

BUILT-ON ROLLER SHUTTER

OB920 THERMO

Art. no. 064077

TECHNICAL SPECIFICATIONS FOR BUILT-ON ROLLER SHUTTER OB920 THERMO

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Harol reserves the right to make any changes to the construction at all times without having to inform the client beforehand and therefore without having to adapt existing installations.

1. INTRODUCTION

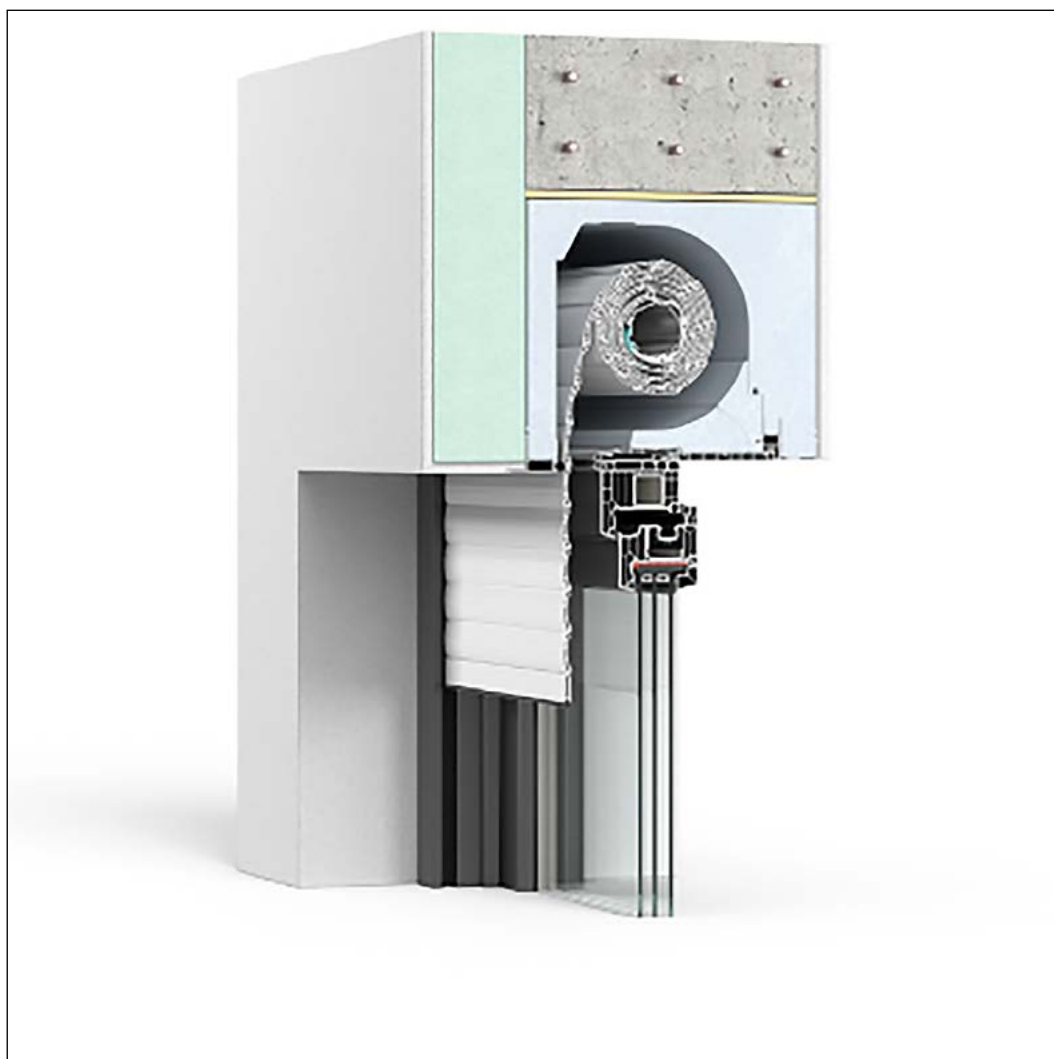


Figure 1:
OB920 Thermo

The OB920 Thermo is a very well insulated built-on roller shutter. Similar to other built-on roller shutters, it is fitted to the window frame and placed in the wall as one complete unit.

The OB920 Thermo is a built-on roller shutter with excellent insulation values. The built-on roller shutter consists of 2 types: one type with internal reveal and a second type with external reveal. Either of the two can be used in new constructions or major renovations.

The materials used guarantee future-proof energy-efficiency. The basic material, EPS (expanded polystyrene), is well-known for its high-grade insulating values. Because of the high-grade insulating values and the many options, this product can be used in all possible new-build situations. Even for passive houses.

2. BOX

2.1 Box construction

Box material:

- EPS or expanded polystyrene, consists of 98% air and is therefore an excellent insulator.
- Due to its high density, the material is harder, the cabinet is heavier and therefore the cabinet has a higher stability.
- An additional plus is that the material is easy to recycle.

Properties:

- Density= 35 g/L
- Heat conductivity = 0.032 W/mK

Outer layer:

The outer layer of the OB920 varies depending on the façade of the house:

If the house has been rendered:

- For a rendered façade, the outer layer of the OB920 Thermo box must be a Sto layer.
This Sto layer is an innovative building material
- Its special composition offers the highest quality and excellent material properties.
- This layer is ideal for problem-free rendering.
- Typical colour = white.

A house built with facing bricks:

- For a façade built with facing bricks, the outer layer of the OB920 Thermo box must be a waterresistant plastic VEKA board.
- This layer protects the roll-up area from the facing bricks, dirt and water.
- The layer is 100% waterproof and has a constant material thickness.
- Typical colour = antracite.

2.2 Box types and sizes

There are two models available of the OB920 Thermo:

the OB920 Thermo IR (Fig. 2)

- Inspection hatch accessible from inside (Internal Revision)
- 4 different sizes available: 240, 260, 280, 340
- The height is always 250mm, the inside diameter Ø198 mm
- Can be used both on facing brick or plasterwork
- Can be used on window profiles up to 90 mm

the OB920 Thermo ER (Fig. 3)

- Inspection hatch accessible from outside (External Revision)
- 4 box sizes available: 240, 260, 280 and 340
- The height is always 250mm, the inside diameter Ø198 mm
- Suitable both for brick and plasterwork

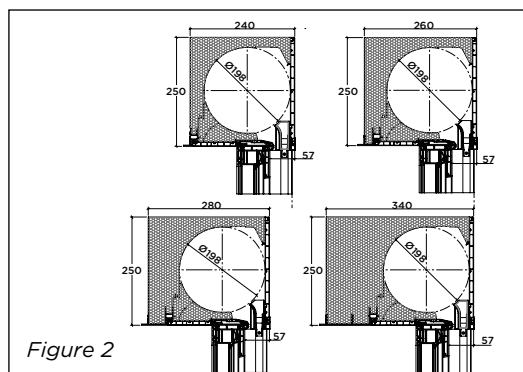


Figure 2

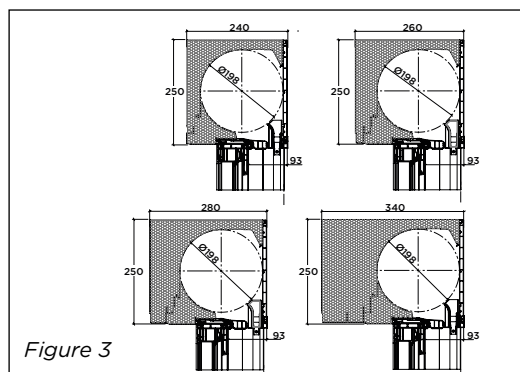


Figure 3

Figure 2:
box models IR
Figure 3:
box model ER

2.3 Finishing profile for the box

For both the IR and the ER models, there is the choice of a suitable finishing profile for either brick or plasterwork.

- EL-V 13x28 = finishing profile for facing brick
- PL/15/STO = finishing profile for plasterwork

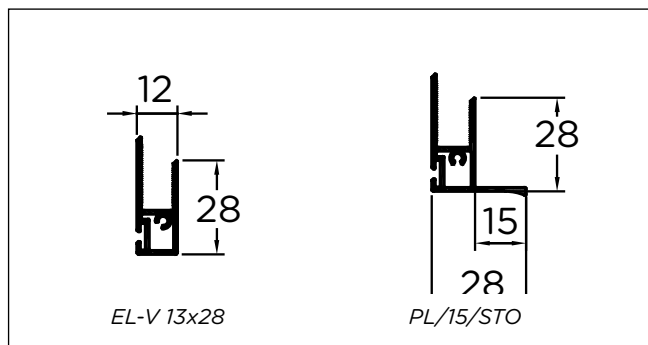


Figure 4:
finishing profiles

2.4 Insulation values of the boxes

thermal values

type	size	U (W/m²K)	f _{RSI} -Value
IR	240x250	0.73	0.74
	260x250	0.64	0.73
	280x250	0.59	0.73
	340x250	0.53	0.72
ER	240x250	0.66	0.79
	260x250	0.56	0.78
	280x250	0.52	0.80
	340x250	0.43	0.77

Table 1:
thermal values

acoustic values

type	size	Rw down/up(dB)
IR	240x250	44/45
	260x250	44/44
	280x250	44/44
	340x250	44/44
ER	240x250	45/45
	260x250	45/46
	280x250	45/47
	340x250	45/46

Table 2:
acoustic values

2.5 Fitting

Window frame anchors are supplied as standard as a connection between the head pieces and the window frame.

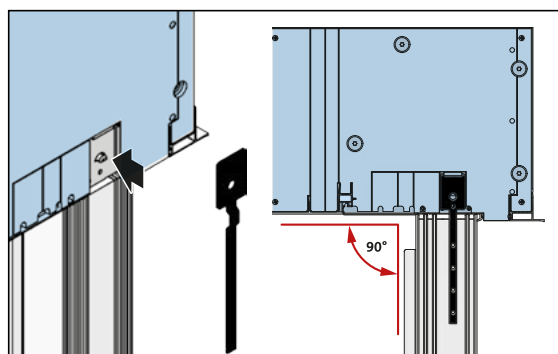


Figure 5:
galvanised window
frame anchors

3. MEASURING

3.1 Finished sizes

finished width = width of window frame = F

finished height = height including box = D (=E+A)

3.2 General sizes

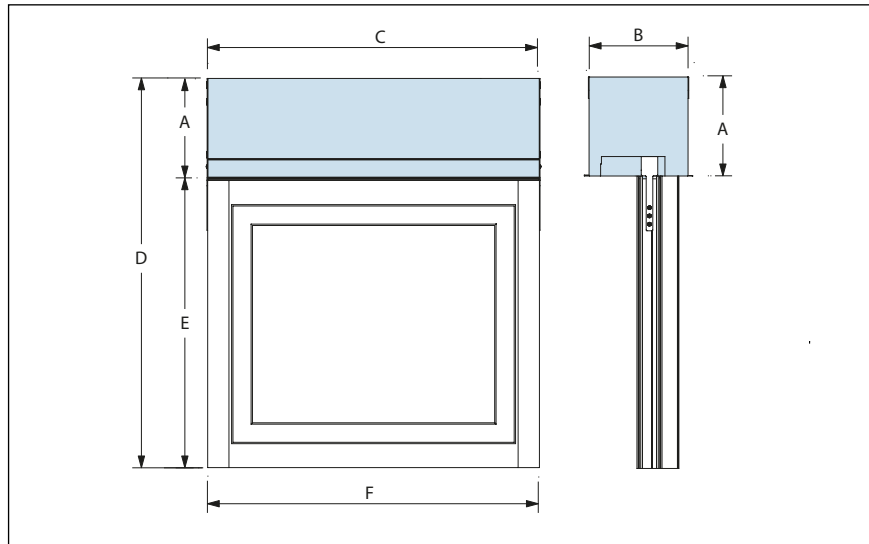


Figure 6:
dimensions

A	Box height
B	Box depth
C	Element width = window width + 10 mm or +50 mm when using the narrow guide rails
D	Element height = window height + box height
E	Window height
F	Window width

Table 3:
box sizes

box type	240	260	280	340
A	250	250	250	250
B	240	260	280	340



Please Note:

Always check that the selected box is suitable for the situation!

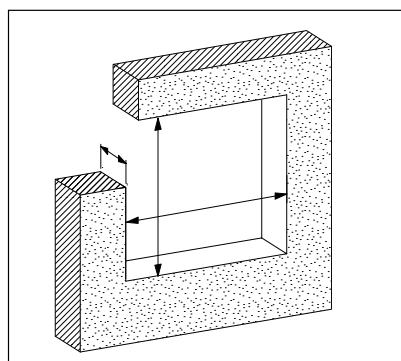


Figure 7:
build-in situation

4. GUIDE RAILS

4.1 General

Material:

extruded aluminium or extruded PVC

Colour:

aluminium: RAL colour range

PVC: 20 or more Renolit colours to choose from (see price list)

Clip fixings:

- the guide rails are fixed to the window frames with nipple screws
- the number required depends on the height of the guide rails (X)
- positioning distance (Y) to the rear of the window frame: see appendix page 14

size X	# nipple screws
<1200 mm	4
1210 - 1650 mm	5
1650 - 2100 mm	6
2100 - 2880 mm	7
2880 - 3400 mm	8

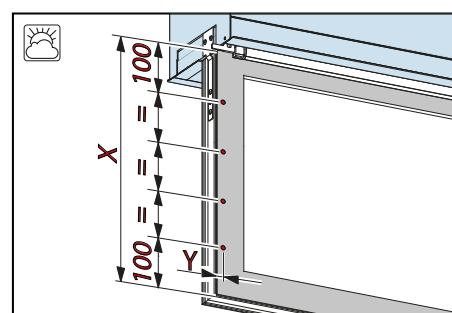


Figure 8:

nipple screws

Figure 9:

position of nipple screws

Fig. 8

Fig. 9

Seals:

the guide rails are fitted with brushes with a membrane in-between

- this seal offers noise dampening for high-wind conditions
- the membrane offers better sealing of the space between the curtain and window

Types:

There are two types of guide rail. The guide rails for the IR system with the interior inspection hatch, and the ER guide rails for the exterior inspection hatch system

4.2. The IR guide rails

- the ALU guide rails: AGI35, AGI60 & AGIm
- the PVC guide rails: PGI35, PGI60 & PGIm

ALU		
AGI60	AGIm	AGI35

Figure 10:

ALU IR guide rails

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Figure 11:
PVC IR-guide rails

PVC		
PGI60	PGIm	PGI35

Optional:

cover caps for the PVC guide rails in white or brown



Note:

If the 35 guide rails are used, the position of the back of the box is offset 25 mm in relation to the back of guide rail and back of the window frame. see appendix: Guide rail position for OB920 IR page 15.

4.3 The ER guide rails

- the ALU guide rails: AGE60 & AGEm
- the PVC guide rails: PGE60 & PGE m

Figure 12:
ER guide rails

ALU		PVC	
AGE60	AGEm	PGE60	PGE m



Note:

The ER guide rails are separable. When the motor or curtain needs to be replaced, or if repairs need to be carried out, it must be possible to remove the clippable part of the guide rail in order to carry out the repairs.

4.4 L-finishing profile for guide rails

Option number: A1628.

Dimensions: 10x10 mm.

Function:

to seal the opening between the guide rail and the facing brick.

Can be used for:

- IR: all types of guide rails
- ER: only the PVC guide rails (the ALU do not have an opening)

5. SHUTTER CURTAIN

5.1 Slats

		
	ALU39	ALU52
slat thickness (A) (mm)	8,3	13,5
covering height (B) (mm)	39	52
total height (C) (mm)	44,4	58,6
number of slats per metre of height	25,6	19,2
net weight (kg/m ²)	2,44	3,2
gross weight (kg/m ²)	3,17	4,16
maximum width (mm)	3000	3500
maximum height (mm)	3000	2700
maximum area (m ²)	7	8,5
resistance value ΔR (m ² K/W)	0,15	0,15
resistance value R_{SH} (m ² K/W)	0,0065	0,0084

Table 4:
technical information

Types:

3 types of slats available: ALU39 and ALU52.

Material:

double-walled foam-insulated aluminium.

Technical information: see table above.

Light and ventilation slot options:

- Without light slots (code 0).
 - 1/3 light (code 1).
 - 1/2 light slots (code 2).
 - 2/3 light slots (code 3).
 - Full daylight slots (code 4)
- (With full daylight slots the top 7 slats are fixed).

The slats with light slots are always at the bottom.

Colours

	RAL	ALU39	ALU52
white (A01)	± 9010	x	x
light grey (A02)	± 7038	x	x
brown(A03)	± 8014	x	x
alu-metallic (A04)	± 9006	x	x
bronze (A07)		x	
cream (A08)	± 1015	x	x
beige (A09)		x	
light beige (A11)		x	x
moss green (A12)	± 6005	x	
purple red (A16)	± 3004	x	
black gray (A23)	± 7021	x	
jet black (A28)	± 9005	x	
creamy white (A32)	± 9001	x	x
grey aluminium (A35)	± 9007	x	x
soft grey (A39)	± 7035	x	x
anthracite metal gloss (A73)	± 9009	x	x
anthracite grey (A80)	± 7016	x	x
golden oak (A83)		x	x
quartz grey (A883)	±7039		x
black metal gloss (A921)		x	x

Table 5:
slat colours

Fixation to the shaft:

connected to the shaft by rigid suspension links.

5.2 Curtain roll-up table

OB920IR				
TYPE OF SLAT	BOX SIZE			
	240	260	280	340
ALU39	3000			
ALU52	2700			

Table 6:
roll-up table

OB920ER				
TYPE OF SLAT	BOX SIZE			
	240	260	280	340
ALU39	3000			
ALU52	2600			

5.3 Bottom lath

Material:

Extruded aluminium fitted with a rubber seal & invisible stops

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6. OPERATION

The operating side is always stated as viewed from the inside.
The OB920 thermo are all motor-controlled

	ILMO	ILMO S	OXIMO IO (1)	OXIMO IO S	RS100 IO	NHB
minimum width	700	439	800	439	660	900
maximum torque (Nm)	35	6	40	6	20	20
controls	switch	switch	transmitter	transmitter	transmitter	switch
end positions	automatic	automatic	transmitter	transmitter	transmitter	automatic
HHO (2)	X	X	X	X	X	X
HHN (3)	X	X	X	X	X	X
cable length (m)	3	3	3	3	3	3
lug required	X	X	0	X	0	X

Table 7:
motor data

1. Standard motor
2. HHO = Obstacle detection in upward direction.
3. HHN = Obstacle detection in downward direction.

Outlet: cable outlet is always through side console
outlet of the NHB is always along the base, at an angle of 45°



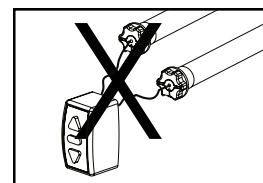
Please Note:

widths starting from 476 to 519 not available.

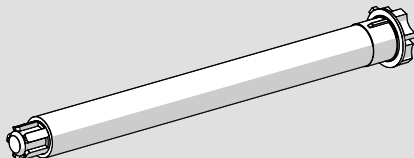
6.1 Electric motor connection

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 be conform the local norms and/or demands in vigor. All the motors are supplied with the necessary diagram's and manuals for the chosen type of motor and/or domotical accessories..
- 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)

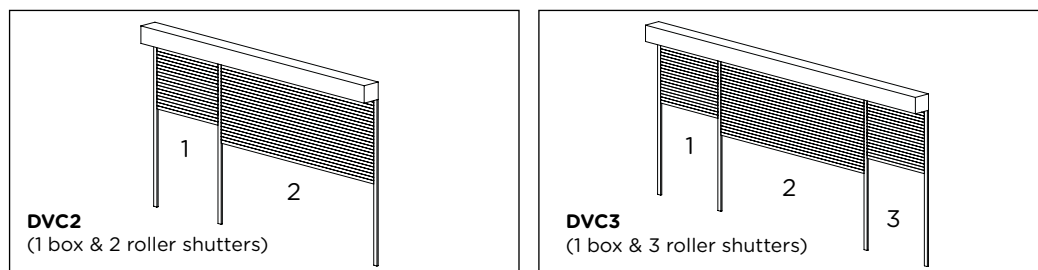
www.somfy.com



7. DOOR-WINDOW COMBINATION

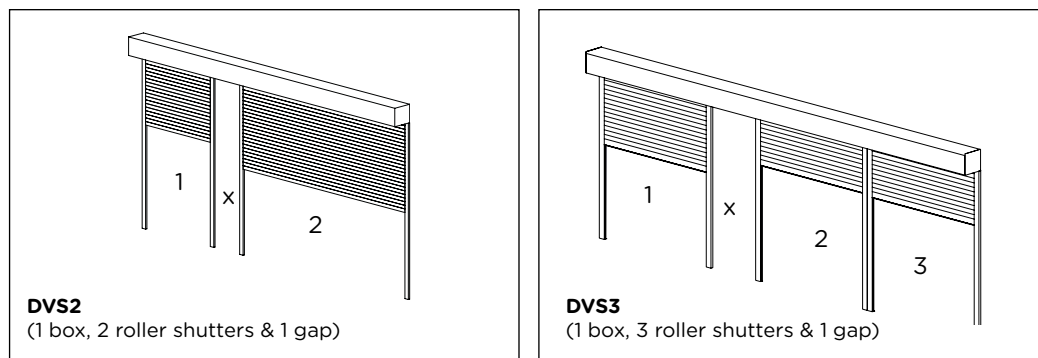
- 1 continuous box for 2 or 3 roller shutters
- individual or collective operation is possible
- maximum box width = 5000 mm
- choice of "real" central guide rails, or central guide rail as a combination of back-to-back lateral guide rails
- 2 options:
 - DVC: directly adjoining roller shutters.
 - DVS: small gap between individual roller shutters (max. gap = 700mm)
- motors can only be fitted to the outer consoles
- the centre section must always be connected to the left or right

Figure 13:
DVC (inside view)



- A central console is used for DVC

Figure 14:
central console for
separate controls



8. SUPPLEMENTS

Brackets

- area of application: see appendix

Ceiling anchors

- required for $b > 1500$ mm
- see appendix: ceiling anchors

EPS box widening IR

- inside: widening possible from min 15 mm to max 135 mm provided with a white base PVC profile
- outside: widening possible from min 15 mm to max 55 mm
- upper: widening possible max 135 mm

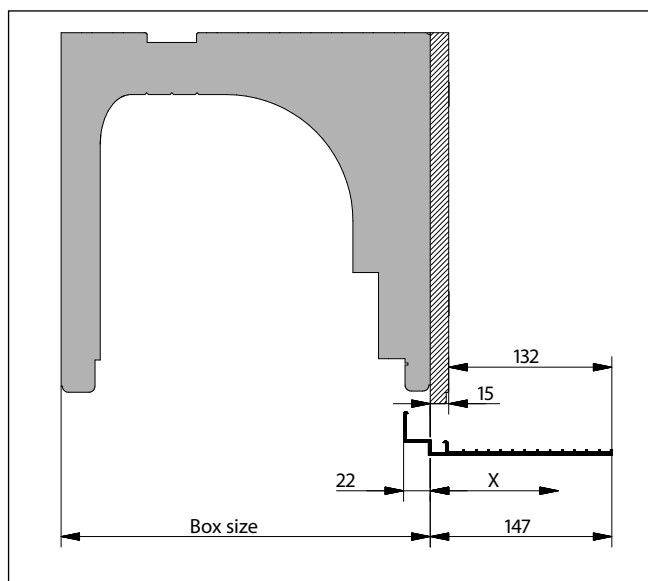


Figure 15:
IR box widening inside

EPS box widening ER inside/outside/ above

- inside: widening possible from min 15 mm to max 135 mm without a white base PVC profile
- outside: widening possible from min 15 mm to max 55 mm
- upper: widening possible max 135 mm

Widening at end face

- supplied individually
- up to a maximum of 60 mm

9. GENERAL REMARKS

- The surfaces of the slats can become slightly marked due to friction between the slats during rolling up and rolling down. This is a natural consequence of normal use of the product and is thus not covered by the warranty.
- Reflection of small traces of light between closed light slats or between curtain and guide rail are typical properties of the product and cannot be excluded. If the roller shutter must darken as optimally as possible, it is best not to choose light slats.
Note: a roller shutter never darkens 100%
- All electrical connections must be made according to the statutory provisions of the relevant country. Electrical connections and proper operation are the responsibility of the installer.
- Harol does not accept any liability whatsoever for shutter curtains that detach as a result of windy or stormy conditions. The installer must take into consideration all precautionary measures necessary to order a product suitable for the installation site.
- Under no condition should the built-on roller shutter be viewed as a structural component that contributes to the reinforcement of the window, regardless of the way the built-on roller shutter is fitted.
- The built-on roller shutter must only be mounted on self-supporting structures that have a sufficient degree of strength to carry a built-on roller shutter.
- All information in this brochure is provided in good faith and is for informational purposes only. It reflects the present state of our knowledge and abilities and cannot be used against us. Harol reserves the right to make alterations to the product without prior notice.
- A roller shutter with a width bordering on the maximum dimensions of the selected slat type increases the risk of bending and a less rigid panel. However, this does not affect the quality of the product.
- In order to obtain a good adhesion between the shutter box and the plaster, the box must be supplied with plaster mesh.
- For non-standard/new window profiles, the first step is to examine how the clip profile should be positioned: with or without a spacer. This may affect the usual delivery time.
- The OB920 box should not be left unfinished in the facade for longer than 3 months after installation.

10. ORDER FORM OB920

Click on the link below:

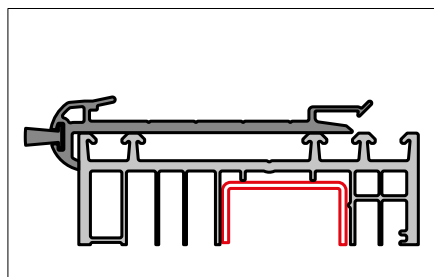
[Order form OB920](#)

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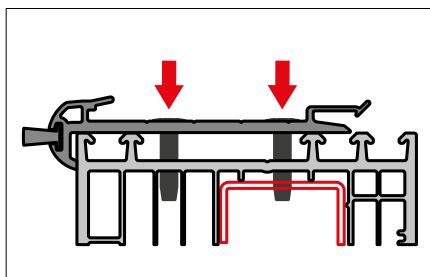
APPENDIX: FITTING THE BOX TO THE WINDOW

The box is fitted to the window in 3 steps:

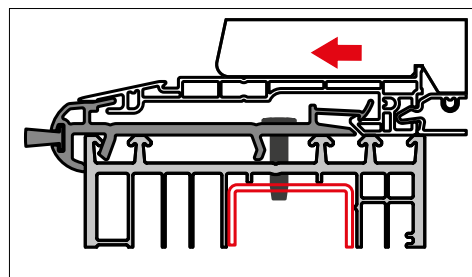
1. position the adapter profile flush against the window
2. screw the adapter profile through the window frame
3. slide the casement onto the adapter profile (complete assembly: see assembly instructions)



Step 1



Step 2

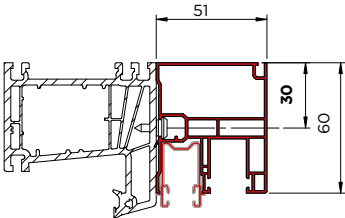
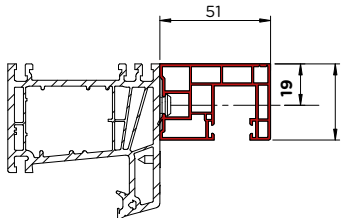
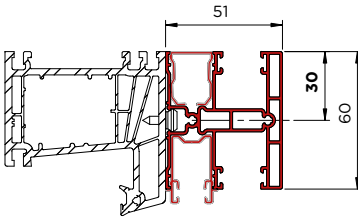
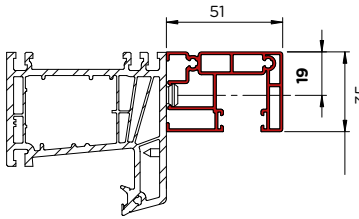


Step 3

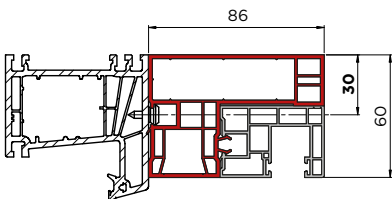
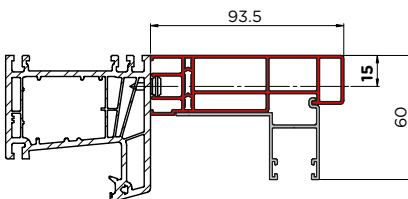
APPENDIX: POSITIONING DISTANCE OF NIPPLES RELATIVE TO THE REAR OF THE WINDOW FRAME

The position of the nipple screws depends on the type of guide rail selected.

1. OB920 IR

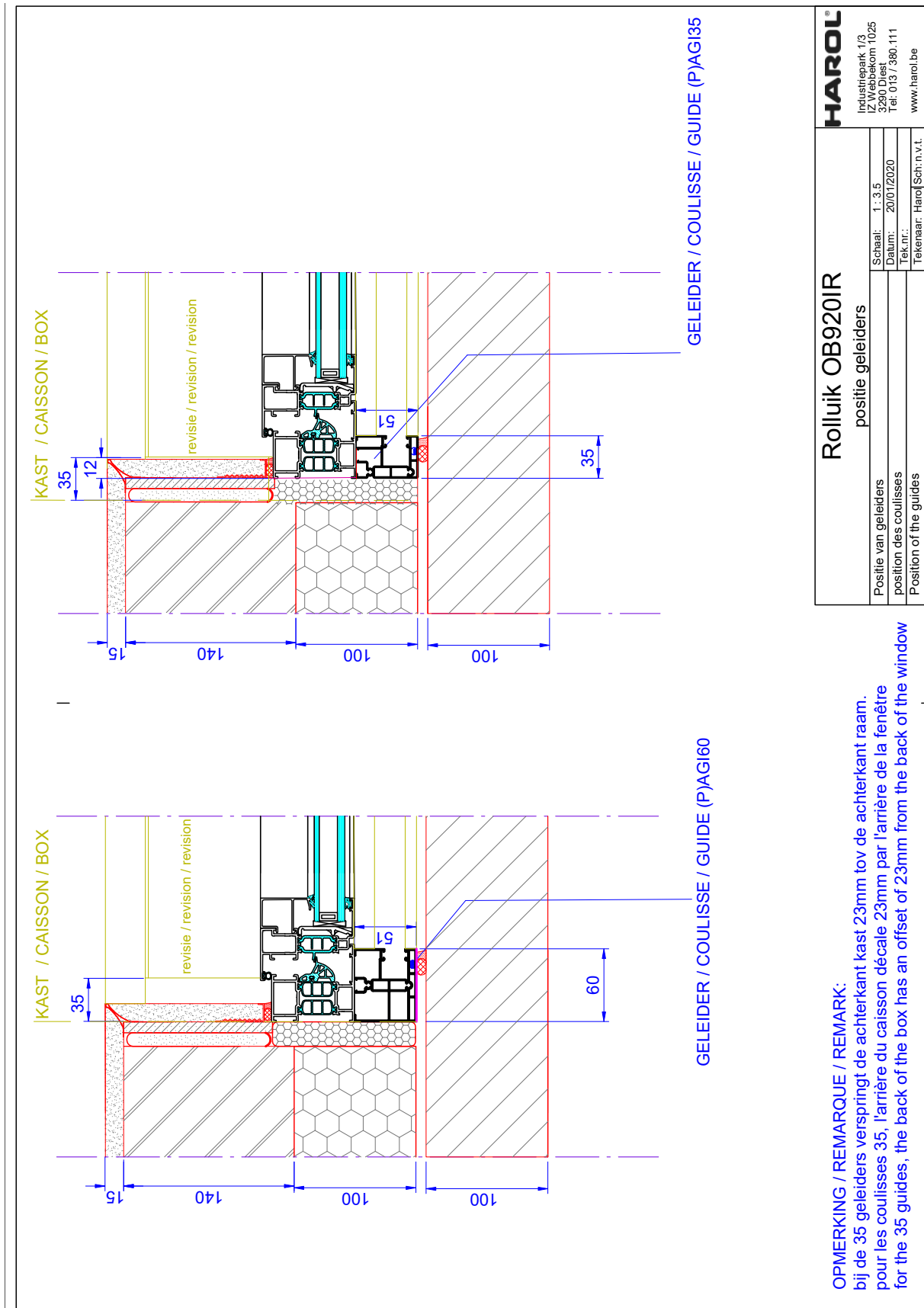
PVC GUIDE RAILS	
PGI60	PGI35
	
ALU GUIDE RAILS	
AGI60	AGI35
	

2. OB920 ER

PVC GUIDE RAIL PGE60	ALU GUIDE RAIL AGE60
	

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APPENDIX: GUIDE RAIL POSITION FOR OB920 IR



APPENDIX: CEILING ANCHORS

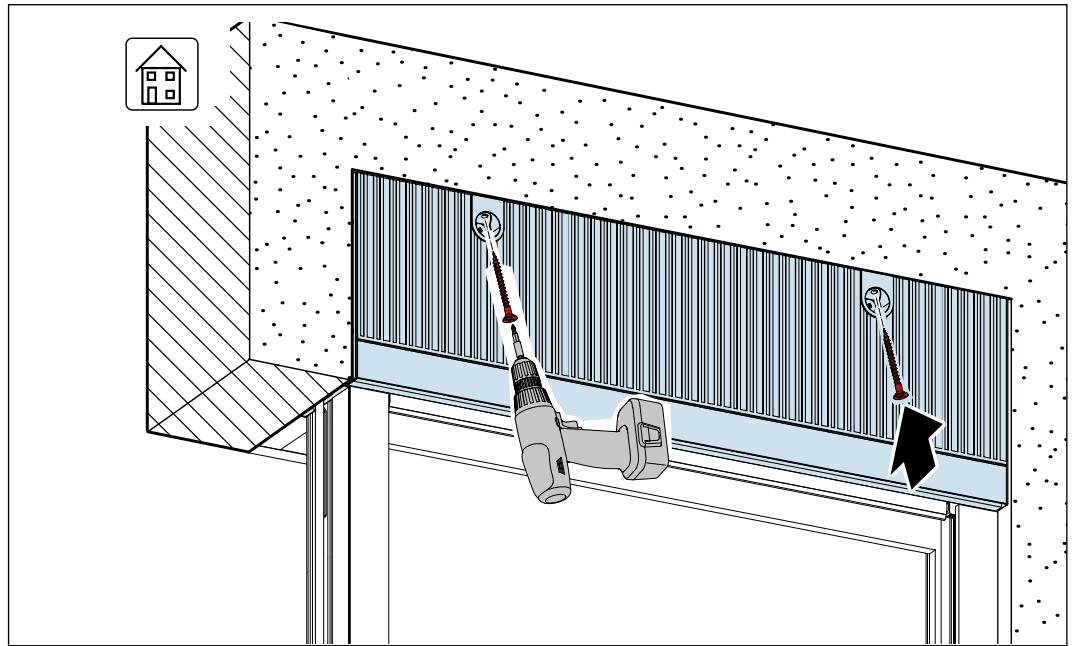


Figure 16:
fitting the
ceiling anchors

- screw the ceiling anchors (optional) against the lintel or ceiling

APPENDIX: GUIDE RAIL STOPS

- the guide rail stops act as a stop if a window sill has not yet been fitted
- after fitting a window sill, the stops must be removed

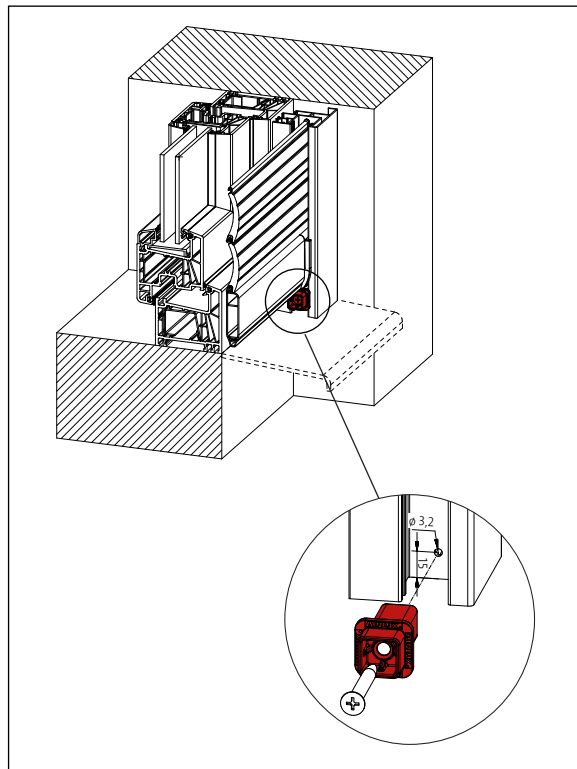


Figure 17:
guide rail stops

APPENDIX: SPRING-LOADED SHAFT END PLUG

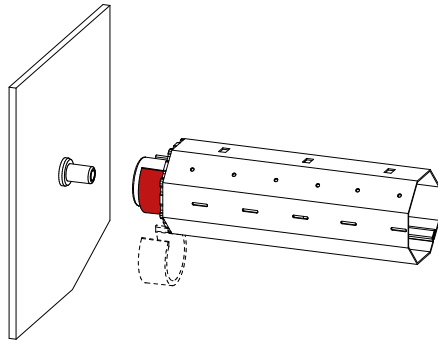


Figure 18:
*spring-loaded shaft end
with locking washer*

- the spring-loaded shaft end plug makes it easier to assemble and disassemble the shaft
- the safety ring prevents the shaft from slipping during transport, for example
- before disassembling the shaft, this ring must first be removed

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APPENDIX: TABLE FOR THE USE OF BRACKETS

Box size

H \ W	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500	2600	2700	2800	2900	3000	3100
900					SRP	SRP	SRP	SRP	SRP	1	1	1	1	1	1	3	3	3	4	4
1000					SRP	SRP	SRP	SRP	SRP	1	1	1	1	1	1	3	3	3	4	4
1100					SRP	SRP	SRP	SRP	SRP	1	1	1	1	1	2	3	3	3	4	4
1200				SRP	SRP	SRP	SRP	SRP	SRP	1	1	1	1	2	2	3	3	3	4	4
1300				SRP	SRP	SRP	SRP	SRP	SRP	1	1	1	1	2	2	3	3	3	4	4
1400				SRP	SRP	SRP	SRP	SRP	SRP	1	1	1	1	2	2	3	3	3	4	4
1500				SRP	SRP	SRP	SRP	SRP	SRP	1	1	1	2	2	2	3	3	3	4	4
1600				SRP	SRP	SRP	SRP	SRP	SRP	1	1	1	2	2	3	3	3	3	4	4
1700				SRP	SRP	SRP	SRP	SRP	SRP	1	1	1	2	2	3	3	3	3	4	4
1800				SRP	SRP	SRP	SRP	SRP	1	1	1	2	2	3	3	3	3	3	4	4
1900				SRP	SRP	SRP	SRP	SRP	1	1	1	2	2	3	3	3	3	3	4	4
2000				SRP	SRP	SRP	SRP	SRP	1	1	1	2	2	3	3	3	3	3	4	4
2100				SRP	SRP	SRP	SRP	SRP	1	1	2	2	3	3	3	3	3	4	4	4
2200				SRP	SRP	SRP	SRP	SRP	1	1	2	2	3	3	3	3	3	4	4	4
2300				SRP	SRP	SRP	SRP	SRP	1	1	2	2	3	3	3	4	4	4	4	4
2400				SRP	SRP	SRP	SRP	SRP	1	1	2	2	3	3	3	4	4	4	4	4
2500				SRP	SRP	SRP	SRP	SRP	1	1	2	2	3	3	3	4	4	4	4	4
2600				SRP	SRP	SRP	SRP	SRP	1	2	2	3	3	3	3	4	4	4	4	5

H \ W	3200	3300	3400	3500	3600	3700	3800	3900	4000	4100	4200	4300	4400	4500	4600	4700	4800	4900	5000
900	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
1000	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
1100	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
1200	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	5	5
1300	4	4	4	4	4	4	4	4	4	4	4	4	4	5	5	5	5	5	5
1400	4	4	4	4	4	4	4	4	4	4	5	5	5	5	5	5	5	5	5
1500	4	4	4	4	4	4	4	4	4	5	5	5	5	5	5	6	6	6	6
1600	4	4	4	4	4	4	4	4	5	5	5	5	6	6	6	6	6	6	6
1700	4	4	4	4	4	4	4	5	5	5	5	6	6	6	6	7	7	7	7
1800	4	4	4	4	4	4	5	5	5	5	6	6	6	7	7	7	7	7	8
1900	4	4	4	4	4	5	5	5	5	6	6	6	7	7	7	7	8	8	8
2000	4	4	4	4	5	5	5	5	6	6	6	7	7	7	8	8	8	8	9
2100	4	4	4	5	5	5	5	6	6	6	7	7	7	8	8	8	8	9	9
2200	4	4	4	5	5	6	6	6	7	7	7	7	8	8	8	9	9	9	9
2300	4	4	5	5	6	6	6	7	7	7	8	8	8	8	9	9	9	9	9
2400	4	5	5	6	6	6	7	7	7	8	8	8	8	9	9	9	9	9	10
2500	5	5	6	6	6	7	7	7	8	8	8	8	9	9	9	9	9	10	10
2600	5	6	6	7	7	7	7	8	8	8	9	9	9	9	9	10	10	10	10

light grey	-
pink	steel reinforcement profile
green	1
dark blue	2
grey	3
terracotta	4
yellow	5
light blue	6
brown	7
beige	8
red	9
dark grey	10

Table 9: table for the use of reinforcement brackets

APPENDIX: GLOSSARY

Lambda value

- symbol λ
- unit W/mK
- name thermal conductivity coefficient
- definition The lambda value represents the heat conductivity of a material.
The higher the value, the better the heat is conducted and therefore the less the material insulates.

R-value

- symbol R
- unit $\text{m}^2 \text{K/W}$
- name for thermal resistance
- definition The R value expresses the thermal resistance of an insulation material, or how the insulating material keeps the heat out. The higher the R-value, the more heat the insulation material retains, and therefore the better it insulates. To determine the R-value of insulation materials, the thickness of the insulation material is divided by the lambda value of the material.

U-value

- symbol U
- unit $\text{W/m}^2\text{K}$
- name thermal transmittance coefficient
- definition The U-value indicates how much heat is lost per m^2 and per time unit at one degree of temperature difference. The U-value is therefore also expressed as $\text{W/m}^2\text{K}$ and should be as low as possible. A low U-value means that very little heat is lost.

Psi-value

- symbol ψ
- unit W/mK
- name linear thermal transmittance coefficient
- definition The Psi value expresses the heat loss that occurs during the transition from structural components of the building envelope. This is the heat that disappears from the inside to the outside at the connections of the structural components. The lower the Psi value, the better the insulation.

fRsi-value

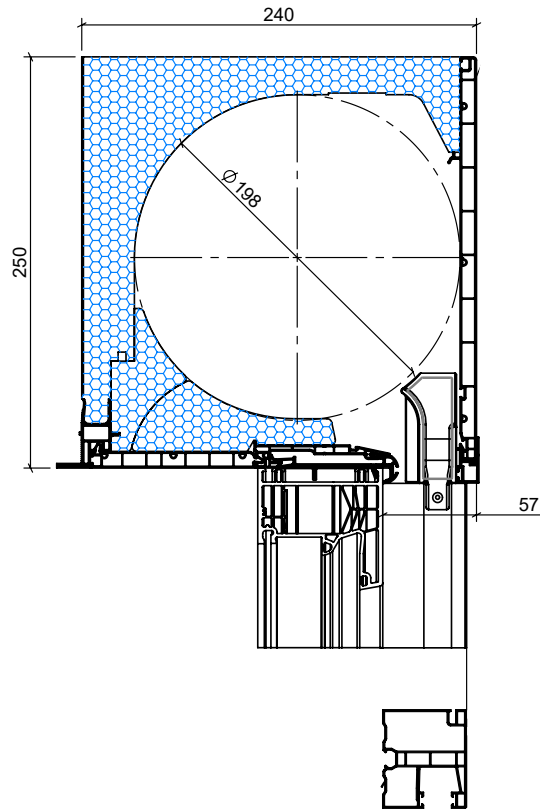
- symbol f_{rsi}
- unit /
- name the surface temperature factor
- definition The f-factor characterises the thermal quality of a construction.
The higher this value, the better the insulation.

Rw-value

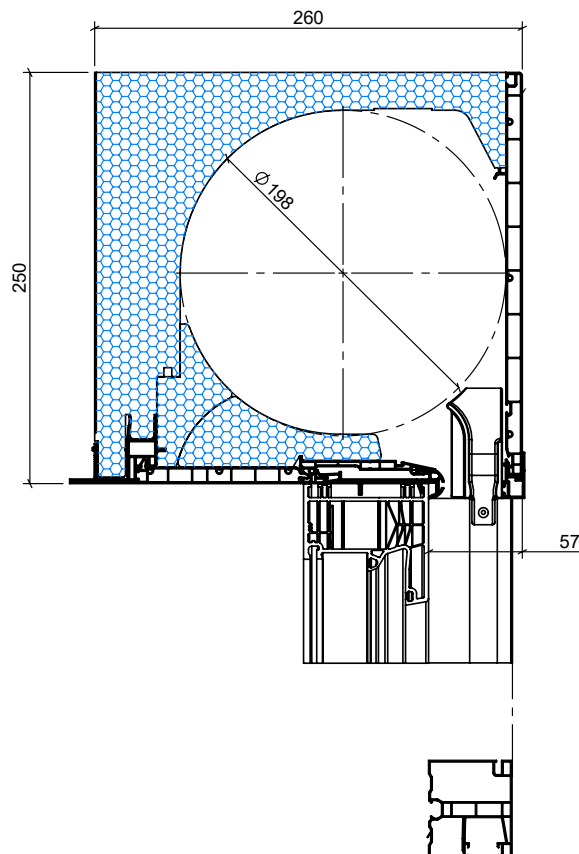
- symbol R_w
- unit db
- name the noise reduction factor
- definition This expresses the insulating ability of a material or of a construction. The higher the R_w -value, the better the sound insulation of the material or construction.

TECHNICAL SPECIFICATIONS FOR BUILT-ON ROLLER SHUTTER OB920 THERMO

APPENDIX: CROSS-SECTION OF BOX - BOX SIZE 240 IR

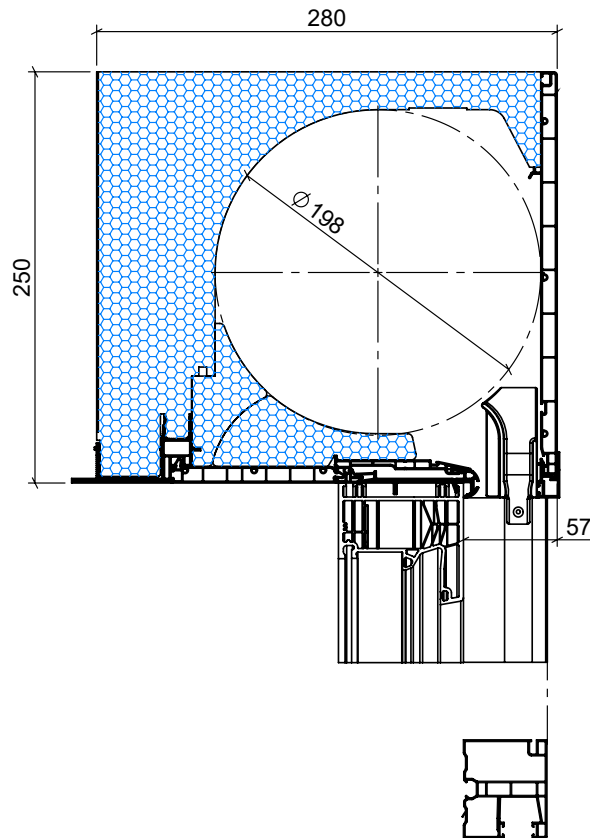


APPENDIX: CROSS-SECTION OF BOX - BOX SIZE 260 IR

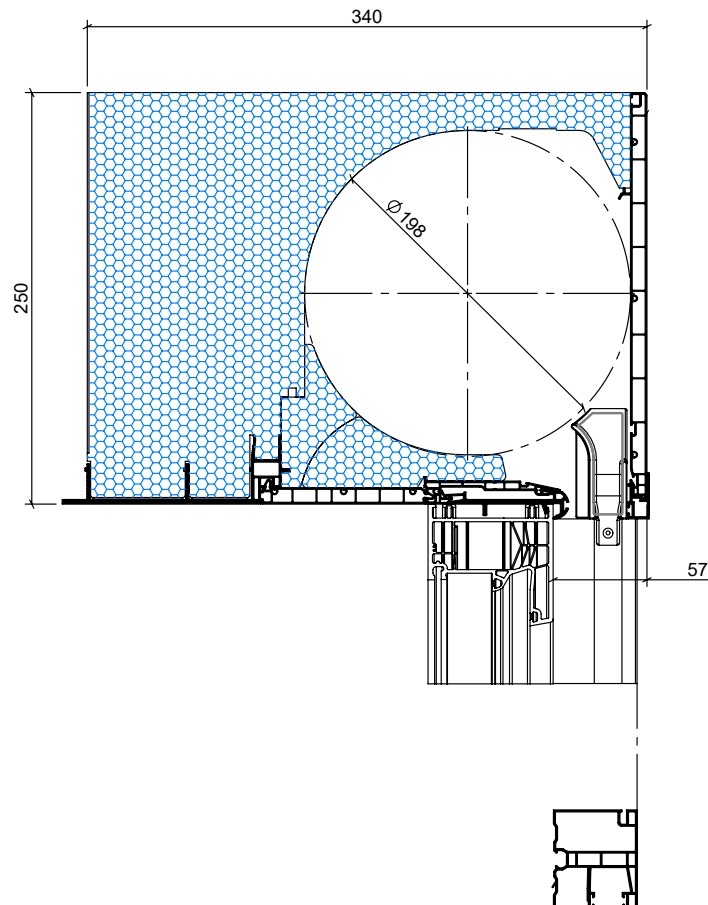


TECHNICAL SPECIFICATIONS FOR BUILT-ON ROLLER SHUTTER OB920 THERMO

APPENDIX: CROSS-SECTION OF BOX - BOX SIZE 280 IR

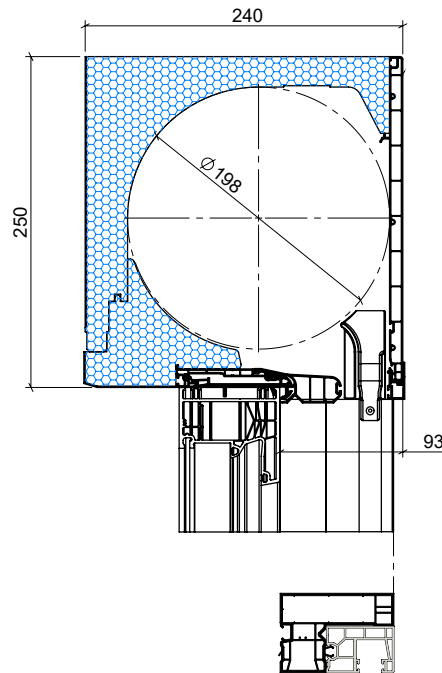


APPENDIX: CROSS-SECTION OF BOX - BOX SIZE 340 IR

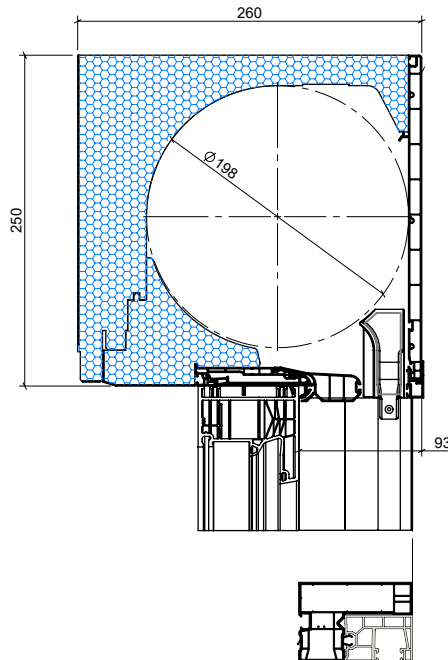


TECHNICAL SPECIFICATIONS FOR BUILT-ON ROLLER SHUTTER OB920 THERMO

APPENDIX: CROSS-SECTION OF BOX - BOX SIZE 240 ER

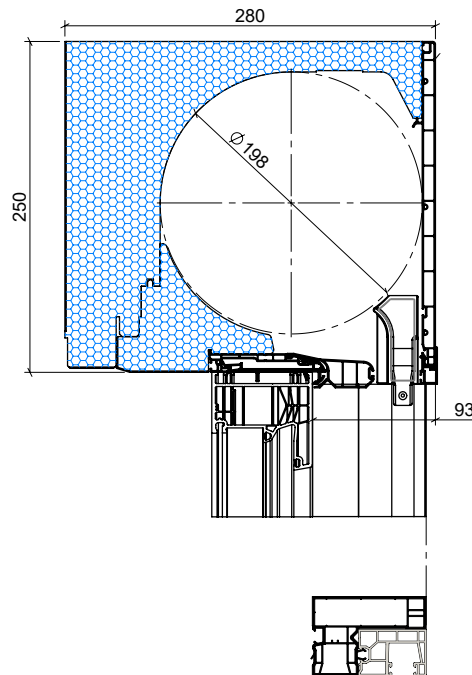


APPENDIX: CROSS-SECTION OF BOX - BOX SIZE 260 ER

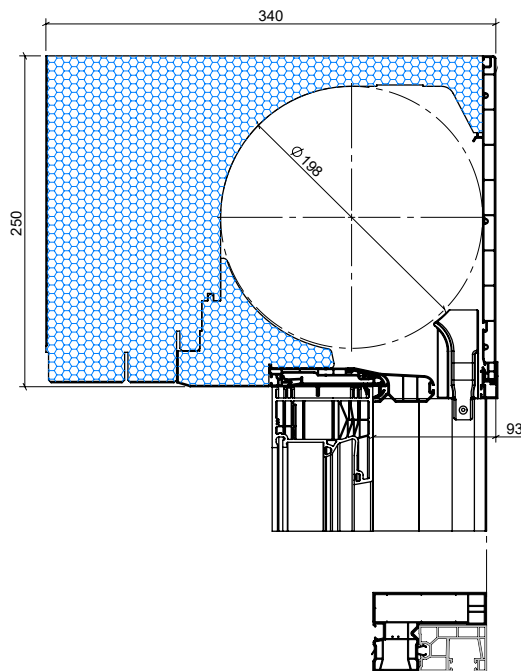


TECHNICAL SPECIFICATIONS FOR BUILT-ON ROLLER SHUTTER OB920 THERMO

APPENDIX: CROSS-SECTION OF BOX - BOX SIZE 280 ER



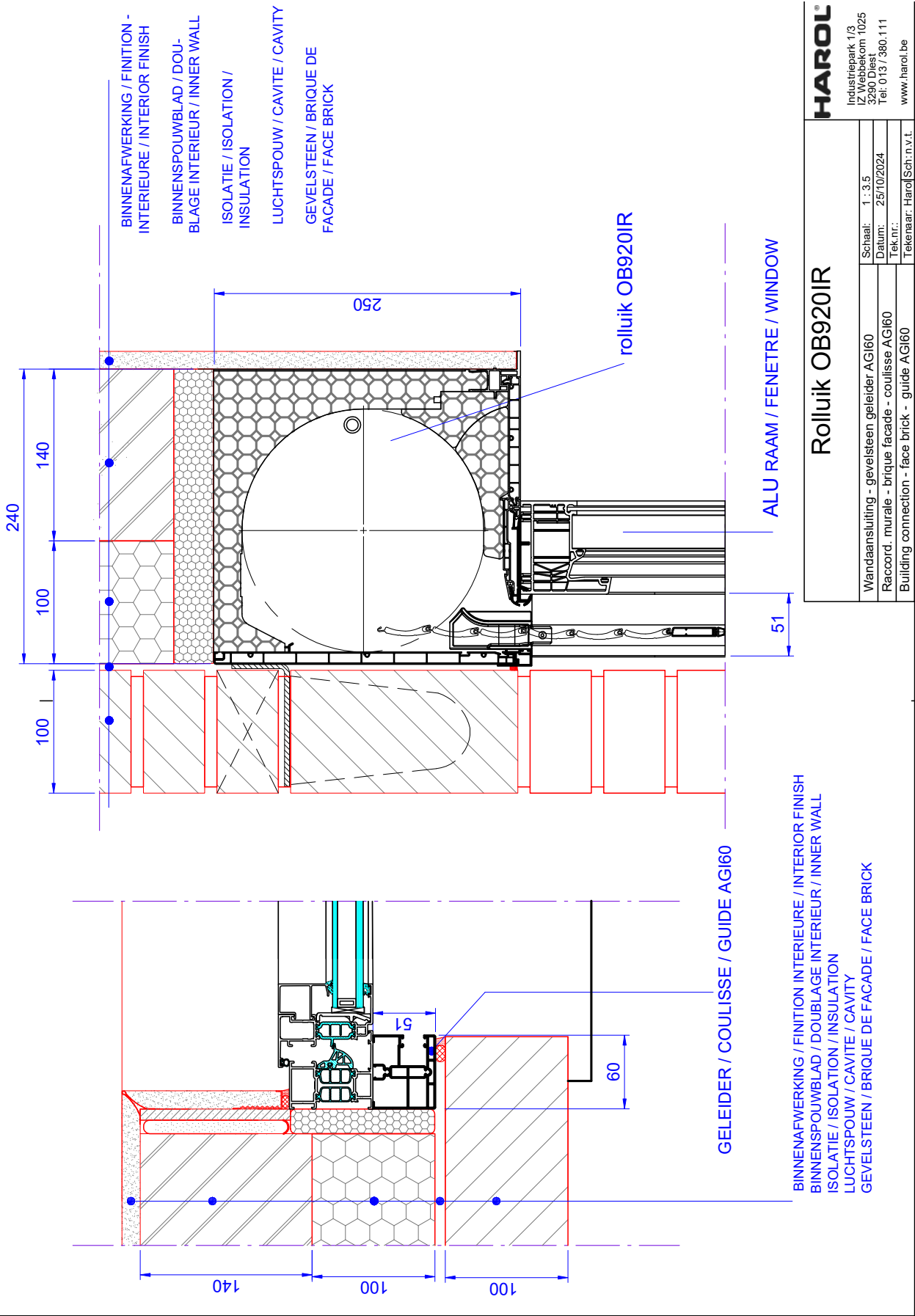
APPENDIX: CROSS-SECTION OF BOX - BOX SIZE 340 ER



TECHNICAL SPECIFICATIONS FOR
BUILT-ON ROLLER SHUTTER OB920 THERMO

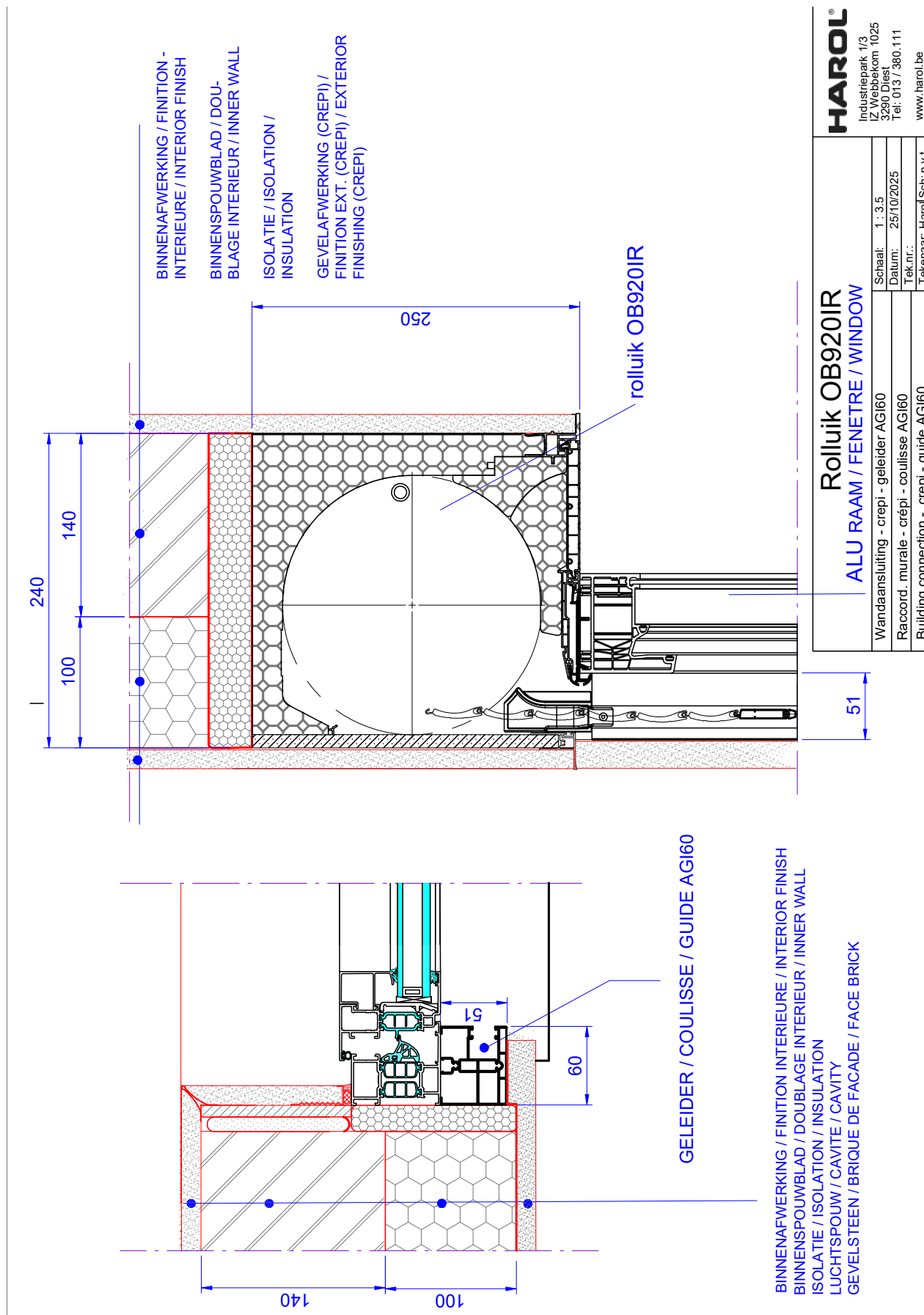
APPENDIX: WALL CONNECTIONS

- OB920 IR wall connection for brickwork



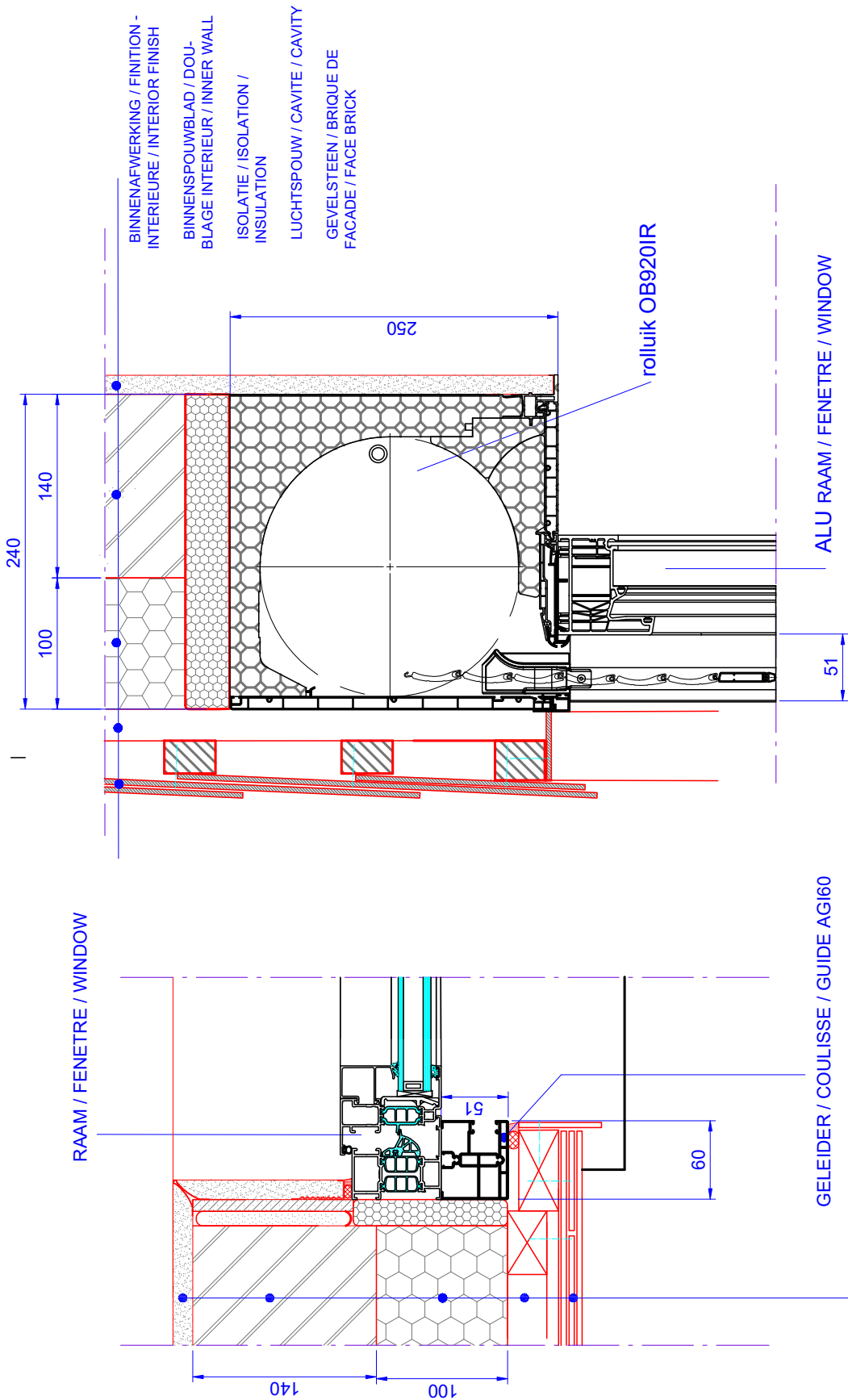
TECHNICAL SPECIFICATIONS FOR BUILT-ON ROLLER SHUTTER OB920 THERMO

– OB920 IR wall connection for plasterwork



TECHNICAL SPECIFICATIONS FOR
BUILT-ON ROLLER SHUTTER OB920 THERMO

- OB920 IR wall connection for slates



Rolluik OB920IR		HAROL® Industriepark 1/3 IZ Webbekom 1025 3290 Diest Tel: 013 / 380.111 www.harol.be	
Wandaansluiting - leien - geleider AGI60	Schaal: 1 : 3,5		
Raccord. murale - ardoises - coulisse AGI60	Datum: 25/10/2024		
Building connection - slates - guide AGI60	Tek.nf.:		
	Tekenaar: Harol Sch: n.v.t.		

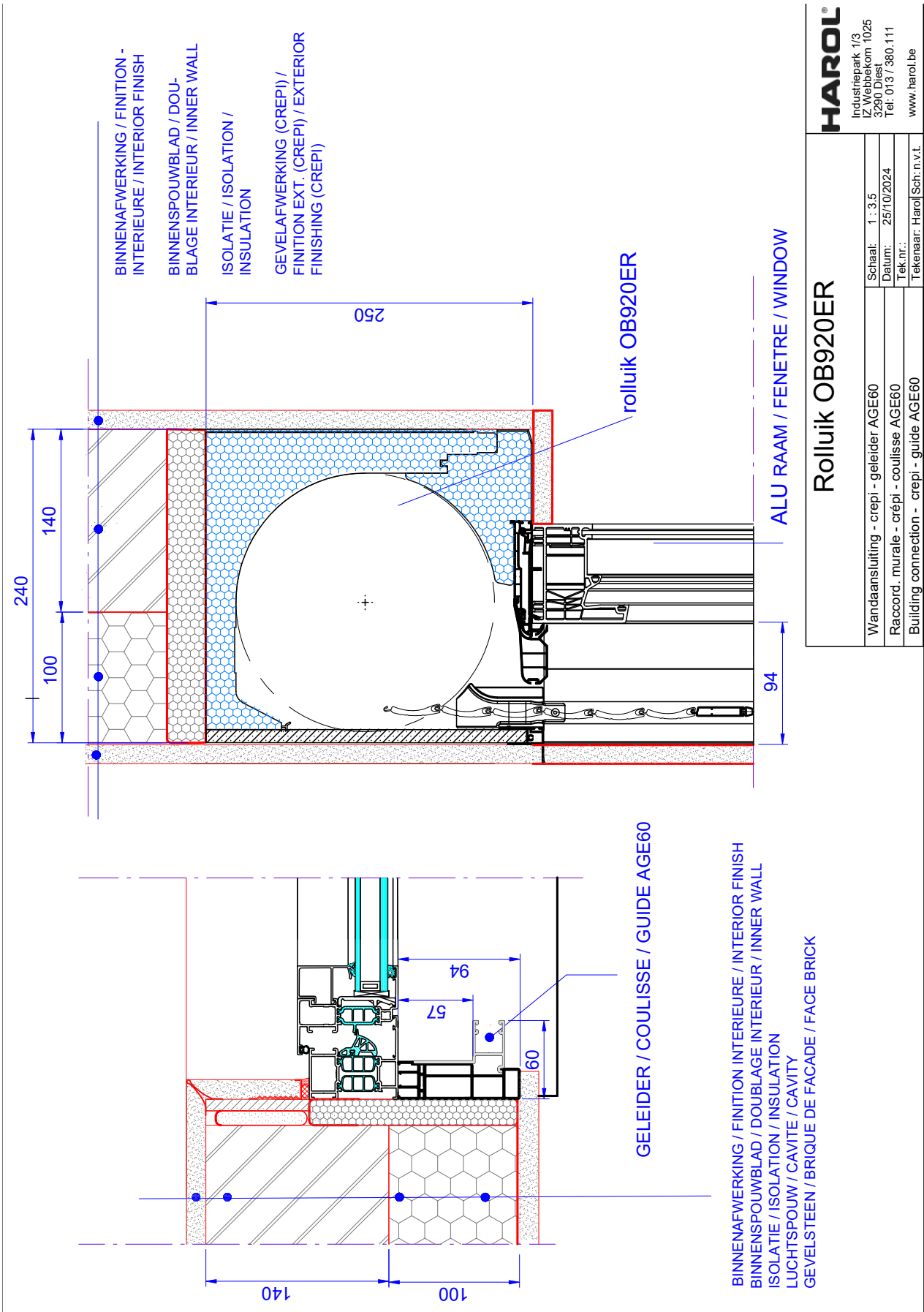
BINNENAFWERKING / FINITION INTERIEURE / INTERIOR FINISH
BINNENSPOUWBLAD / DOUBLAGE INTERIEUR / INNER WALL
ISOLATIE / ISOLATION / INSULATION
LUCHTSPOUW / CAVITE / CAVITY
GEVELAFWERKING (LEIEN) / FINITION EXT. (ARDOISES) /
EXTERIOR FINISHING (SLATES)

- OB920 ER wall connection for brickwork



TECHNICAL SPECIFICATIONS FOR
BUILT-ON ROLLER SHUTTER OB920 THERMO

- OB920 ER wall connection for plasterwork



TECHNICAL SPECIFICATIONS FOR
BUILT-ON ROLLER SHUTTER OB920 THERMO

- OB920 ER wall connection for slates

