

# TEST REPORT



<b>Report number</b>	<b>12.1072 Rev-A</b>
<b>Date of test</b>	<b>31 October 2012</b>
<b>Date report</b>	<b>12 February 2013</b>
<b>Applicant</b>	Reynaers Aluminium N.V. Oude Liersebaan 266 B-2570 Duffel Belgium
<b>Project number applicant</b>	<b>TC12_059</b>
<b>Size report</b>	This report consists of 13 pages (including appendices)
<b>Subject</b>	Determination of the <ul style="list-style-type: none"><li>• Resistance to repeated opening and closing according EN 1191</li><li>• Operating forces according EN 12046-2</li></ul> of an aluminium , outwards opening door with sizes W x H: 1496 x 3058 mm, Constructed from the profile system: CS 77
<b>Inspector</b>	R. de Graaff / P. Scheerman
<b>Technical manager</b>	J.M. van Diggelen
<b>Conclusion</b>	The door of Reynaers Aluminium meets the classification as hereby mentioned: <ul style="list-style-type: none"><li>• Mechanical durability according EN 12400</li><li>• Operating forces according EN 12217</li></ul>

## SKG

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## Class

**6**  
**1**

## **CONTENT**

1. PURPOSE OF THE TEST
2. METHOD OF INVESTIGATION
3. CONSTRUCTION TESTED
4. OBSERVATIONS AND RESULTS
  - 4.1 Resistance to repeated opening and closing according EN 1191
  - 4.2 Operating forces according EN 12046-2
5. CLASSIFICATION
6. APPENDICES

APPENDIX 1 LOCATION OF REFERENCE POINTS

APPENDIX 2 DRAWING(S)

## 1. PURPOSE OF THE TEST

SKG was commissioned by Reynaers Aluminium N.V. - Duffel to perform various tests on a door to classify the

**Mechanical durability**

**Operating forces**

of the door according to the relevant European Standards.

The tests are performed as an Initial Type Testing (ITT) based on EN 14351-1:2006

SKG is a Notified Body (NB 0960) for certifying and testing doors and windows.

## 2. METHOD OF INVESTIGATION

The door was delivered for testing on:

**31-10-2012**

SKG has verified all details of the door with reference to the supplied drawings.

The door was tested in a test rig for:

### **Mechanical durability**

Test according to:

EN 1191:2000 Windows and Doors - Resistance to repeated opening and closing - Test method

Classification according to:

EN 12400:2002 Windows and pedestrian doors - Mechanical durability - Requirements and classification

### **Operating forces**

Test according to:

EN 12046-2:2000 Operating forces - Test method - Part 2: Doors

Classification according to:

EN 12217:2004 Doors - Operating forces - Requirements and classification

The test was performed with the measuring equipment and test rig of:

**Reynaers**

on the location:

**Duffel**

SKG has verified and approved the status of the equipment.

The last calibration date was:

**nvt**

The ambient temperature during the tests was approx. : 23 °C

**3. CONSTRUCTION TESTED**

The door was constructed with profile system: CS 77

Frame sizes (W x H): 1496 x 3058 mm

Leaf sizes (W x H): 1400 x 3000 mm

Drawings of door were received and are appended to this report (Appendix 1)

**Technical specification:**

<b>Construction:</b>	<b>Nr</b>	<b>Description</b>	<b>Article nr.</b>
Frame Profile		CS 77	008.0469.XX
Floor profile		CS 77	008.0874.XX
Leaf Profile		CS 77	008.2014.XX
Glazing bead		CS 77	030.3609.XX
Insolation glass		55.2 - 12 - 88.2	

<b>Hardware:</b>	<b>Nr</b>	<b>Description</b>	<b>Article nr.</b>
Multipointlock	1	Fuhr	061.8150.ZC
Keeper	1	Fuhr	061.8153.--
Keeper	2	Fuhr	061.8182.--
Door handle	1	Sobinco	061.7130/7140.XX
Hinges	4	"Rollenband"	065.6387.XX

**Mass of the leaf an driving unit**

The mass of the leaf was:

**254** kg

Additional load by drive unit

**0** N

**4. OBSERVATIONS AND RESULTS**

**4.1 Resistance to repeated opening and closing according EN 1191**

Number of cycles: **200.000**

Operating forces at reference points

For the location of reference points, see appendix 1

Reference points	Stroke before duration test (mm)	Stroke after duration test (mm)	Difference (mm)
M1	9,46	9,07	0,39
M2	11,58	10,93	0,65
M3	5,86	6,13	0,27
M4	4,26	3,98	0,28
M5	4,04	4,64	0,60
M6	5,61	5,58	0,03
M7	5,81	5,79	0,02
M8	5,63	5,35	0,28

**4.2 Operating forces according EN 12046-2**

Operating forces before and after test

Action	Before test	After test	variation (%)
Unlocking (Nm)	6,51	5,93	-8,9%
Opening (N)	15,27	12,13	-20,5%
Closing (N)	20,80	20,53	-1,3%

1) This leaf automatically locks.

It was determined that after these resistance tests the door showed no visible changes and functioned normally.

**Classification durability according EN 12400** **Class** **6**

**Classification of operating forces according EN 12217** **Class** **1**

5. CLASSIFICATION

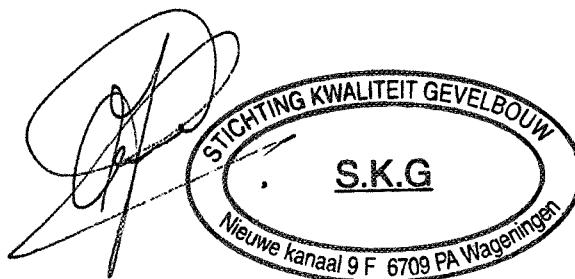
Mechanical durability	Class	6
Operating forces	Class	1

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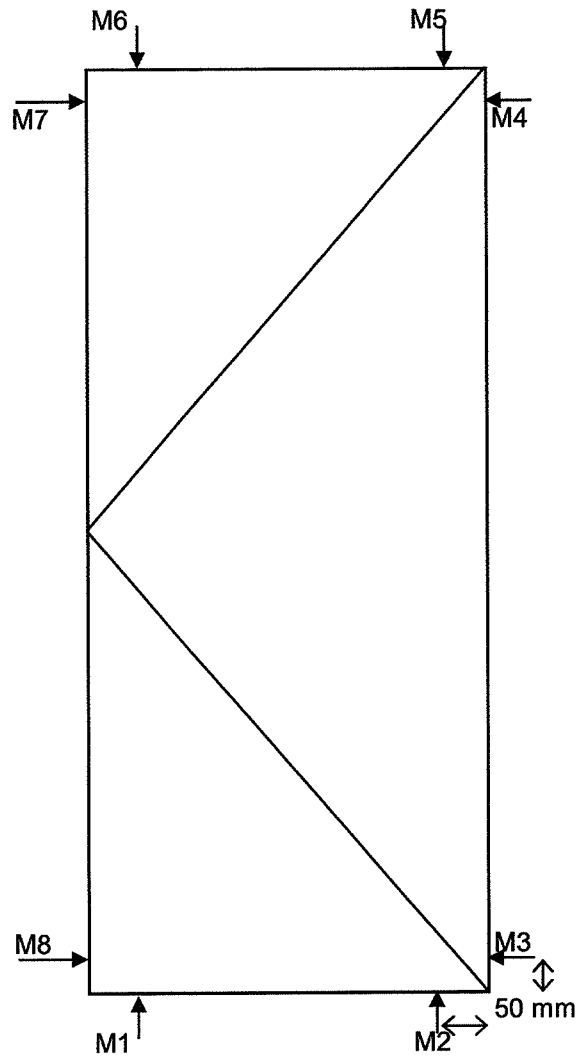
Drawn up at Wageningen on:

12 February 2013

J.M. van Diggelen  
Technical Manager



APPENDIX 1 LOCATION OF REFERENCE POINTS



APPENDIX 2 DRAWING(S)

