

FLUSH-MOUNTED ROLLER SHUTTERS

VR200

Item number 40867

ROLLLÄDEN
ROLLER SHUTTERS

SONNENSCHUTZ
SOLAR SHADING

HAROL
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1. FINISHED SIZES

Finished width W = rear width of the guide rails.

- Finished height H = height including consoles.
- The play in relation to the wall in width and height is deducted by the customer.

Note:

- The total width from the left console to the right console can sometimes differ by one millimetre are wider in relation to the rear width of the guide rails
- When fitted in the opening, allow for an extra couple of mm.

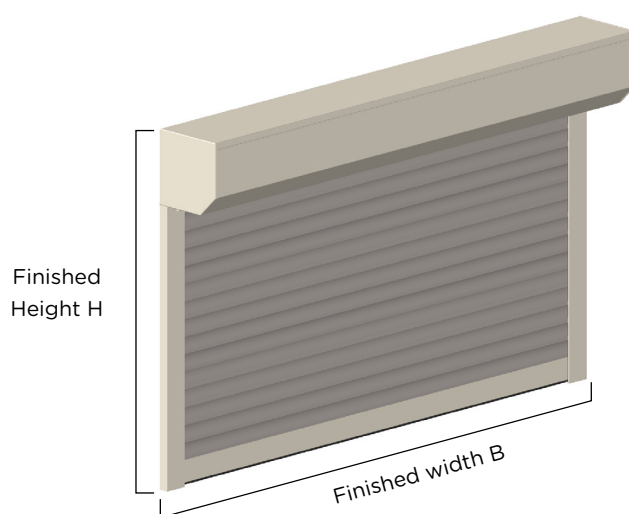
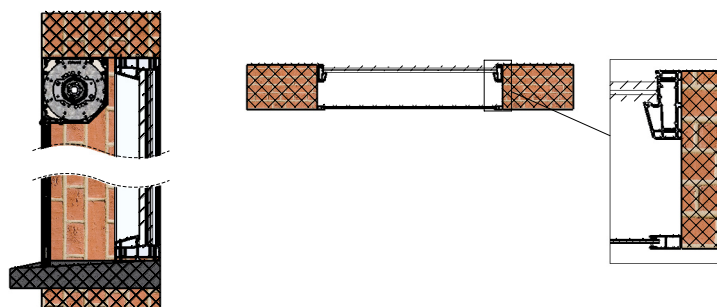


Illustration 1:
Finished sizes

2. FITTING OPTIONS

- Four fitting options: see figure 2.
 - In the window opening: no. 1 and 2 fitting types.
 - On the window opening: no. 5 and 7 fitting types.
- The maximum dimensions (see table 2) are based on fitting in front of a window, which means at most at a 150 mm interspace from the window.

Type 1: Plan:

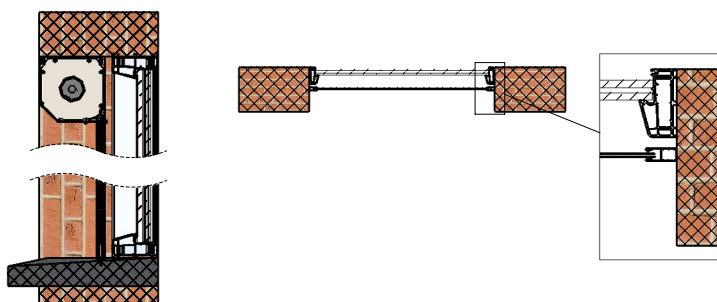


Type 1:

Properties:

- Right-hand roller.
- Curtain front.

Type 2: Plan:

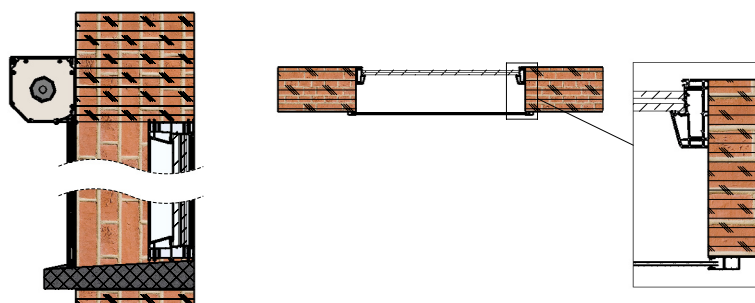


Type 2:

Properties:

- Left roller.
- Rear of curtain.

Type 5: Plan:

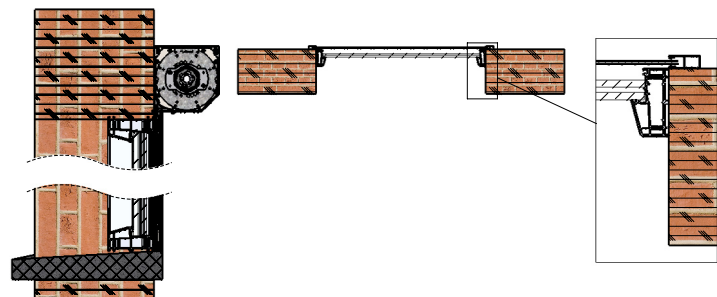


Type 5:

Properties:

- Left roller.
- Tank achterkant.
- 'Guide rails and box on the wall.

Type 7: Situation scetch:



Type 7:

Properties:

- Right-hand roller.
- Curtain front.
- Fitting behind the opening.
- 'Guide rails and box on the wall.

Illustration 2:
Fitting options

3. BOX

- Bevelled inspection cover.
- Aluminium strip, profiled and folded.

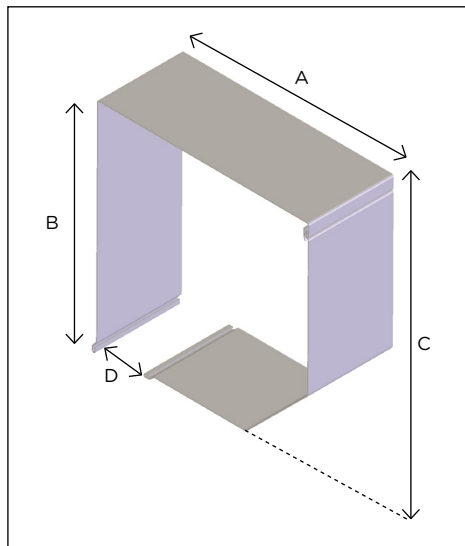


Illustration 3:
Box model

TYPE	A	B	C	D
K255	250	260	250	55
K300	300	310	305	72

Table 1: Box dimensions

- Colours: see price list.
- Minimum box size: see roll-up table 2 (larger box size possible against payment of a supplement):

SLAT	SHAFT	SPRINGS		DVA	
		K255	K300	K255	K300
ALU252	60	3500	3500	3500	3500
	70	3500	3500	3500	3500
	89	3500	3500	/	/
ALU255	60	3000	3500	2500	3500
	70	3000	3500	2500	3500
	89	2700	3500	/	/

Table 2: Roll-up table

4. CONSOLES

Material: aluminium.

Colours: always the same as the box.

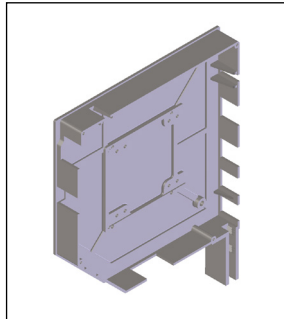


Illustration 4:
Console

Entry wheel: ensures quiet entry.

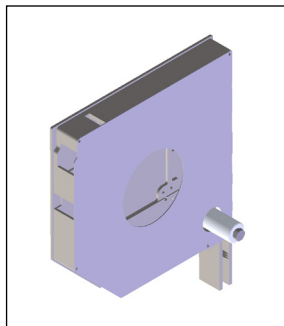
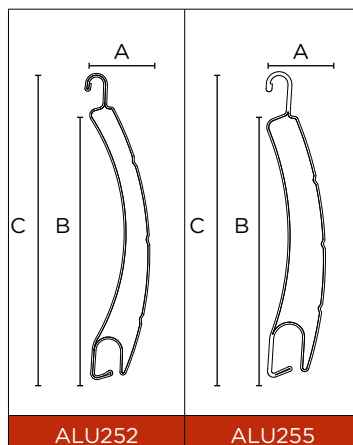


Illustration 5:
Console with entry wheel

5. SLATS



	ALU252	ALU255
slat thickness (A) (mm)	12.7	13.5
covering height (B) (mm)	52.2	55.0
total height (C) (mm)	60	65.5
number of slats per metre of height	19.2	18.2
net weight (kg/m ²)	3.1	5.0
gross weight (kg/m ²)	4.03	6.5
maximum width (mm)	3800	5000
maximum height (mm)	3500	3500
maximum surface area (m ²)	8	13

Table 3: Slat details

- Type: ALU252 and ALU255
- Material: Double sided, foam-insulated aluminium.
- Colours: see price list.
- Light and ventilation slots of the customer's choice:
 - Without daylight (code 0).
 - 1/3 daylight (code 1).
 - 1/2 daylight (code 2).
 - 2/3 daylight (code 3).
 - 1/1 daylight (code 4) (7 fixed slats top, remainder light and ventilation slots).

The slats with light and ventilation slots are always at the bottom.

Fixation to the axle:

- Electric operation with LT motor (standard), Oximo or Altus: suspension springs.
- Coiled spring operation: directly onto the axle.

Side clips: standard.



Illustration 6: Suspension spring

6. END SLAT

Material: extruded aluminium.

Colours: see price list. The bottom lath comes in the same colour as the box as standard.

Rubber seal:

- Sound-dampening when closing.
- Wind and rain seal.

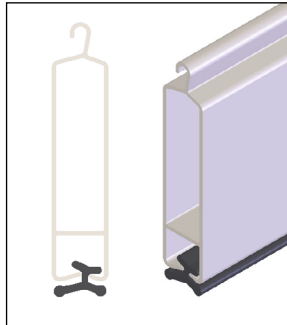


Illustration 7:

Bottom lath with joint

7. INTERMEDIATE PROFILE - INTERMEDIATE SLAT

Material: extruded aluminium.

Colours: see price list. The intermediate slat comes standard in the same colour as the bottom lath.

Standard:

- At hand height (approx. 800 mm).

Application: as a roller shutter slat for fitting the following supplements:

- Cylinder lock.
- Handles.

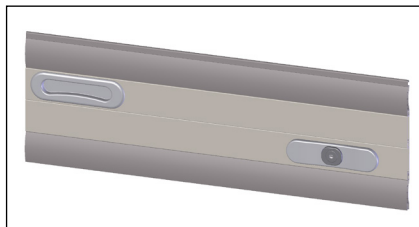


Illustration 8:

Cylinder lock:

8. GUIDE RAILS

Type: 025

Material: extruded aluminium.

Colours: see price list.

Standard:

- Comes with EPDM seals:
 - Low-noise operation.
 - Sound-dampening in high-wind conditions.
- Same colour as the box.
- Option: brushes (bv60) in the guides.
- Option 1655: Brush seal instead of joints for guides
- A72 – Extra lenght guides

– Guides predrilled:

- A168 – to the left/right ⇄
- A167 – to the back ⇄

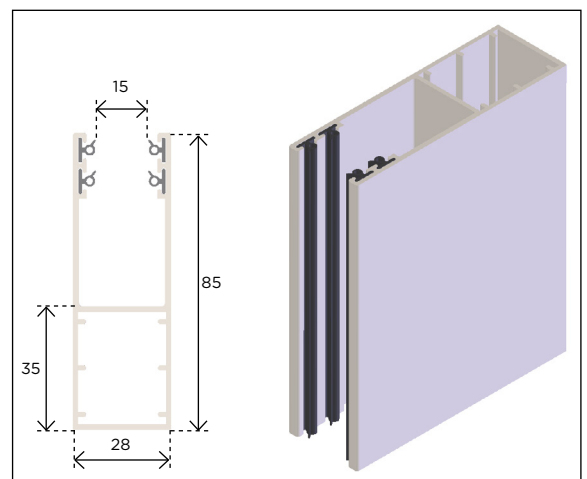


Illustration 9:

Type Guide rail

9. OPERATION

- The operating side is always as viewed from the inside.

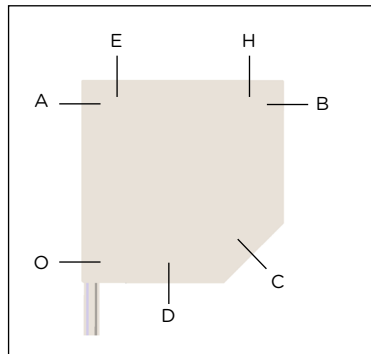
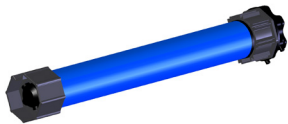


Illustration 10:
Operating exits

9.1. Motor



III. 11: Tubular motor

	SOMFY LT 50/60	SOMFY RDO 50/60 CSI	SOMFY OXIMO RTS/IO	SOMFY ALTUS 50/60 RTS/IO ¹	SOMFY RS100 IO	SOMFY RS100 IO SOLAR	HAROL PRIMO	HAROL SECURE	HAROL SOLAR PURE
SHAFT	60/70/89	60/70/89	60/70	60/70/89	60/70	60/70	60	60	60
MINIMUM WIDTH	860	930	695	960	820	770	935	935	1010
MAXIMUM TORQUE	60	55	40	55	20	40	30	30	20
OPERATION	Switch	Transmitter					Switch	Transmitter	
NHB		X							
END POSITIONS	Button		Transmitter					Set	Transmitter
HHO ²			X		X	X	X	X	X
HHN ³			X		X	X	X	X	X
ABS POSSIBLE ⁴	X	X		X					
CABLE LENGTH	3	2,5	5	5	5		2,5	2,5	0,2
STOP NECESSARY			X						
OPTION CABLE 5 M	X	X					x	x	x
OPTION CABLE 10 M	X	X	X	X					

Table 5: motor details

¹ Standard motor.

² HHO = obstacle detection in the upward direction.

³ HHN = obstacle recognition in downward direction.

⁴ ABS = stops the downward movement of the curtain when the bottom lath hits an obstacle.

Other options:

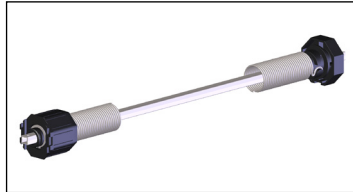
- Without transmitter.
- ABS (option motor, A37):
 - Protection fitted inside the axle: prevents damage to the shutter curtain if an obstacle is hit during downward movement.
 - Only available with LT and CSI motors.
 - Only available for motors with a maximum torque of 30 Nm.

Operating exits: see figure p. 8

- Motor: A, B, C, D, E, H, O.
- Emergency manual operation: A, E, C, D, O.
 - Exits C and D = 45° cardan joint.
 - Exits 'A' and 'B' = cardan joint 90°.
 - Output O: cardan joint 90° with possibility to choose cardan joint 45° via option A473.

9.2. Spring shaft operation

Illustration 13:
Spring shaft



Features:

- Minimum width: 690 mm.
- Coiled spring operation is possible up to a maximum torque of 17.65 Nm.
- Must always be used in combination with a locking device.
- Only possible with curtains without light and ventilation slots (daylight code = 0).
- Pull rod and orbit standard if guide rail length > 2100 mm.
- Pull rod length:
 - If guide rail length < = 2800 mm: pull rod of 740 mm.
 - If guide rail length > 2800 mm: pull rod of 1200 mm.
- Fitted standard with 4 built-on handgrips on the bottom lath. If an intermediate slat with built-in handgrips is selected, two stops are fitted onto the bottom lath.

Options:

- Pull rod and orbit for guide rail lengths <= 2100 mm (option A116).
- Coiled spring without locking device (option A1104).

9.3. Solar

This is a self-contained solar-powered system with all the advantages of the RS100 Silensio motor (IO).

- Option numbers: A4118 RS100 Solar IO (6/10Nm) or A4119 RS100 Solar IO (15/20Nm)
- 1 panel is always installed, irrespective of the shutter orientation.
- Minimum width = 770 mm

Possible options:

- A4116 external battery supplied separately (length of the cable max. 10 cm)
- A4122 battery in aluminium casing supplied separately
- A4117 solar panel supplied separately (standard with extension cable of 1 m)
(Possible outputs for this cable: A-B-AZ-BZ- and X)
- A1613 extension cable 5 m for solar panel

Figure 12:
Solar shutters



TECHNICAL SHEET FLUSH-MOUNTED ROLLER SHUTTERS VR200

		RS100 SOLAR IO 6/10NM (A4118)	RS100 SOLAR IO 15/20NM (A4119)
MOTOR			
	type of motor	RS100 Silensio IO	RS100 Silensio IO
	motor power	6 - 10Nm	15 - 20Nm
	diameter	Ø50	Ø50
	speed	6/15 10/12 rpm	15/12 20/12 rpm
SOLAR PANEL			
	panel type	monocrystalline	monocrystalline
	power	2,5W	5,8W
	dimensions	370x60x6mm	500x90x6mm
	life time	>20 years	>20 years
BATTERY			
standard 	battery type	NiMH	NiMH
	capacity	9,6V DC	16,8V DC
	dimensions	340x23mm	595x23mm
	cable length	10cm	10cm
optional 	battery type	NiMH	NiMH
	capacity	9,6V DC	16,8V DC
	dimensions	481x23mm	736x23mm
	cable length	21cm	21cm

Table 6: main characteristics of SOLAR components

Note:

- 7-year warranty on motor, solar panel and battery.
- After purchase, the roller shutter must be installed within one month, otherwise the battery must be recharged.
- In the wireless IO version, the motor comes with an external antenna. This antenna needs to stick out of the box by at least 10cm and should not touch the box (distance > 1cm).
- The motors are supplied set to sleep mode. To exit sleep mode, all it takes is for sunlight to hit the solar panel.
- The Smoove sensitive touch transmitters are not compatible with the RS100 Solar IO motor
- When using Chronis, Keypad IO, and Keygo, the "low power mode" must be activated.
- The RS100 Solar IO is not compatible with Smoove Sensitive RS100 IO, animeo Connect or IP/IO, and Set&Go.



With the somfy solar app you can find out in 3 steps what the best solution is for your situation. (App can be downloaded via appstore & google play)

9.4. Harol Solar motor

This is a self-contained solar-powered system.

- The solar panel is installed on the box.
- The panel is always located on the motor side.
- One panel is always installed, regardless of the orientation of the roller shutter.
- The battery is built into the motor.
- With a northern orientation, one cycle per day is guaranteed.
- Ensure that sunlight can reach the solar panel when installing the roller shutter!

		SOLAR PURE
MOTOR		
	motor type	Solar Pure
	motor power	10- 20Nm
	diameter	Ø50 mm
	speed	12 tpm
	battery	Built-in battery
	battery type	Li-ion
	battery capacity	5000 mAh
	cable length	20 cm
ZONNEPANEEL		
	solar panel type	monokristalijn
	capacity	4,7 kw
	dimensions	600 x 62 mm
	lifetime	7 jaar

Table 16: main characteristics of Harol solar motor

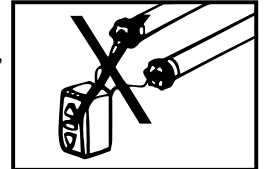
Note:

- 5-year warranty on motor, solar panel and battery
- after purchase, the roller shutter must be installed within one month, otherwise the battery must be recharged
- The motor is activated via the on/off button.
- Low battery: the motor emits an intermittent beep during operation.

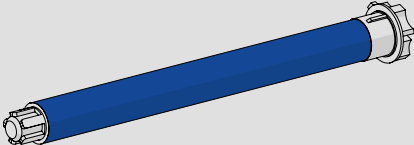
9.5. Electric motor connection

Motor:

- All electrical connections have to be made by a qualified fitter/electrician. Electrical fitting- and connection diagrams have to be applied in a correct way and have to conform the local norms and/or demands in vigor. All necessary motor diagram's and manuals for the chosen type of motor and/or domotical accessories are made available.
- NEVER CONNECT 2 MOTORS TO 1 END SWITCH.
If you want to connect several motors to one or more end switches, always use relay boxes





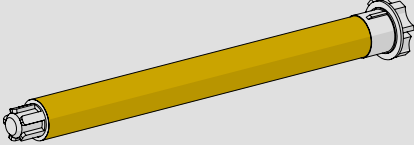


see instruction manual Somfy (included)

www.somfy.com







see instruction manual

www.harol.com



10. ACCESSORIES

10.1. Closing mechanisms

Bolt:

- Fitted in the bottom lath.
- Can be operated only from the inside.

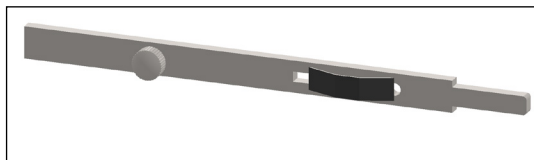


Illustration 14:
Bolt

Cylinder lock:

- Fitted in the bottom lath or in the intermediate slat.
- The intermediate slat can be fitted at hand height or just above the bottom lath.
- Can be operated from the inside and outside.

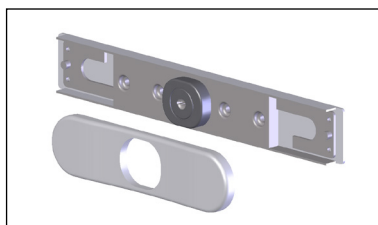


Illustration 15:
Cylinder lock:

D.V.A. automatic locking device:

- Can only be used with crank handle operation or electric operation.
- Due to the DVA system's special design, the shutter curtain is completely blocked.
- Increases the roll-up diameter (see table p. 5).



Illustration 16:
DVA-Switch

10.2 Filling plate for arch (optie A86)

- To give the roller shutters a more attractive finish in particular fitting situations.
- L-shaped plates.
- Sizes: COV 40, COV 80, COV 130, COV 180.

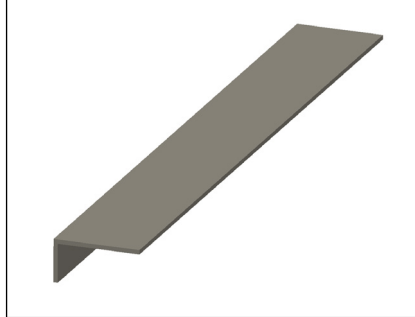


Illustration 17:
Finishing plate

10.3 Security options

- Security for final slat with Rollixo IO/RTS

10.4 Miscellaneous

- Plain bearing.
- Soundproofing insulation.
 - Option A1615
 - The self-adhesive film is glued inside the box.

11. GENERAL REMARKS

- The surfaces of the slats can become slightly marked due to friction between the slats during rolling up and unwinding. This phenomenon is inherent to the product and is consequently not covered by the warranty.
- Reflection of small traces of light between closed light slats or between panel and guide rail is inherent to the product and cannot be ruled out. If the roller shutter is required to deliver optimum blackout, it is advisable not to go for daylight slats. Please note: a roller shutter does not shut out 100% of the light.
- It is inherent to boxes made from tape material that internal stresses (in the muffle furnace) cause a slight deflection of the box.
- All electrical connections must be made in accordance with the legal regulations of the country concerned. Electrical connections and proper operation are the responsibility of the fitter.
- Harol waives all liability for shutter curtains that detach as a result of wind or a storm. The fitter must take all precautions to ensure that the product ordered is suitable for the installation site.
- All information is provided in good faith and is for informational purposes only. They reflect the present state of our expertise and cannot be used against us.
- Harol reserves the right to make product changes without prior notice.

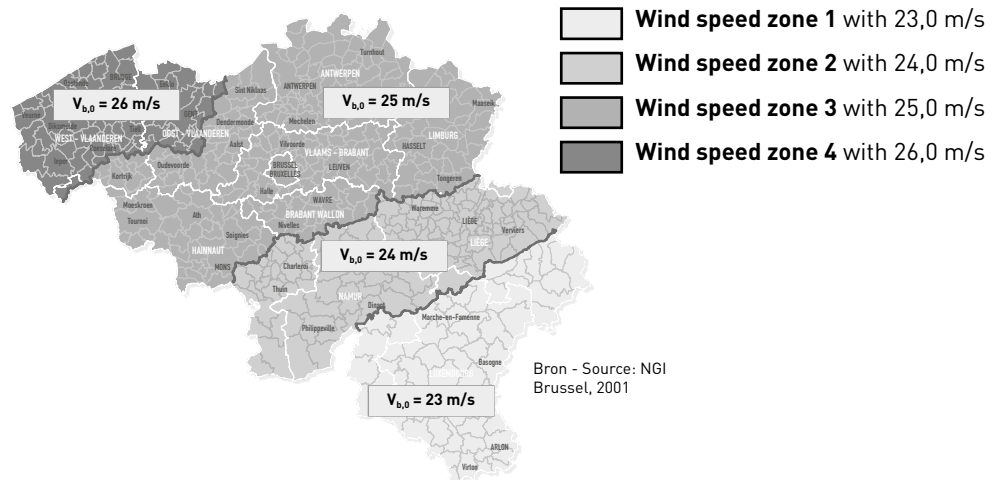
12. WIND RESISTANCE AND OPERATING CLASSES IN ACCORDANCE WITH NBN EN 13659

12.1 Compulsory application since 1 April 2006

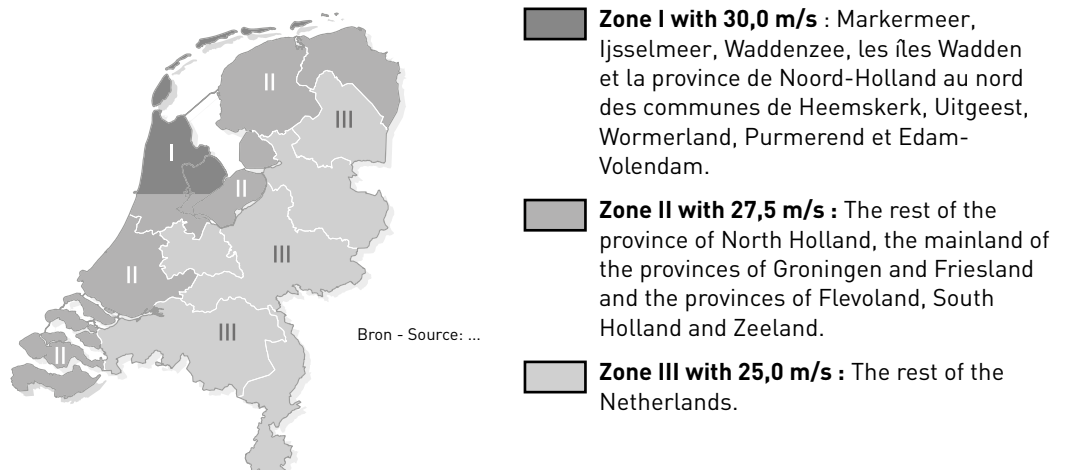
The new NBN EN 13659 standard has been in force since 1 April 2006. In accordance with this standard, from that date onwards roller shutters must carry a CE mark that also shows the wind resistance class. There are standards and guidelines for different countries in order to define which wind resistance class is necessary for which application. For Germany, the German “Bundesverband Rolladen und Sonnenschutz” commissioned the development of an IFT guideline entitled “Application advice for external closures”. This guideline (DIN 1055-4:2005-3) divides the territory of Germany into wind speed or wind load zones and terrain categories. In this way, the applicable wind speed zone and terrain category can be derived from the location of the building. The installation height of the closures indicates the third necessary reference measurement. For Belgium, everything is shown in standard NBN EN 1991-1-4 and the territory is divided into four wind speed zones. The Netherlands is divided into three wind speed zones in accordance with standard NEN-EN 1991-1-4: 2005/NB:2007 and France has four wind speed zones in accordance with standard DTU 34.2. For other countries, ask the local meteorological services for the values!

12.2 Détermination des zones de vitesses de vent ou zones de charges de vent

Belgium



The Netherlands

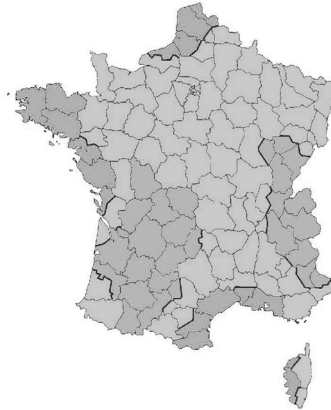


Germany



Bron - Source:
DIN 1055-4:2005-3

France



Bron - Source: ...

	Wind load zone 1 with 22,5 m/s
	Wind load zone 2 with 25,0 m/s
	Wind load zone 3 with 27,5 m/s
	Wind load zone 4 with 30,0 m/s

	Wind load zone 1 with 22,0 m/s
	Wind load zone 2 with 24,0 m/s
	Wind load zone 3 with 26,0 m/s
	Wind load zone 4 with 28,0 m/s

12.3 Definition of the terrain or roughness category

	Terrain category 0 <i>(The most stringent)</i> Sea or coastal area with wind flowing over the open sea.
	Terrain category I Lakes or flat and horizontal area with negligible vegetation and no obstacles.
	Terrain category II Area with low vegetation such as grass, with or without a few free-standing obstacles (trees, buildings) with a distance between them of at least 20 times their height (= gap of at least 20 obstacle heights).
	Terrain category III Area with regular overgrowth or buildings or isolated obstacles with a gap of no more than 20 obstacle heights (e.g. villages, peri-urban areas, sustainable forests etc.)
	Terrain category IV <i>(The least stringent)</i> Urban areas where at least 15% of the surface area is covered with buildings with an average height of over 15 metres.

12.4 Installation height

In addition to the wind speed zone and the terrain category, the installation height also plays a role in defining the wind resistance classes. The table below shows the recommended wind resistance class depending on the installation height in accordance with the applicable standards in each country.

The minimum class in the application advice notes is wind resistance class 2. That does not mean that class 0 or class 1 products must not be used. However, a product with the relevant wind resistance class is recommended to define a particular quality level.

BELGIUM	Terrain category	Installation heights > 0 - 8 metres				Installation heights > 8 - 20 metres				Installation heights > 20 - 100 metres			
		Wind speed zone				Wind speed zone				Wind speed zone			
		1 23 m/s	2 24 m/s	3 25 m/s	4 26 m/s	1 23 m/s	2 24 m/s	3 25 m/s	4 26 m/s	1 23 m/s	2 24 m/s	3 25 m/s	4 26 m/s
	0	3	4	4	4	4	4	4	5	4	5	5	5
	I	3	4	4	4	4	4	4	5	4	5	5	5
	II	3	3	3	4	3	4	4	4	4	5	5	5
	III	2	3	3	3	3	3	3	4	4	5	5	5
	IV	2	3	3	3	3	3	3	3	4	4	4	4

THE NETHERLANDS	Terrain category	Installation heights > 0 - 8 metres			Installation heights > 8 - 20 metres			Installation heights > 20 - 100 metres		
		Wind speed zone			Wind speed zone			Wind speed zone		
		1 30 m/s	2 27,5 m/s	3 25 m/s	1 30 m/s	2 27,5 m/s	3 25 m/s	1 30 m/s	2 27,5 m/s	3 25 m/s
	0	4	4	4	5	5	4	6	5	5
	I	4	4	4	5	5	4	6	5	5
	II	4	4	3	5	4	4	5	5	5
	III	4	3	3	4	4	3	5	5	5
	IV	3	3	3	4	3	3	5	4	4

FRANCE	Terrain category	Installation heights > 0 - 8 metres				Installation heights > 8 - 20 metres				Installation heights > 20 - 100 metres			
		Wind speed zone				Wind speed zone				Wind speed zone			
		1 22 m/s	2 24 m/s	3 26 m/s	4 28 m/s	1 22 m/s	2 24 m/s	3 26 m/s	4 28 m/s	1 22 m/s	2 24 m/s	3 26 m/s	4 28 m/s
	0	3	4	4	4	4	4	5	5	4	5	5	5
	I	3	4	4	4	4	4	5	5	4	5	5	5
	II	3	3	4	4	3	4	4	4	4	5	5	5
	III	2	3	3	3	3	3	4	4	4	5	5	5
	IV	2	3	3	3	3	3	3	3	4	4	4	4

GERMANY	Terrain category	Installation heights > 0 - 8 metres				Installation heights > 8 - 20 metres				Installation heights > 20 - 100 metres			
		Wind speed zone				Wind speed zone				Wind speed zone			
		1 22,5 m/s	2 25,0 m/s	3 27,5 m/s	4 30,0 m/s	1 22,5 m/s	2 25,0 m/s	3 27,5 m/s	4 30,0 m/s	1 22,5 m/s	2 25,0 m/s	3 27,5 m/s	4 30,0 m/s
	0	3	4	4	4	4	4	5	5	4	5	5	6
	I	3	4	4	4	4	4	5	5	4	5	5	6
	II	3	3	4	4	3	4	4	5	4	5	5	5
	III	2	3	3	4	3	3	4	4	4	5	5	5
	IV	2	3	3	3	3	3	3	4	4	4	4	5

12.5 Wind resistance depending on slat and guide

ALU252

guide rail	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500	2600	2700	2800	2900	3000
025	6																			5	

guide rail	3100	3200	3300	3400	3500	3600	3700	3800
025	5	4					3	

ALU255

guide rail	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500	2600	2700	2800	2900	3000
025	6																				

guide rail	3100	3200	3300	3400	3500	3600	3700	3800	3900	4000	4100	4200	4300	4400	4500	4600	4700	4800	4900	5000
025	6	5			4				3					2						

13. ORDER FORM

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