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Test of burglary resistance according to SS-EN 1627

(2 appendices)

Summary

A burglary resistance test of Olar-portconsult AS roller shutter designated OMEGA FG Klasse 2 has been performed according to SS-EN 1627:2011 RC2.
The test object fulfilled the requirements according to SS-EN 1627:2011 RC2 from the outside and inside for niche mounting and wall mounting.
The report is not and should not be invoked as an approval or certification of the product.

1 Introduction

By commission of Olar-portconsult AS a burglary resistance test of a roller shutter have been performed in accordance with SS-EN 1627:2011 RC2. The purpose of the test was to evaluate if the test object fulfilled the requirements for classification RC2.

2 Test object

Tested object:	Roller shutter "OMEGA FG Klasse 2" configuration according to drawing in appendix 1. Mortise lock in the centre of the bottom beam is not necessary to fulfil RC2.
Manufacturer:	Olar Industrier AS
Description of the sample:	Roller Shutter, classed as a group 3 product according to SS-EN 1627:2011.
Total width:	5000 mm.
Total height:	2750 mm.
Drawings:	See appendix 1.
Type of lock:	2 pcs padlock Class 3 according to SSF 014 one on each side confirming to Annex B, Table B.1 in EN 1627:2011.
Assembly instruction:	An assembly instruction giving the minimum amount of information according to SS-EN 1627 is enclosed to the documentation, see appendix 2.

3 Test method and performance

Test method: Burglary resistance test according to:

- SS-EN 1628:2011 “Pedestrian door sets, windows, curtain walling, grilles and shutters – Burglar Resistance – Test method for the determination of resistance under static load ”.
- SS-EN 1629:2011 “Pedestrian door sets, windows, curtain walling, grilles and shutters – Burglar Resistance – Test method for the determination of resistance under dynamic loading.
- SS-EN 1630:2011 “Pedestrian door sets, windows, curtain walling, grilles and shutters – Burglar Resistance – Test method for the determination of resistance to manual burglary attempts”.

Test date: 2016-02-11.

Test facility: SP Safety – Mechanics Research in Borås, Sweden.

Test leader: Christian Larsson.

Time keeper: Lars-Ove Johansson and Christian Larsson.

Tester: Christian Larsson and Lars-Ove Johansson.

Ambient temperature: 20.5º C.

Relative humidity: 38 %.

4 Test results

The test results shown in this report refer only to the tested objects and are valid only in the condition the test was performed.

4.1 Static load in accordance with SS-EN 1628

Table 1. Static load in accordance with SS-EN 1628 RC2

Loading points	Position	Test load [kN]	Limiting value	Result
F1.1	Side	3	30°	OK
F1	Side	3	10 mm	OK
F2	Center	1.5	10 mm	OK
F2	Center down	1.5	10 mm	OK
F3	Center	3	Gap gauge C (50 mm)	OK
F3	Corner	3	Gap gauge C (50 mm)	OK

The requirements in SS-EN 1627 for static load resistance class RC2 were fulfilled.

4.2 Dynamic load in accordance with SS-EN 1629

Table 2. Dynamic load in accordance with SS-EN 1629 RC2

Mass of the impactor:	50 kg
Drop height [mm]	450 mm

The requirements in SS-EN 1627 for dynamic load resistance class RC2 were fulfilled.

4.3 Manual burglary attempts in accordance with SS-EN 1630

Table 3. Manual burglary attempts in accordance with SS-EN 1630

Zone of attack	Used tools	Operative time [min‘ s‘‘]	Description
Accessible opening side.	Pipe wrench, polygrip, knife	> 3	OK for RC2
Accessible opening center.	Pipe wrench, polygrip, knife	> 3	OK for RC2
Breaking the side try to bend out the panels.	Screwdriver	> 3	OK for RC2
Locks and electrical switch.	Screwdriver and hammer	> 3	OK for RC2

The requirements in SS-EN 1627 for manually burglary resistance class RC 2 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 resistance class given below from the outside and inside for niche mounting and wall mounting.

RC2

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

5 Measurement uncertainty

The measurement uncertainty for the applied load is ≤ 1.3% and for deformation measurement ≤ 1.6 %.

SP Technical Research Institute of Sweden
Safety - Mechanics Research

Performed by

Signed by: Christian Larsson
Reason: I am the author of this document
Date & Time: 2016-10-20 10:38:09 +02:00

Christian Larsson

Examined by

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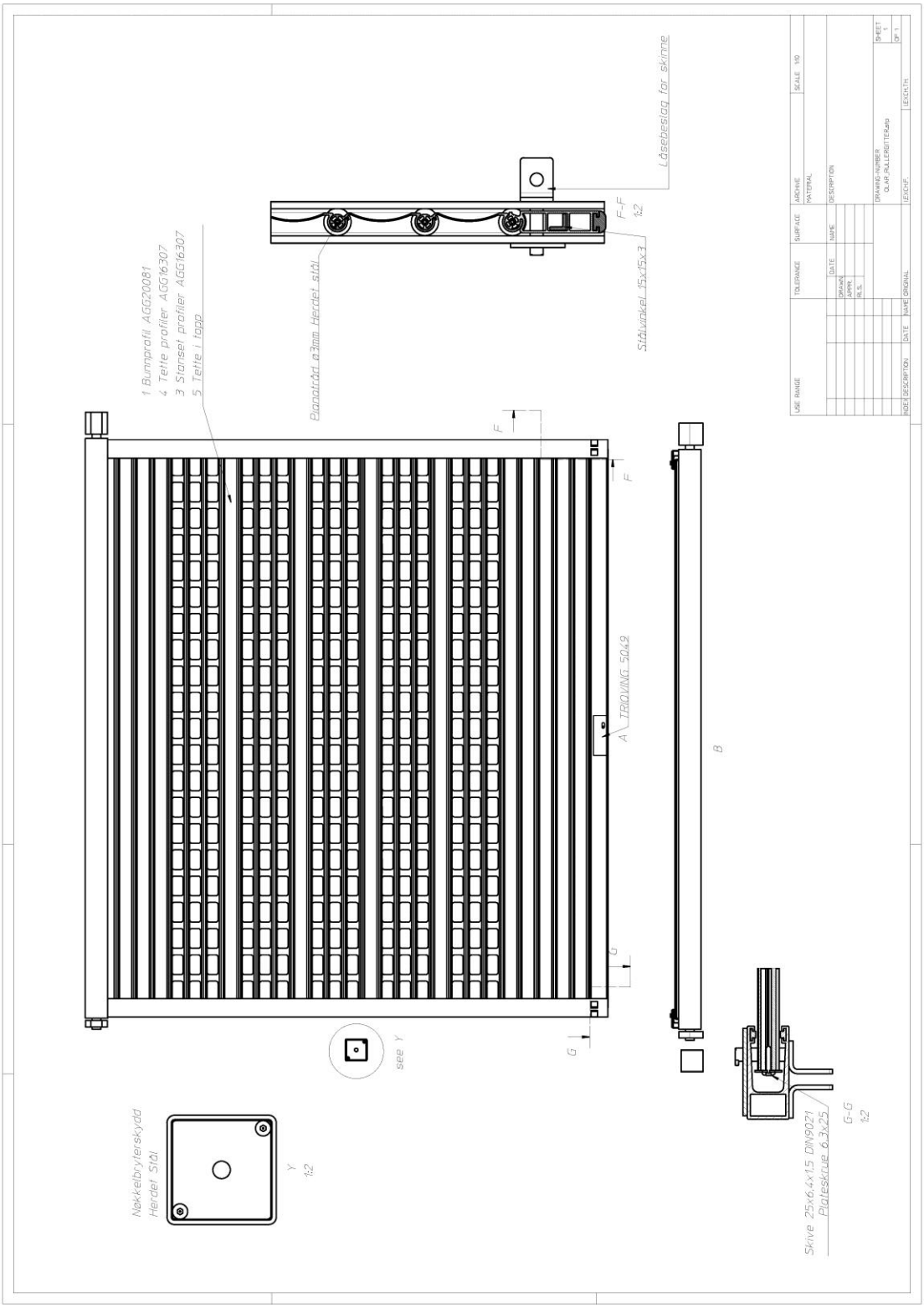
Date & Time: 2016-10-20 10:39:13 +02:00

Peter Blomgren

Appendices

1: Drawing
2: Technical documentation

Appendix 1


Låsebeslag for skimme
F-F
1:2
1 Bunnprofil AGG20081
4 Tette profiler AGG16307
3 Stanset profiler AGG16307
5 Tette i topp
Blandtråd ø3mm Herdet stål
Stålvinkel 45x45x3
F
A
TRØVING 5049
B
G
see Y
Nøkkelbrytersikring
Herdet Stål
Y
1:2
Skive 25x6.4x1.5 DIN9021
Platteskrue 6.3x25
G-G
1:2

Appendix 2

Montering: OMEGA Rullegitter RC 3

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0. Se vedlagte tegning med noter

1. **Kontroller mål på åpning og gitter**. Ved montering bak åpning skal **OLAR** gittermatte (A) være ca. 60/70 mm større enn åpningen. Ved nisjemontering skal matte være **ca. 120 mm** mindre enn åpning. Pass på at det ikke er hindringer for gitteret i tak som rør, ledninger, himling etc.
2. **Start med skinner.(C)** Lodd åpning, sjekk diagonal mål. Skinner monteres i lodd og festes godt. Det er spesielt viktig å få **godt feste i topp** hvor konsoller sitter. Netto avstand (Lysmål) mellom skinner, er mattemål – 70 mm.

3. **Monter valse (B)** (med motor) til skinnekonsoll. På motorside: Motorfeste sitter på skinnekonsoll og er en firkantet brakett med firkantet hull i midten til skinnekonsoll, Endetapp på motor tres inn på motorbraket. På motsatt side av valsen er det et lager med plate som festes til skinne konsoll. NB ! Valse festes, men ikke skru til. Motor er alltid på høyre side hvis annet ikke er avtalt (sett fra montasjesiden) Hvis gulv/valse ikke er i vater, juster skinner/konsoller. **Valse skal alltid være i vater.**

4. **Koble til strøm på motor. (Y)** (Testbryter med hurtigkobling er å anbefale.) (Blå ledning er 240 Volt, Sort er opp, brun er ned.) (Er motor på venstre side, blir sort ned og brun opp.) Se egen kobling av nøkkelbryter vedlagt
5. **Kjør valse** til profilspor ligger vannrett inn mot åpning. Det er en sort rand i valse. Det er forboret hull til gittermatte

6. **Montering av OLAR FG Gittermatte** til valse kan gjøres på flere måter. F.eks: Stropper
Legg 2 stropper over valse og under matterullen. Festelameller må ligge inn mot åpning. Rullen løftes gradvis opp i hver ende samtidig som stroppene strammes. (En stropp på hver side) Kjør til gittermatte er rullet opp, deretter kjør motor ned med gittermatte inn og ned i skinnene.

7. **Skyv** valse inn mot åpning slik at valse ligger parallelt med åpning. Juster matte med lik avstand på hver side av skinner. Matte festes til valse med medfølgende 6,3x16 mm skruer. Evt. tau/stropper fjernes. **NB! Bruk alltid originalskruer!** Fest yttersidene først, dra matta litt over på midten for å hindre at matta henger.
8. **Kjør gitteret opp igjen** og trekk til for monterte M 20 bolter godt til skinnekonsoller. Lik avstand høyre og venstre side.

9. **Juster endebrytere** ved å kjøre gitter ned til det er igjen 10 cm. (Trekk ut strøm og gitter stopper) Skru rød endebryter mot – (minus). Sett på strøm og skru rød endebryter sakte mot +(pluss) til gitter er nede. Gitteret skal ikke hvile på underlaget, men være stramt. Kjør gitteret opp til det er igjen 10 cm, skru sort mot –(minus). Samme prosedyre som for ned

10. Låser: Til slutt skal matte låses til valse. Kjør gitter ned. Fest minimum 3 - 5 skruer avhengig av gitterbredde gjennom profil som ligger loddrett mot valse, dvs. profil nr. 2 fra toppen. **Dette er meget viktig og hindrer at gitteret vandrer sideveis.** Gitteret låses med 2 stk. godkjente hengelåser. NB! Midt på bunnprofil er det montert låkasse klasse 3 hakelås. For tilpasning av sluttstykke bores det utsparing for haken ned i gulv, se tegning.
11. **Ved spørsmål, vennligst kontakt oss. LYKKE TIL !**

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Appendix 2

Installation - OMEGA Roller Shutter RC 3

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0. See enclosed drawings with notes

1. **Please Control** measure on shutter and opening. If installing behind the opening face fixed, the screen (A) will be approx. 60/70 mm wider than the opening. If installing in the niche, the screen will be appr. 110/120 mm smaller. Make sure there are no obstructions for the shutter in the ceiling and walls
2. **Start with the guides. (C) Vertical opening, check the diagonal measure.** Guides installs vertical with secure attached. It is important to have good support in the top were the brackets are placed.

3. **Install the tube (with tube motor and bearings. (B))** by hook on console and motor bracket on the guides. End pin on motor threaded into the motor bracket. Opposite hooked end bearing to the console and fixed with a 14 mm bolt. Motor is always on the right hand side if otherwise agreed (as seen from the mounting side) If floor / tube is not level, adjust the consoles on the guides. The tube should always be level.
4. **Connect the power to the motor. (Y)** (Test Switch with fast connection is recommended.) (Blue cable is 240 V power, Black is up, Brown is down.) (Opposite if motor is on left hand side) See separate terminal key switch attached. Drive tube to the profile track is horizontal in against the opening. (A black longitudinal dash on the tube) There are pre drilled holes for the screen.
5. **Installing the OLAR Screen** to the tube. It can be done in several ways, either by lifting up the screen, or use straps or cords, which attaches to the tube and screen. Then use the motor to pull the screen up and down in the guides. If the motor is used, use the motor to get the screen down in the screen all the way to the floor. Use 2 cords around the tube and attached to the screen. The screen inside to the tube.
6. **Slide the tube into the opening and the roller is parallel to the opening.** Adjust the screen for equals space on each side of the guides. Screen attaches to tube, use enclosed 6,3x16mm screws. Any cords or straps removed. **NB! Always use original screws!** It is correct to attached the outsides first and pull the screen up on the middle to prevent the screen to hang down the middle.

7. **Move the shutter screen** up again and ensure that the screen is so near and parallel to the opening as possible. Then fasten the no 2 x 4 M 20 bracket bolts (motor bracket and console on the guide consoles) Equal space left and right side.

8. **Adjust the limit switches** by running shutter down to the last 10 cm (Unplug the power and the shutter stops) Turn red adjusting for limit switch towards 4 turns to + (plus) Control the shutter is firm down to the floor. If not, turn more to +. Move the shutter up again, and stop when the bottom profile is in head with the just under of guide bend.

9. **Control the shutter** by turning down again and see if it stops correctly. At last, lock screen to tube to prevent lateral movement, by using following 6,3x16 mm screws thru the second top profile on minimum 3 places (each sides appr. 300 mm from end of tube and one in the middle. If the shutter is large, use no. 5-6 screws)

10. **Locks:** Use no 2 approved padlocks into the locking brackets and drill a hole in the floor to suite the extra hook bolt lock, see drawings. **Do not hesitate to contact us if necessary.**

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