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## TEST CERTIFICATE

**Client** ROLEC Gehäuse-Systeme GmbH  
Kreuzbreite 2  
D – 31737 Rinteln

**Date of order** 2012-05-07

### TEST OBJECT

Enclosure of series aluPLUS Type AP 082 Type AP 083 Type AP 100 Type AP 102

**The certificate is valid in connection with the test report  
No. 117/12**

The specimens were tested in accordance with DIN EN 60529 : 2000-09 (VDE 0470–1) to determine the degrees of protection IP Code 66 and 67.

### Criteria for passing the tests

- IP 6X No dust shall enter into the enclosure.
- IP X6 No water shall enter into the enclosure.
- IP X7 No water shall enter into the enclosure.

### TEST DECISION

The specimens have passed the above mentioned tests.

Leipzig, 2012-05-14

**Laboratory for Environmental  
Testing and Material Testing**

Dr.-Ing. Frank Erler  
Laboratory Manager

## **TEST REPORT**

### **No. 117/12**

**Client** ROLEC Gehäuse-Systeme GmbH  
Mr. Volker Borchering  
Kreuzbreite 2  
D – 31737 Rinteln

**Date of order** 2012-05-07

**Date of receiving the specimens** 2012-05-09

**Period of testing** 2012-05-10 and 2012-05-11

#### **1 TEST OBJECT**

##### **1.1 Designation / Number of pieces**

Enclosure of series aluPlus as follows:

- |       |             |            |
|-------|-------------|------------|
| 1.1.1 | Type AP 082 | / 2 pieces |
| 1.1.2 | Type AP 083 | / 2 pieces |
| 1.1.3 | Type AP 100 | / 2 pieces |
| 1.1.4 | Type AP 102 | / 2 pieces |

- one enclosure of each type with suction port for the tests in accordance with sub clause 3.2
- one enclosure of each type without suction port for the tests in accordance with sub clause 3.3 and 3.4

The cover of the enclosure has to be screwed with a torque = 2.5 Nm. *given by the client*

**1.2 Producer** see Client

#### **2 TASK**

Tests to determine the degrees of protection IP Code 66 and 67 in accordance with  
DIN EN 60529 : 2000–09 (VDE 0470–1)

### **3 TEST PROGRAMME**

#### **3.1 Initial visual inspection**

#### **3.2 Testing to determine the degree of protection against foreign objects/protection against access IP Code 6X in accordance with DIN EN 60529**

##### **3.2.1 Protection against touching dangerous parts**

*Test is cancelled because no relevant openings are existing.*

##### **3.2.2 Protection against the ingress of solid foreign bodies ("dust-proof")**

Dust chamber in accordance with figure 2 of DIN EN 60529  
Test conditions in accordance with DIN EN 60529, sub-clause 13.4  
Test dust in accordance with DIN EN 60529, sub-clause 13.4 (talcum powder)

- visual inspection with regard to entered dust

Test criterion No dust shall be visible in the enclosure.

#### **3.3 Testing to determine the degree of protection against strong jet of water IP Code X6 in accordance with DIN EN 60529 , Chapter 14.2.6 and table 8**

- Test was done in 2 runs.

Jet nozzle 12,5 mm Ø in accordance with figure 6 of DIN EN 60529  
Exposition of specimens distance jet nozzle / surface of enclosure 2.5 to 3 m;  
horizontal on turntable, jet affects on the surface of enclosure from all possible directions  
Flow rate of water 100 l / min ± 5 %  
Water pressure ≈ 100 kPa  
Test duration 1 min per m<sup>2</sup> of splattered surface  
overall test duration 3 min

- visual inspection with regard to entered water

Test criterion No water shall be visible in the enclosure.

#### **3.4 Testing to determine the degree of protection IP Code X7 against temporary dipping in accordance with DIN EN 60529 , Chapter 14.2.7 and table 8**

- Test was done in 2 runs.

Dipping basin water level over the enclosure 1 m from lower edge  
Exposition of test object immersed in general purpose  
Water temperature difference of sample temperature no more than 5 K  
Test duration 30 min

- visual inspection with regard to entered water

Test criterion No water shall be visible in the enclosure.

## **4 RESULTS**

### **4.1 Initial visual inspection**

Damages or defects are not visible.

### **4.2 IP Code 6X**

No dust is visible inside the enclosures.

### **4.3 IP Code X6**

No water is visible inside the enclosures.

### **4.4 IP Code X7**

No water is visible inside the enclosures.

## **5 EVALUATION**

The specimens in accordance with sub-clause 1.1.1 to 1.1.4 have passed the tests to determine the degrees of protection IP Code 6X, IP Code X6 and X7 in accordance with DIN EN 60529 : 2000-09 (VDE 0470-1).

Leipzig, 2012-05-14

**Laboratory for Environmental  
Testing and Material Testing**

Annex Sheet 1/1

Dr.-Ing. Frank Erlen  
Laboratory Manager



Figure 1 loading of dust, IP Code 6X



Figure 2 IP Code X6, loading by strong jet of water, exemplarily