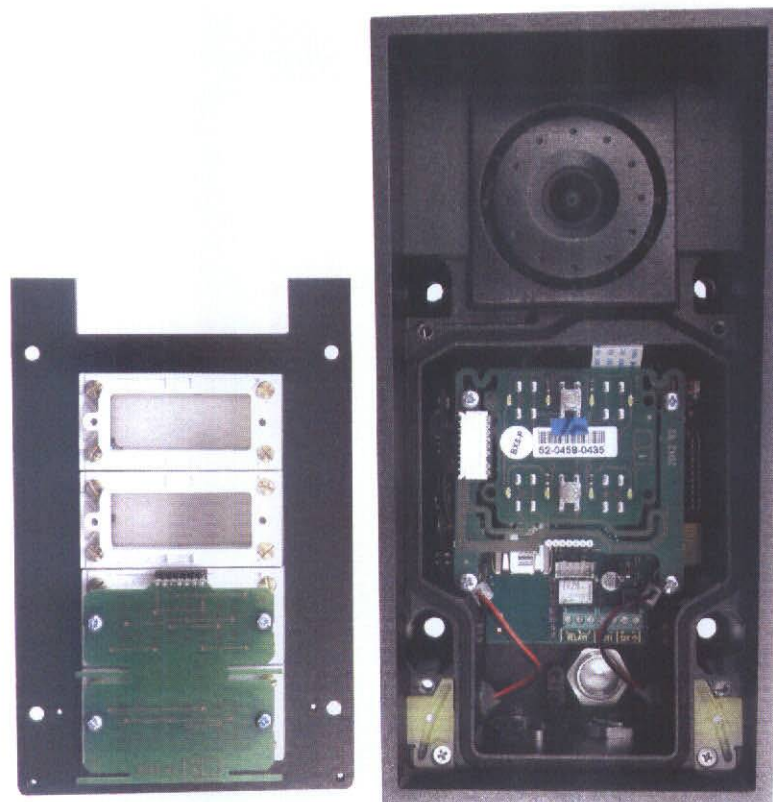


Fig. 14 - sealing of the specimen 2N® Helios IP Force 9151104C

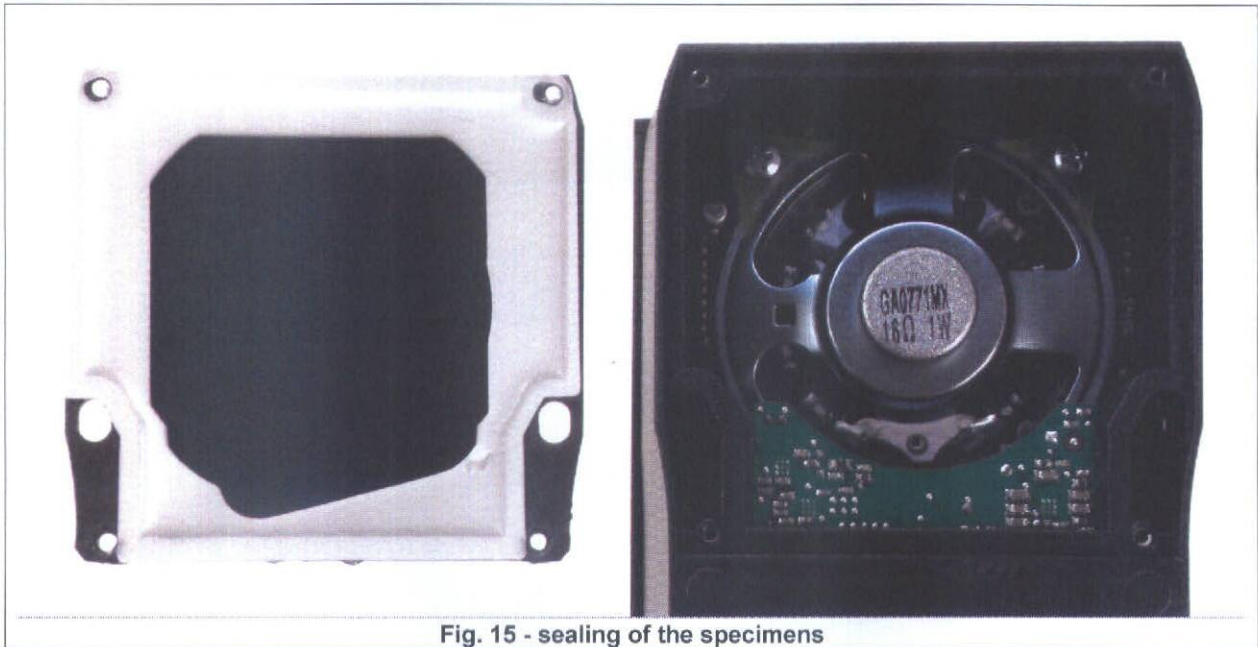


Fig. 15 - sealing of the specimens

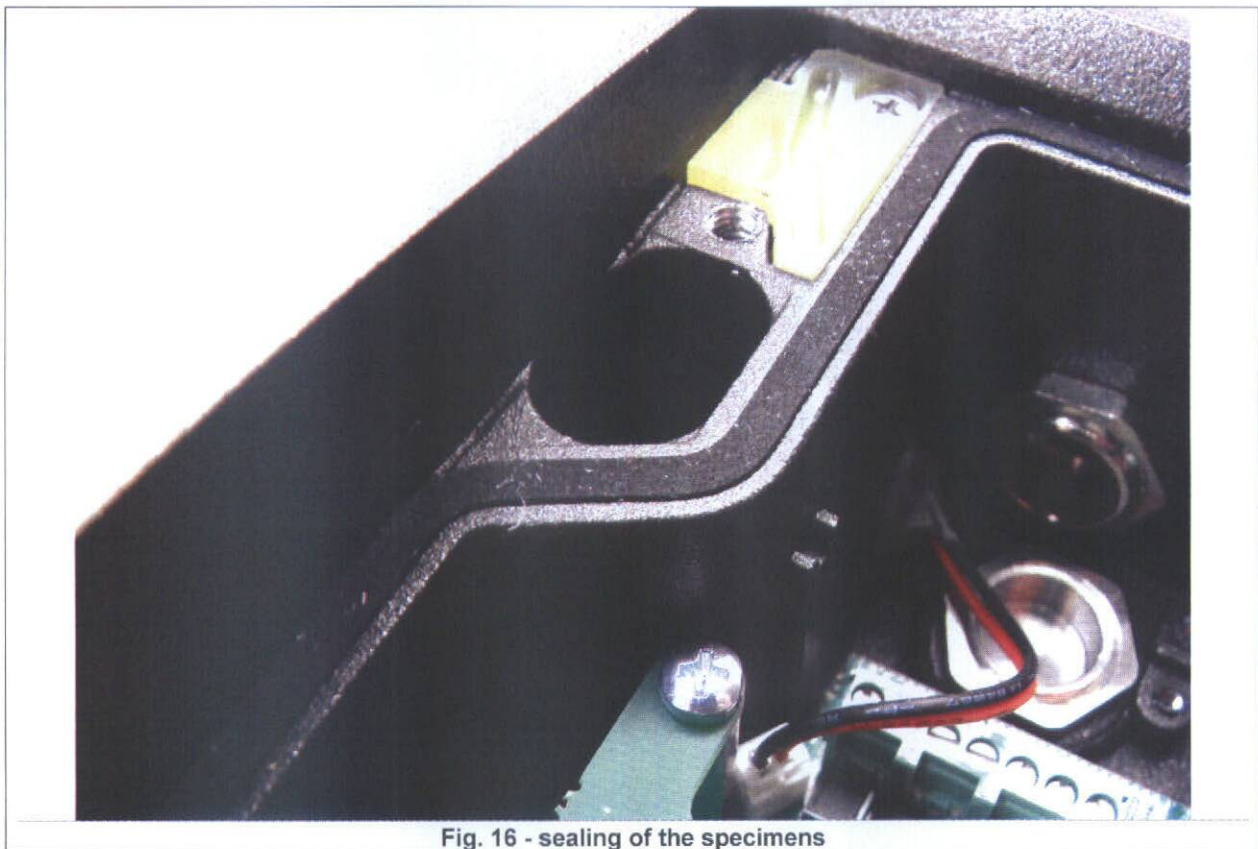


Fig. 16 - sealing of the specimens

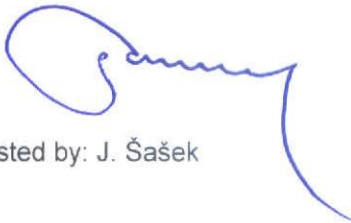
#### 4. Test result

The submitted specimens

- a) **2N® Helios IP Safety 9152101W**
- b) **2N® Helios IP Force 9151102CR**
- c) **2N® Helios IP Force 9151101CK**
- d) **2N® Helios IP Force 9151104C**

**satisfy** conditions for degree of protection provided by enclosures **IP 65** according to EN 60529/A1:2000.

Note: 2N® Helios IP Force 9151101C, 2N® Helios IP Force 9151101, 2N® Helios IP Force 9151101K, 2N® Helios IP Force 9151102CR, 2N® Helios IP Force 9151104, 2N® Helios Force 9151201, 2N® Helios Force 9151204, 2N® Helios Force 915201K 2N® Helios IP Safety 9152101, 2N® Helios IP Safety 9152101C and 2N® Helios Safety 9152201 have identical enclosure and identical cover elements as the tested types. Therefore, test results in this Test Report also regard to these types.



Tested by: J. Šašek

