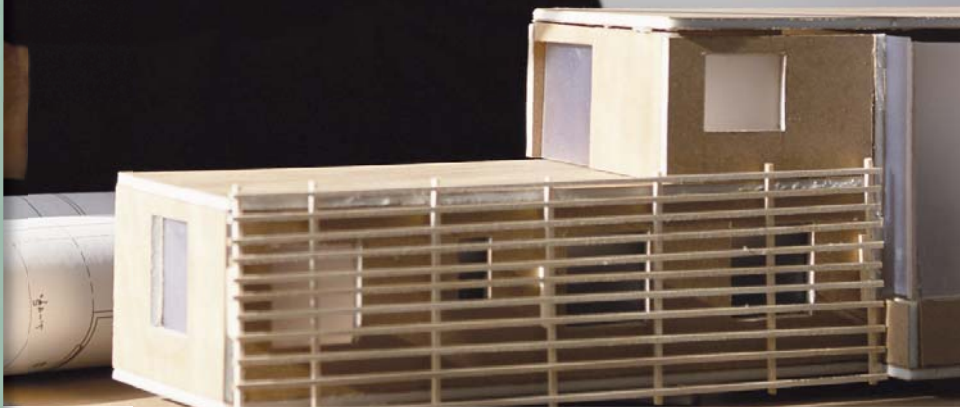


 MADE IN GERMANY

There are many
pretty windows,
but here is only one way
to plan them perfectly.



 **ROKACOMPACT**

The world's first complete window system

www.roka-compact.de

 **Beck+Heun**
SYSTEME FÜR HAUS UND BAU



ROKACOMPACT

The world's first complete window system

We've reached our goal.

After an intensive period of research and development our efforts have paid off and the results are plain to see.

Take a look at our highly innovative ROKA-CO₂MPACT, the world's first complete window system. Discover the incredible optimisation potential that ROKA-CO₂MPACT brings to architectural design and window installation.

Bernd Beck
Managing Director

Stefan Orth
Managing Director



CONTENTS

A passion for innovation

Our corporate philosophy

Page 04/05

Easy planning involving fewer trades

The perfect way to complete window installation

Page 06/07

The complete window system

Integrated system components at a glance

Page 08/09

ROKA-CO₂MPACT

The traditional model with a shutter box

Page 10/11

ROKA-CO₂MPACT-SHADOW

The innovative model with a venetian blind box

Page 12/13

ROKA-CO₂MPACT-UNI

The slim model without a shading unit

Page 14/15

Meticulously tested

Test certificates and system features

Page 16/17

Fast, easy and reliable

Precision in design and installation

Page 18/19



A passion for innovation

Our corporate philosophy

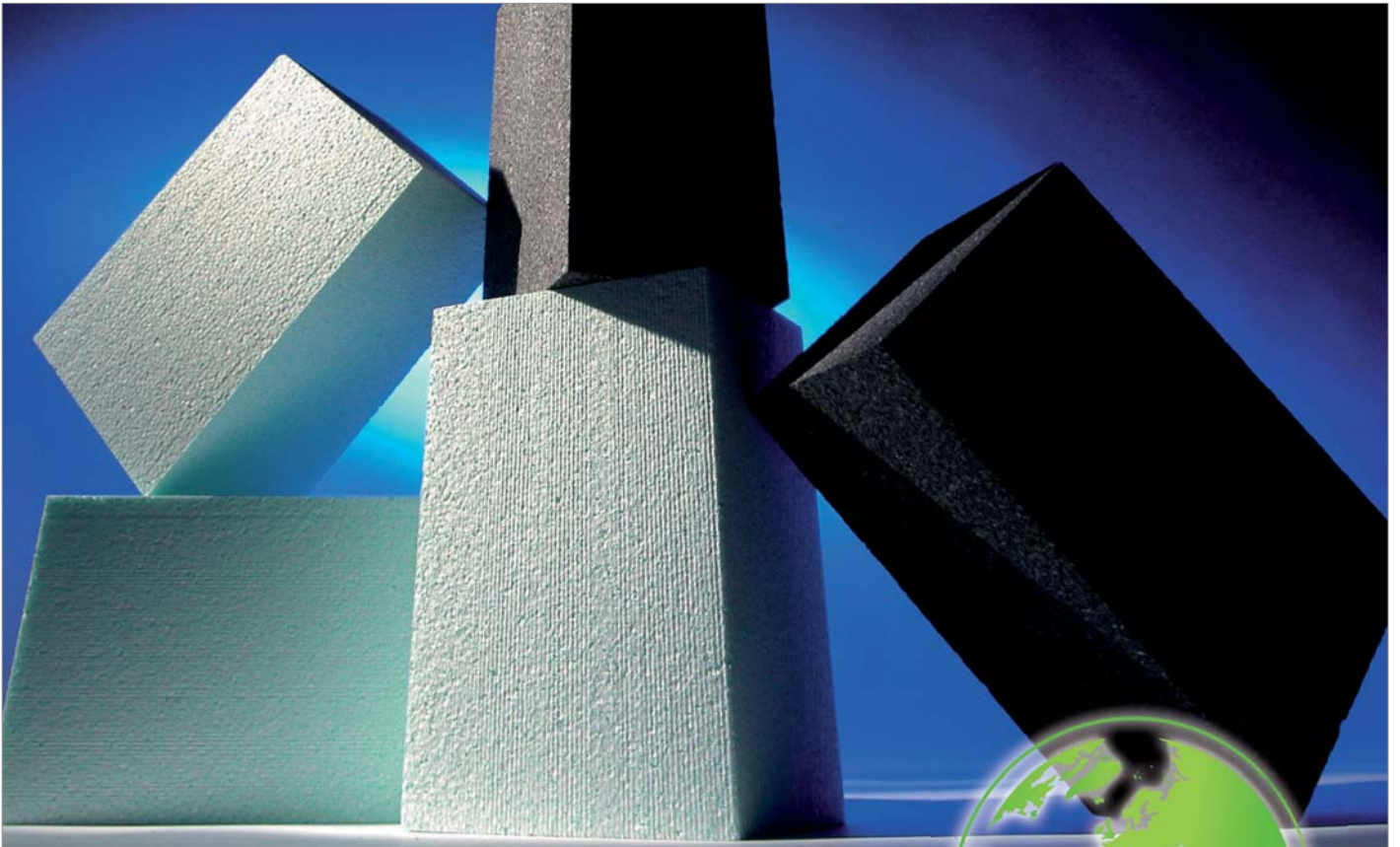
Every Beck+ Heun employee is passionate about developing and selling innovative window products. So it's no surprise that we aim to supply products with the best possible properties. It's the only way to ensure absolute certainty in design and installation, which translates into enormous time and cost savings for architects and tradesmen.

The majority of Beck+Heun's innovative products are based on Styropor®, a versatile material whose broad scope of design and fabrication options makes it especially attractive. In addition to outstanding thermal insulation and soundproofing characteristics, the advantages of this material include excellent resistance to cold and moisture and very light weight.



FACTS AND FIGURES

- 230 employees
- 106,500 m² production area
- Branches in Germany: Mengerskirchen, Altenmünster and Erfurt
- Represented in 21 other countries
- Market leader in the production of shutter boxes
- Leading innovator of windows systems



Environmental protection is close to

Styropor® is extremely environmentally friendly. It has an especially small energy and resource footprint because it consists mainly of air (98%). Furthermore, this material is free of HCFCs, suitable for use with foods, and fully recyclable.

In order to process the residual product components in an eco-friendly manner, Beck+Heun has been operating a unique recycling system for shutter box shells for more than ten years. Beck+Heun's fabrication partners throughout Germany are involved in this recycling project and can return leftover material to Beck+Heun when they deliver new shutter box shells. In the plant, they are broken down into their basic constituents (polystyrene, aluminium and structural steel) and transported to suitable recycling stations.

Easy planning involving fewer trades

The perfect way to complete window installation

Disadvantages of conventional window installation:

- Greater planning complexity for architects
- Greater logistics complexity due to the individual components
- Highly labour-intensive, leading to long installation times and unnecessary costs
- Several contact persons required for individual stages
- Weaknesses in thermal insulation, soundproofing, sealing and decoupling

Many individual steps are required to fully install a window. In addition to requiring extensive planning effort, this harbours a large number of potential sources of error. Merging the activities of the individual trades creates enormous optimisation potential for all parties concerned, particularly with regard to all aspects of window planning and installation.

For many years now, the building industry has been pushing forward this approach and has consequently reduced the level of trade involvement. This results in lean planning and installation.

There is also considerable optimisation potential in the logistics area. Many components are delivered individually to the building site and installed there some time later. This costs time and money and harbours many risks.



A REVOLUTION IN WINDOW INSTALLATION

A single, integrated system

ROKA-CO₂MPACT, the world's first complete system – consisting of a shading unit, reveal insulation and the window sill connection – offers architects all of these advantages in a single product. It optimally combines all window components in a single building module.

All connections are fully insulated and perfectly compatible. This enables you to achieve previously unimaginable insulation values and optimal soundproofing, combined with excellent impermeability. By combining the individual trades, you obtain a high level of planning certainty, as well as time and cost savings. ROKA-CO₂MPACT can be fitted out with all standard windows. The window manufacturer delivers the window and the ROKA-CO₂MPACT module to the building site as a unit.



ADVANTAGES

- Easy planning and installation
- Fully insulated and perfectly compatible
- Unprecedented insulation values
- All components in a single system
- Optimal soundproofing
- All standard windows can be used

Individual configuration according to

ROKA-CO₂MPACT can be configured individually and adapted to various building requirements. You may choose from an integrated roller shutter or venetian blind box or omit the shading unit entirely with the UNI model.

A comprehensive range of accessories are available, including roll-up insect screens, electric drives and remote control units.



ROKA-CO₂MPACT with roller shutter box



ROKA-CO₂MPACT-SHADOW with venetian blind box



ROKA-CO₂MPACT-UNI without shading unit

The complete window system

Integrated system components at a glance

DRIVE SYSTEM

The module includes the complete drive system (electronically controlled motor). Radio-controlled drive motors can be optionally integrated.



SHADING UNIT

You can choose from a roller shutter box or a venetian blind box, or omit the shading unit entirely (UNI). The unit is closed on the room side and can be covered immediately with plaster, wallpaper or tiles. The entire module integrates seamlessly into the wall.



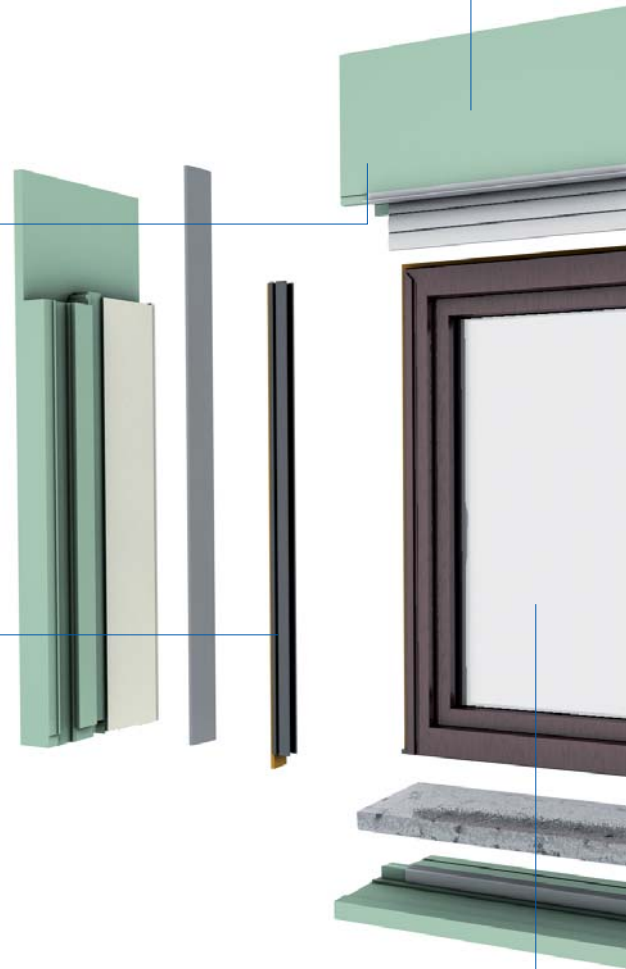
GUIDE RAILS

The integrated two-part guide rail system makes refurbishment easy. The guide rails are decoupled from the window and resistant to driving rain. They are available in your choice of RAL colours to match the window colour.

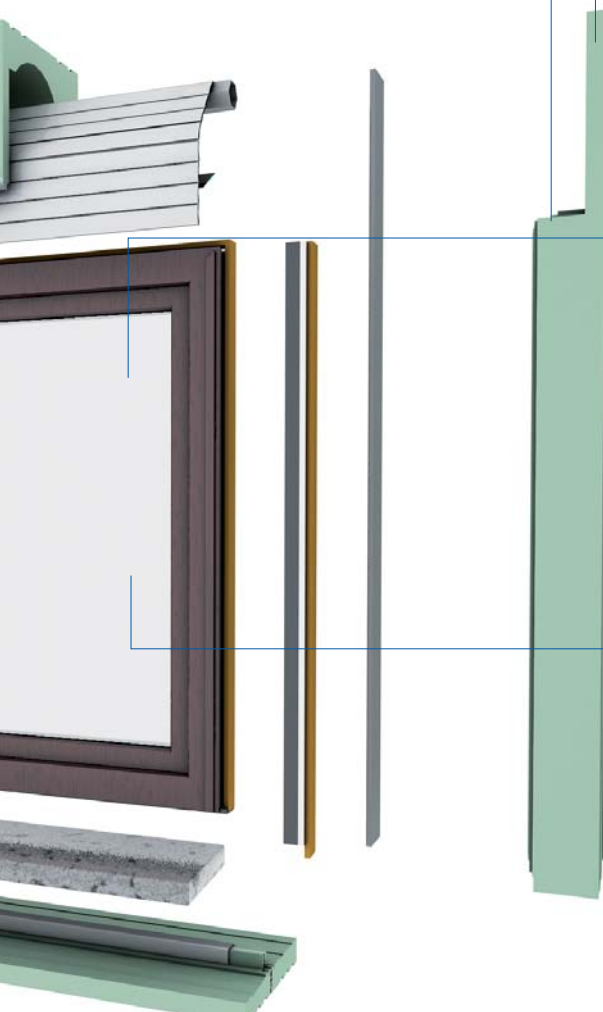


WINDOW

Any standard commercially available window can be used, regardless of size, thickness or material. A window rebate on all four sides ensures easy sealing against driving rain and good airtightness.

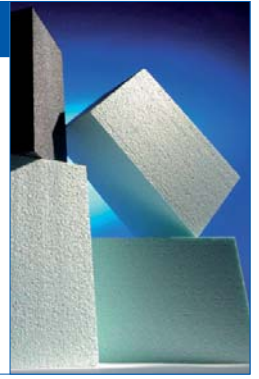


**A SINGLE,
INTEGRATED
SYSTEM**



INSULATION / MATERIAL

ROKA-CO₂MPACT is insulated all round. In a manner of speaking, the entire system forms an insulation package. As a result, it achieves excellent insulation and soundproofing values and provides optimal joining of all connections.



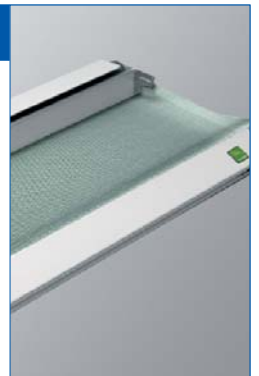
REVEAL INSULATION

Reveal insulation is part of the standard configuration of every ROKA-CO₂MPACT module and provides unprecedented insulation values. The reveal insulation between the guide rails and the window is primed ready for painting



INSECT SCREEN

On request, the module can be fitted with a roll-up insect screen to keep pesky visitors at bay during the night.



WINDOW SILL AND SCREED CONNECTION

The insulated and thermally isolated window sill connection component is prepared for all standard window sills, both interior and exterior. With floor-to-ceiling modules, you receive our modified screed connection component for patio connections. Optionally available with a supplementary module for window sill installation.



ROKA-CO₂MPACT

The traditional model with a shutter box

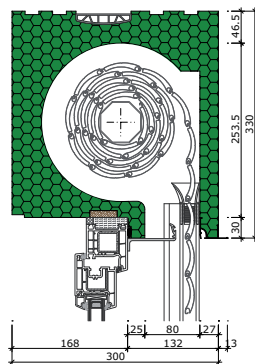


Shutter box

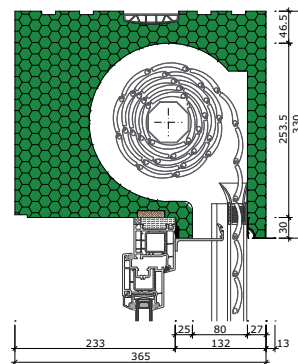
- Choice of PVC or aluminium shutter slats (Beck+Heun V.M. collection)
- Optimised thermal bridge details
- Prefitted two-part guide rail system ensures easy installation
- Electronically controlled motor fitted as standard
- Unit closed on room side for increased soundproofing
- Complies with stringent energy savings regulations
- Outer panel extended by 3 cm to cover the joint between the building structure and the window unit
- Primed and textured on all sides for plaster adhesion

Available sizes for plastered masonry and ETICS

- 27 mm thick outer panel with aluminium edge rail, 13 mm projection; widened external rails possible
- Choice of boxes for 30 cm or 36.5 cm wall structure, other sizes on request; maximum roll space 23 cm with both box sizes



ROKA-CO₂MPACT 30



ROKA-CO₂MPACT 36,5

Guide rail system

- Resistant to driving rain
- Available in RAL colours
- two-part guide rail system for easy installation
- Guide rails decoupled from window
- Integrated stucco edge strip for external stucco joint



Shutter slats

PVC shutter slats

- Choice of profiles
- V.M. 8/37, 11.5/45, 14/52
- End bracket or end strip with stopper
- Available in Beck+Heun V.M. range of colours



Aluminium shutter slats

- Choice of profiles
- V.M. 8.3/37, 8.5/45, 13.8/52
- End strip with stopper
- Available in Beck+Heun V.M. range of colours



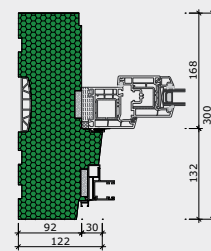
Drives

The module is normally equipped with an electronically controlled Beck+Heun standard motor. This motor has electronic limit settings and requires fixed top and bottom limit stops. For an additional charge, you can optionally choose our electronically controlled convenience motor or wireless remote control motor.

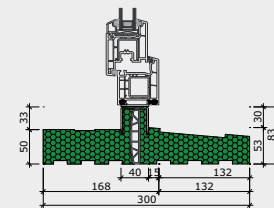


System components

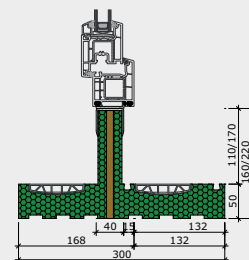
Example: plastered masonry 30 cm



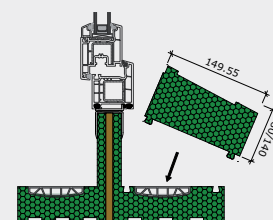
Reveal component



Window sill connection



Screed connection



Supplementary module

ROKA-CO₂MPACT-SHADOW

The innovative model with a venetian blind box

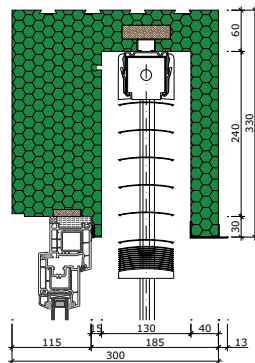


Venetian blind box

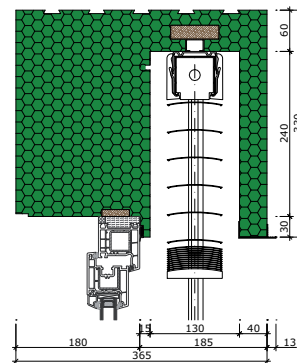
- Your choice of blind (from the Beck+Heun collection)
- Optimised thermal bridge details
- Cable duct for lateral routing of the motor cable
- Mounting profile (half rail) for durable attachment of the upper rail of the external venetian blind unit
- Complete drive system including motor
- Unit closed on room side for enhanced soundproofing
- Complies with stringent energy savings regulations
- Outside panel extended by 3 cm to cover the joint between the window unit and the building structure
- Primed and textured on all sides for plaster adhesion

Shutter box for plastered masonry and ETICS

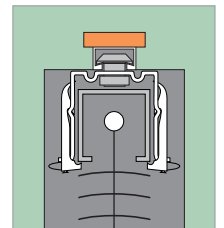
4 cm thick outer panel with aluminium edge strip for 13 mm projection; widened exterior rails possible



ROKA-CO₂MPACT-SHADOW 30

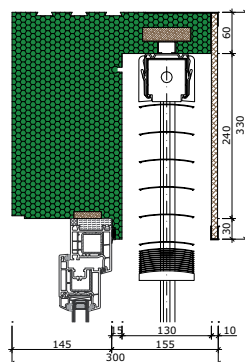


ROKA-CO₂MPACT-SHADOW 36,5

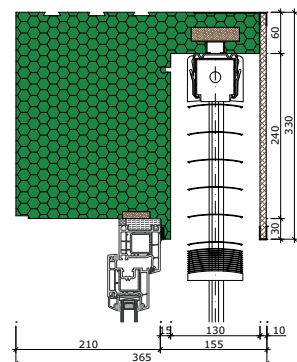


Specifically designed for ETICS

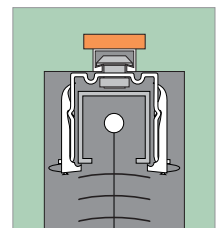
Outer panel made from 10 cm thick Phonotherm with zero-projection edge strip; widened exterior rails possible



ROKA-CO₂MPACT-SHADOW-VW 30



ROKA-CO₂MPACT-SHADOW-VW 36,5



Guide rail system

- Resistant to driving rain
- Available in RAL colours
- two-part guide rail system for easy installation
- Guide rails decoupled from window
- Integrated plaster edge strip for external plaster joint



Slats

SHADOW SLAT G 80

- 80 mm slats, both edges rolled
- Colours in Beck+Heun colour range
- Motor operation
- Lower rails and guide rail system RAL powder coated



SHADOW SLAT V 90

- 90 mm blackout slats
- Colours in Beck+Heun colour range
- Motor operation
- Lower rails and guide rail system RAL powder coated



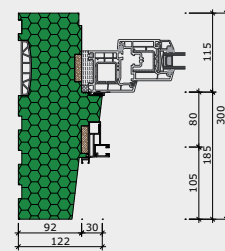
Slat colours

Slat colour	RAL	Colour name
	V10 1006	Maize Yellow
	V11 1001	Beige
	V13 7038	Agate Grey
	V14 9006	White Aluminium
	V15 9007	Grey Aluminium
	V22 8077	Dark Brown
	V30 3004	Crimson
	V45 1013	Pearl White

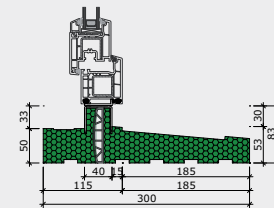
Slat colour	RAL	Colour name
	V51 5014	Dove Blue
	V60 6005	Moss Green
	V70 7035	Light Green
	V76 7016	Anthracite Grey
	V90 9010	Pure White
	V92 9002	Grey-White
	DB703	Anthracite Mica

System components

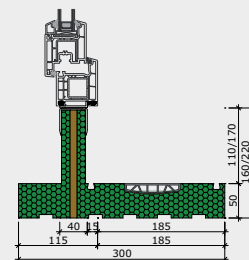
Example: plastered masonry 30 cm



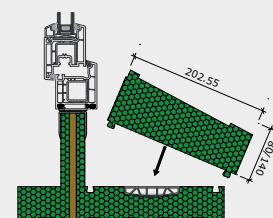
Reveal component



Window sill connection



Screed connection



Supplementary module

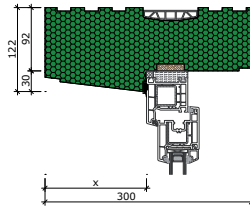
ROKA-CO₂MPACT-UNI

The slim model without a shading unit

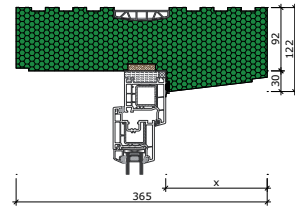


Advantages

- Optimised thermal bridge details
- Resistant to driving rain
- All sides primed and textured for plaster adhesion
- Integrated thermal insulation for window
- All types of windows can be integrated (window thickness and material)
- Complies with stringent energy savings regulations
- Guaranteed airtight connection
- Simplified window installation
- Window position can be varied by adjusting the x dimension (see drawing)



ROKA-CO₂MPACT-UNI 30

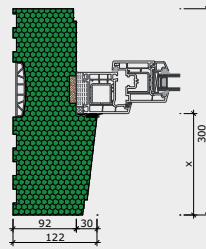


ROKA-CO₂MPACT-UNI 36,5

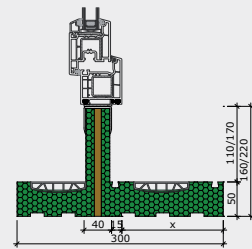


System components

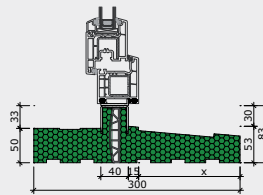
Example: plastered masonry 30 cm



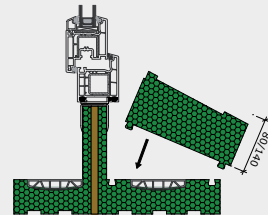
Reveal component



Screed connection



Window sill connection



Supplementary module



Meticulously tested

Test certificates and system features

Tested by:

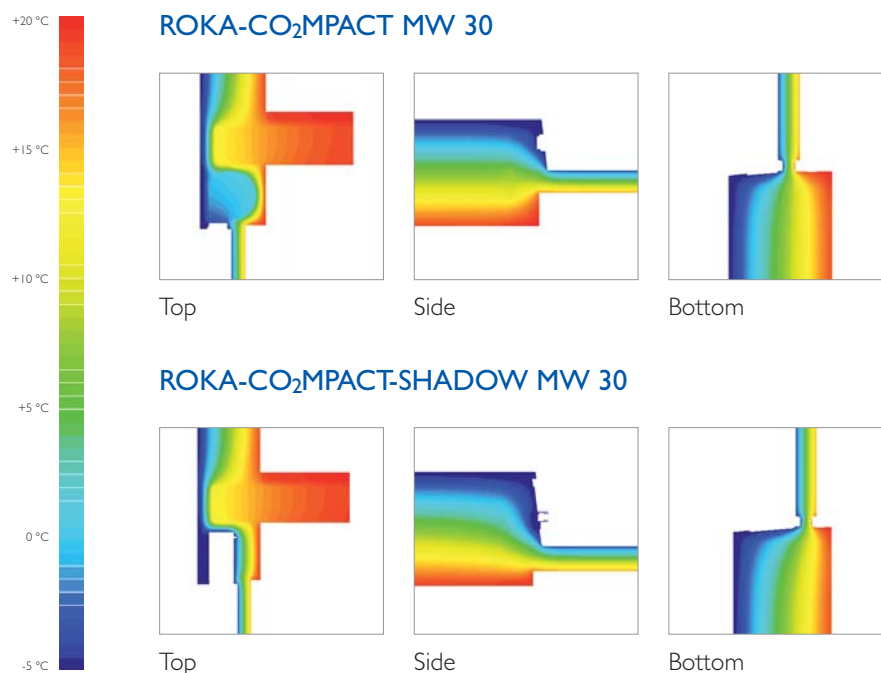
hermes[®]
bauphysik und fenstertechnik

Top marks for thermal insulation

ROKA-CO₂MPACT offers unprecedented thermal insulation all round your window and features optimised thermal coefficients and thermal bridge details. This has been tested and certified by hermes[®] bauphysik und fenstertechnik.

INSTALLATION SITUATION	MONOLITHIC	TOP	SIDE	BOTTOM
DIN 4108 Supplement 2: 2006-03	Bild	60	48	42
Reference value for ψ in W/mK		≤ 0.32	≤ 0.05	≤ 0.07
ROKA-CO ₂ MPACT MW 30 ψ in W/mK		0.26	-0.015	0.060
ROKA-CO ₂ MPACT-SHADOW MW 30 ψ in W/mK		0.15	-0.010	0.068
Reference value for thermal coefficient f_{Rsi}		≥ 0.70	≥ 0.70	≥ 0.70
ROKA-CO ₂ MPACT MW 30		0.76	0.84	0.80
ROKA-CO ₂ MPACT-SHADOW MW 30		0.84	0.86	0.82
Improvement to window U_w value Reference window U_w value in W/(m ² K) without ROKA-CO ₂ MPACT		0.80	1.00	1.30
ROKA-CO ₂ MPACT MW 30 U in W/(m ² K)		0.69	0.83	1.04
ROKA-CO ₂ MPACT-SHADOW MW 30 U in W/(m ² K)		0.66	0.80	1.00

As the upper limits of the DIN 4108 Supplement 2 reference specifications for all installation situations were not exceeded and the thermal coefficients were not below 0.70, the tested ROKA-CO₂MPACT systems conform to the installation details of Supplement 2. Pursuant to the German Energy Saving Ordinance (EnEV), a value of 0.05 W/m²K can therefore be used for U_{wB} in overall thermal bridge certification in place of the value specified in Supplement 2.





Extensive building component testing

ROKA-CO₂MPACT is fully resistant to driving rain. At differential test pressures up to 600 Pa, no water entry through the connection joint was seen in tests for resistance to driving rain.

Tested and certified by:

ift Rosenheim



TEST TYPE	RESULT
Air permeability up to 1000 Pa in new condition	$a < 0,1 \text{ m}^3 / (\text{m h daPa}^{2/3})$
Resistance to driving rain up to 600 Pa in new condition	No water entry
Simulated short-term load	
<ul style="list-style-type: none"> Temperature cycle load, 10 cycles (+60 °C – 15 °C) Long-term operation, simulated usage 10,000 window actuations Wind load pressure/suction 200 cycles up to 1000 Pa 	No detectable changes
Air permeability up to 1000 Pa after short-term load	$a < 0,1 \text{ m}^3 / (\text{m h daPa}^{2/3})$
Resistance to driving rain up to 600 Pa after short-term load	No water entry
Mechanical load - Vertical load after short-term load	No permanent deformation
Wind load pressure/suction up to 2000 Pa after short-term load	No permanent deformation
Wind load safety test 3000 Pa after short-term load	No impairments
Irregular use – Impact after short-term load	No impairments
Final visual inspection	No changes to overall system

Test of connection characteristics and attachment between window, ROKA-CO₂MPACT system and building structure in new condition and after simulated short-term loads. Tests for airtightness, resistance to driving rain, mechanical loads and connections to the building structure.



Soundproofing

ROKA-CO₂MPACT is closed on the room side to provide optimal soundproofing.

Geprüft durch:

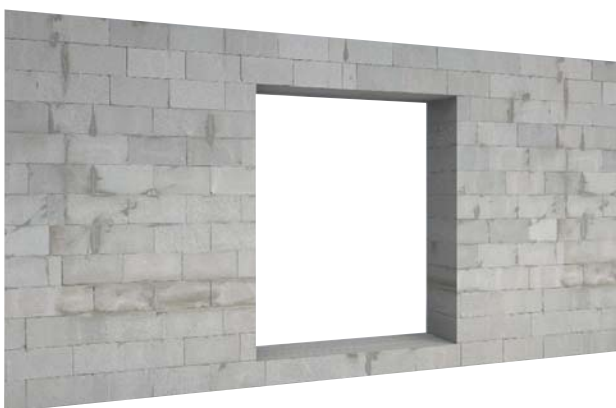
SG-Bauakustik

EINBAUSITUATION	R _w
ROKA-CO ₂ MPACT MW 30	46 dB



The only thing you have to plan is the masonry opening in the wall.

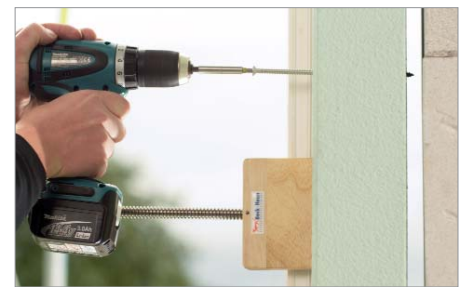
You can configure the ROKA-CO₂MPACT module exactly as you wish and according to the wishes of your client. We deliver the complete system, all you have to do design the masonry opening at the right place in the wall.



Fast, easy and reliable

Precision in design and installation

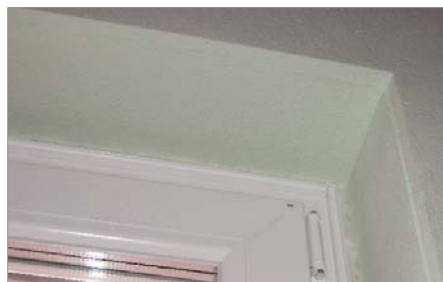
Combining all connections in a single system optimises your planning and simplifies all aspects of installing the complete window. Now you have just one contact person for all trades. In addition, everything is completed in a single operation. This minimises potential sources of error and saves time and money.



The ROKA-CO₂MPACT module is placed in the designated masonry opening in the wall and aligned vertically and horizontally. The ROKA-CO₂MPACT module is fastened to the wall with screws.



Glue (MS460) is applied to the full length of the window sill or screed connection components, and the window is glued in place. After this, the complete system is anchored to the masonry with screws.



The gap between the frame and the wall is filled with foam all round. An inner air seal layer is applied to the top and sides. This completes the installation of the ROKA-CO₂MPACT module. Now the built-in shutter or blind can be put through a trial run.

Note:

Additional technical documentation is available on the "Planning Documents" CD or at www.roka-compact.de



Beck+Heun GmbH · Steinstraße 4 · 35794 Mengerskirchen, Germany
Telephone: +49 (0) 64 76 / 91 32-0 · Fax: +49 (0) 64 76 / 91 32-30 · Web: www.beck-heun.de · E-mail: info@beck-heun.de