

Preconal System AB  
Box 173  
311 22 Falkenberg

## Testing of burglary resistance according to SS-EN 1627:2011 RC3

(1 appendix)

### Summary

A burglar resistance test of door has been performed according to SS-EN 1627:2011 RC3. The test object fulfilled the requirements according to SS-EN 1627:2011 RC3.

### 1 Introduction

By commission of Preconal System AB a burglar resistance test of door has been performed according to SS-EN 1627:2011 RC3. The purpose of the test was to evaluate if the test object fulfilled the requirements for classification RC3.

### 2 Test object

Manufacturer:	Preconal System AB.
Tested object:	One single door.
Description of the sample:	Door classed as a group 1 product according to SS-EN 1627:2011.
Technical documentation:	See appendix 1.
Description of samples:	See appendix 1.
Drawings:	See appendix 1.
Test object arrival at SP:	2017-12-14.
Selection of test object:	The test object has been selected by the client without SP's assistance.
Tested object:	The door was designated Preconal 64 and was manufactured of steel, see drawing in appendix 1.
Total width:	1205 mm.
Total height:	2170 mm.
Type of lock:	2 pcs. Assa 511 and 1 pcs. Assa 1560.
Type of hinges:	3 pcs self made.
Strikes:	Self made.
Cylinder:	Assa dp with key from both side.

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Testing  
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### 3 Test Method and performance

Test method:	Burglary resistance test according to: <ul style="list-style-type: none"> <li>• SS-EN 1628:2011+A1:2016 “Pedestrian door sets, windows, curtain walling, grilles and shutters – Burglar Resistance – Test method for the determination of resistance under static load”.</li> <li>• SS-EN 1629:2011+A1:2016 “Pedestrian door sets, windows, curtain walling, grilles and shutters – Burglar Resistance – Test method for the determination of resistance under dynamic loading.</li> <li>• SS-EN 1630:2011+A1:2016 “Pedestrian door sets, windows, curtain walling, grilles and shutters – Burglar Resistance – Test method for the determination of resistance to manual burglary attempts”.</li> </ul>
Test date:	2017-12-14.
Test facility:	SP Structural and Solid Mechanics laboratory in Borås.
Test leader:	Peter Blomgren.
Time keeper:	Peter Blomgren and Lars-Ove Johansson.
Tester:	Peter Blomgren and Lars-Ove Johansson Christian Larsson .
Ambient temperature:	20.5° C.
Relative humidity:	27 %.
Film camera:	Yes.
Photographs:	N/A.
Assessment of documents:	The documents in appendix 1 fulfil the requirement in SS-EN 1627:2011.

### 4 Test results

The results reported relate only to the sample tested and are valid only in conditions in which the test was performed.

#### 4.1 Static load in accordance with SS-EN 1628:2011+A1:2016

Table 1. Static load in accordance with SS-EN 1628:2011+A1:2016

Position	Pressure type	Test load [kN]	Gap gauge type Def max	Result
Between locks	From inside	3	25 mm	OK
Upper lock	From inside	6	10 mm	OK
Middle lock	From inside	6	10 mm	OK
Lower lock	From inside	6	10 mm	OK
Lower hinge	From inside	6	10 mm	OK

The requirements in SS-EN 1627 for static load, resistance class RC3, were fulfilled.

**4.2 Dynamic load in accordance with SS-EN 1629:2011+A1:2016**

**Table 2. Dynamic load in accordance with SS-EN 1629:2011+A1:2016**

Mass of the impactor:	50 kg
Drop height [mm]	750 mm

A pendulum impactor, with a mass of 50 kg, in accordance with SS EN 1629:2011+A1:2016 was dropped from a height of 750 mm once to each corner of the door blade and three times to the centre. The impact direction was towards the hinged side. Gap gauge D could during the testing not pass through any aperture of the product when using a force of 200 N applied directly to the door blade. The dynamic load was tested from attach side. The requirements in SS-EN 1627:2011 for dynamic load, resistance class RC3, were fulfilled from both sides.

**4.3 Manual burglary attempts in accordance with SS-EN 1630:2011+A1:2016**

**Table 3. Manual burglary attempts in accordance with SS-EN 1630:2011+A1:2016**

Zone of attack	Used tools	Operative time [min' s'']	Description
Hinges	Hammer pin punch	2,08	No hinges forced. <b>Passed.</b>
Lock	Screwdriver, crowbar.	5,04 / 6,54	Nothing forced. <b>Passed.</b>
Lock	Screwdriver, crowbar.	5,07 / 7,53	Nothing forced. <b>Passed.</b>

The requirements in SS-EN 1627:2011 for manual burglary attempts, resistance class RC3, were fulfilled.

**4.4 Classification**

The test specimen was subjected to the described tests defined in SS-EN 1627:2011 and was judged to fulfil the requirements of the resistance class given below. The door is classified from both side.

**EN 1627:2011 RC3**

Any additional change in design / construction is only allowed upon written permission and/or testing by the testing laboratory (see SS-EN 1627:2011, Annex D).

The test results showed in this report refer only to the tested object.

## 5 Measuring uncertainty

The measurement uncertainty of load  $\leq 1.3\%$  and measuring of deformation  $\leq 1.6\%$ .

Reported uncertainty corresponds to an approximate 95 % confidence interval around the measured value. The interval has been calculated in accordance with EA-4/16 (EA guidelines on the expression of uncertainty in quantitative testing), which is normally accomplished by quadratic addition of the actual standard uncertainties and multiplication of the resulting combined standard uncertainty by the coverage factor  $k=2$ .

### RISE Research Institutes of Sweden AB Safety - Mechanics Research

Performed by



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### Appendix

Appendix 1: Drawings (6 pages)