

Note on English translation / Hinweise zur englischen Fassung

This is a translation of the installation instructions valid in Germany.

All stated details and properties are in compliance with the regulations of the German standards and building regulations. They are only applicable for the specified products, system components, application rules, and construction details in connection with the specifications of the respective certificates and approvals.

Knauf Gips KG denies any liability for applications outside of Germany as this requires changes acc. to the respective national standards and building regulations.



Plaster & Façade Systems

P651-A01.de

Installation Instructions 2021-01

WARM WALL Window Sealing System

Execution of the second sealing level with window connections

Weather protection according to the guideline of the German RAL Gütegemeinschaft Fenster und Haustüren [Quality Assurance Association Windows and Doors]



■ For the Knauf WARM WALL tested system

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Usage instructions

Notes on the document

This installation guide is intended as an aid for the installation of prefabricated products. It contains specifications on the scope of delivery, proper professional installation as well as test and adjustment of the product when necessary. The contained information and specifications, constructions, details and stated products are based, unless otherwise stated, on the certificates of usability (e.g. National Technical Test Certificate (abP) valid at the date they are published as well as on the applicable standards. In addition, design and structural requirements and those regarding building physics (fire protection and sound insulation) are considered when necessary.

References to other documents

- System data sheets
 - P331.de WARM WALL Basis EPS in Timber Construction
 - P333.de WARM WALL Plus MW in Timber Construction
 - P334.de/P335.de/P336.de WARM WALL Natur in Timber Construction
- Application guidelines Tektalan A2-FP/HB from Knauf Insulation
- Guideline for planning and completion of the windows and house doors for new buildings and renovation from the RAL-Gütegemeinschaft Fenster und Haustüren e. V. (*German Quality Assurance Association Windows and Doors*)
- Richtlinie - Anschlüsse an Fenster und Rolläden bei Putz, und Wärmedämm-drywall construction (*Guideline - Connection of windows and roller blinds with plaster, drywall and external thermal insulation composite systems (German only)*) from the Fachverband der Stuckateure für Ausbau und Fassade Baden-Württemberg, Germany.
- Recommendations for the installation/replacement of metal window sills (ETICS façade) from the Gütegemeinschaft Wärmedämmung von Fassaden e. V. - *German Quality Assurance Association for Façades*

Legal notes

Safety instructions

This installation guide contains instructions that must be observed to ensure your personal safety and to avoid material damage.

Caution

Indicates a potentially harmful situation. If this is not avoided, the safety of the installation personnel or end user may be impaired and/or damage to the product or surrounding area may result.

Note

Provides useful information on the product or system.

Qualified personnel

The respective tasks for the product/system described in this guideline may only be performed by suitably qualified personnel. The safety and warning instructions must be observed and followed. Qualified personnel are those who, based on their training and experience, are capable of identifying risks and avoiding potential hazards when working with these products or systems.

Intended use of products and systems

Please observe the following:

Caution

Knauf products/systems may only be used for the application cases as stated in the Knauf documentation. In case third-party products or components are used, they must be recommended or released by Knauf. Flawless application of products or systems assumes proper transport, storage, assembly, installation and maintenance.

Introductory remarks

General

Note	In accordance with the general building type approval or the general building authority approval of our WARM WALL systems in timber construction, the installation of a second water-draining layer/sealing level that drains to the exterior below the window sill is a building authority requirement that the user must fulfil.
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The WARM WALL window sealing system for assuring the second sealing level for window connections consists of four basis products:

- WARM WALL tapered insulation with 5° gradient
- Window sealing membrane,
- Window connection membrane,
- Window sealing corners.

The connection of the window sealing membrane with the pre-fabricated window sealing corners in combination with the window connection membrane provides optimum protection against driving-rain should the first sealing level fail.

Applying the Gewebeleiste Attika mesh profile or the balustrade profile (in the window parapet area) and the window connection profiles Duo G6 or Universal Pro (in the window reveal area), the sealing system can be implemented quickly and easily.

Thanks to the diverse range of installation situations with windows or French doors within the Knauf exterior wall and the range of window types, there are a very large number of possible installation scenarios. The components of the WARM WALL window sealing system offer a large scope in terms of their application.

Caution	Preparation measures are partly necessary to guarantee well-functional connections between the different disciplines. For example, the doubling up must be applied so that it connects precisely to the tapered insulation units.
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Note	A high level of initial pressure is required to achieve an optimum adhesive surface with Butyl. Therefore, after application, press the adhesive surface with an appropriate tool such as a wallpapering roller, sanding block or similar.
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Installation of the 2nd window sealing level

The following installation instructions describe the WARM WALL window sealing system. The function of the system can only be assured when the specified steps are followed and observed.

Figure 1: Window element preparation



1. In particular, you can find so-called coupling grooves on the window frame profiles of plastic windows. To avoid water ingress in the construction, they must be sealed flush in the corner area with a suitable window installation adhesive (vertical approx. 10 cm, horizontal approx. 3 cm). Seal the guide slot of the window frame if required.

Caution Do not seal the drain openings of the window profile.

Figure 2: Construction component opening preparation



2. The parapet timber secures the window element while at the same time defining the height (40 mm) for the WARM WALL tapered insulation. Connect these in the appropriate way and in the correct position with the corresponding fasteners (nails, staples or screws).

Figure 3: Gluing the WARM WALL tapered insulation



Figure 4: WARM WALL tapered insulation mechanical attachment



3. The WARM WALL Dämmkeil tapered insulation is mounted fixed flush to the surface with doubling-up. Glue this using Speedero and additionally fasten mechanically, for example, using wide back staples.

Figure 5: Balustrade profile installation



4. The balustrade profile is fixed to the front side of tapered insulation with installation adhesive and holding pins. The length of the profile corresponds with the total length of the window sill to be installed.

Figure 6: Gluing window sealing membrane



Figure 7: Completed gluing of the window sealing membrane



5. The length of the window sealing membrane results from the unfinished window slot + 10 cm to the left and right for application onto the reveal. Across the width, the window sealing membrane should extend from the doubling-up to over the balustrade profile. Overhangs can be easily removed with the cutter knife. Ensure that the window sealing membrane is correctly and precisely integrated into the corners. Sufficient pressure can be applied with a wallpapering roller or hard plastic trowel.

Figure 8: Gluing of the window sealing corner



6. To fit the window sealing corners to the window frame, remove the liners of the butyl adhesive inner surfaces and cleanly glue the sealing corners to the sides of the window frame and the window sill mounting profile on the interior.

It is important to apply a high initial pressure when gluing the butyl adhesive surface. Roll the wallpapering roller frequently over the adhesive surface until the window sealing corner is correctly applied.

Figure 9: Gluing of the window connection membrane



7. The window connection membrane is glued to the interior of the window sill mounting profile with the self-adhesive butyl strip. A high initial pressure should be applied here too. The gluing of the window sealing corners is done using the adhesive strips located on the sealing corners. Ensure that the gluing surfaces are cleanly applied and that no creasing occurs.

Figure 10: Window installation



8. Position the window element with the glued-on window sealing corners and window connection membrane and install it in accordance with the applicable guidelines. In particular, observe the "Guideline for planning and completion of the windows and house doors for new buildings and renovation" from the RAL-Gütegemeinschaft Fenster und Haustüren e.V. (German Quality Assurance Association Windows and Doors).

Figure 11: Gluing of the window sealing corner



Figure 12: Gluing of the window connection membrane with window sealing membrane



9. The butyl adhesive strips on the outside of the window sealing corner and the window connection membrane are used to bond the window sealing membrane. Fit the window sealing corner neatly into the corner of the construction component opening so that no cavities occur. Then press on the adhesive surfaces from the exterior toward the interior and subsequently press with the wallpaper roller.

Figure 13: Fastening window sill to the window sill mounting profile



Figure 14: Generous application of adhesive on the window sill



10. The window sill is fixed to the window sill mounting profile according to the manufacturer's guidelines. Fixing to the substrate is applied using a matching assembly adhesive (e.g. Perfex mounting adhesive). For this purpose, beads of adhesive are applied in the direction of the gradient at a maximum of every 30 cm and then the window sill is pressed onto the adhesive beads. A generous application of adhesive on the base for the window sill must be ensured.

Figure 15: Sealing of the connections with joint sealing tape FD



Figure 16: Glued reveal board



11. Cut the EPS reveal board to the required height and width. Create a notch in the area of the board piece to fit exactly. Connect the EPS reveal board to the frame as well as to the board piece with Knauf Fugendichtband FD joint sealing tape to make it driving-rain-proof. At the base of the reveal board, seal the component joint on the exterior both horizontally and vertically (at least 10 cm) with the Fugendichtband FD joint sealing tape. Glue the reveal board with Speedero and then fix it mechanically or position it by means of spreaders until it hardens.

Figure 17: Installation of the window connection profile



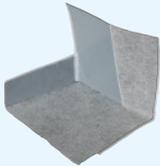
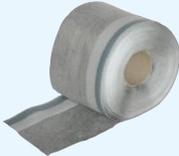
12. Before installing the window connection profile, always undertake an adhesive bonding test according to the manufacturer's instructions. Cut the driving-rain-proof window connection profile (e.g. Knauf Universal Pro, Milano or Duo G6) to length and then glue it flush with the EPS reveal board all around the frame. Depending on the design, the EPS reveal board may be notched.

Figure 18: Sealing the interface gap



13. Before or after completing further plaster layers, the so-called interface gap must be sealed. To do this, seal the corner area between the frame, window sill and window reveal using a suitable sealant (e.g. Knauf Perfex Installation Adhesive). Larger openings can also be sealed by gluing in a fitting piece made of leftover insulation material.

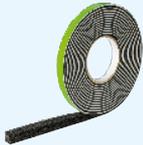
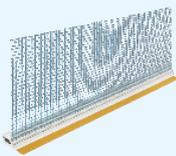
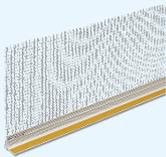
Basis products

WARM WALL tapered insulation		Description	
	Tapered thermal insulation for prevention of thermal bridges in the window sill area with a thermal conductivity of $\lambda=0.030$ W/(m·K).	Thickness	Up to 40 mm
		Length	1000 mm
		Width	180 mm
		Packaging unit	20 pcs. / bundle
Window sealing membrane		Description	
	The self-adhesive window sealing membrane made of polypropylene fleece is inserted into the U-shaped "tub" on the parapet section under the window element.	Length	25 m
		Width	250 mm
		Thickness	1.0 mm
		Packaging unit	1 roll / carton
Window sealing corners		Description	
	The self-adhesive window sealing corner made of polypropylene fleece is used for sealing the sealing level in the window corner area.	Length	200 mm
		Width	140 mm
		Thickness	1.0 mm
		Packaging unit	20 sets / package
Window connection membrane		Description	
	The self-adhesive window connection membrane made of polypropylene fleece is used as a connection membrane between the window sealing corners.	Length	25 m
		Width	170 mm
		Thickness	1.0 mm
		Packaging unit	2 rolls / package

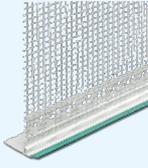
Accessories

EPS Standard 032		Description	
	40 mm insulation board made of expanded polystyrene rigid foam for the application of the window reveal with a thermal conductivity of $\lambda=0.032$ W/(m·K). Cut width to suit.	Length	1000 mm
		Width	500 mm
		Thickness	20 to 400 mm
		Packaging unit (dependent on thickness)	0.5 m ² (1 pcs.) to 12 m ² (24 pcs.)
EPS Standard 035 white		Description	
	40 mm insulation board made of expanded polystyrene rigid foam for the application of the window reveal with a thermal conductivity of $\lambda=0.035$ W/(m·K). Cut width to suit.	Length	1000 mm
		Width	500 mm
		Thickness	20 to 400 mm
		Packaging unit (dependent on thickness)	0.5 m ² (1 pcs.) to 12 m ² (24 pcs.)

Accessories (continued)

Reinforcement mesh 4x4 mm	Description		
	High strength, permanent, alkaline resistant reinforcement mesh	Mesh size	4x4 mm
		Weight	165 g/m ²
		Width	1.00 m / 1.10 m
		Packaging unit	50 m ² /roll / 55 m ² /roll
Reinforcement mesh 5x5 mm	Description		
	High strength, permanent, alkaline resistant reinforcement mesh	Mesh size	5x5 mm
		Weight	205 g/m ²
		Width	1.00 m / 1.10 m
		Packaging unit	50 m ² /roll / 55 m ² /roll
Joint sealing tape FD	Description		
	Pre-compressed, self-adhesive, side area impregnated joint sealing tape made of soft polyurethane foam for the creation of driving-rain proof connections.	Joint width	2 – 6 / 3 – 9 / 5 – 12 mm
		Length	18/12/9 m
		Width	15 mm
		Packaging unit	5 pieces / package
SR tape – compressible grooved tape	Description		
	Self-adhesive tape as a protective buffer for plaster connections. Can also be used as a noise suppression tape.	Length	20 m
		Width	56 mm
		Packaging unit	1 pieces / package
Window connection profile Universal Pro	Description		
	Self-adhesive, two-part window connection profile with integrated joint sealing tape and sealing lip for driving-rain proof connection for the window elements with larger insulation material thicknesses.	Mesh size	4x4 mm
		Profile length	2400 mm
		Mesh width	125 mm
		Packaging unit	25 pieces / package
Window connection profile Duo G6	Description		
	Self-adhesive, two-part 3D reveal connection profile with fabric, a rigid peel-off strip and white PE foam adhesive tape for a driving-rain proof connection to windows and doors.	Mesh size	4x4 mm
		Profile length	2600 mm
		Mesh width	120 mm
		Packaging unit	40 pieces / package

Accessories (continued)

Balustrade profile	Description		
	<p>The profile features two plastic arms. The soft, transparent drip edge can drain water effectively. The required gradient of at least 5° in the window sill area is maintained due to the predefined profile contour.</p>	Mesh size	4x4 mm
		Profile length	2000 mm
		Mesh width	125 mm
		Packaging unit	15 pieces / package
Gewebeeckpfeil mesh corner arrow	Description		
	<p>Gewebeeckpfeil mesh corner arrows are applied diagonally to all opening corners (windows, doors, etc.) in the reinforcement mortar under the actual mesh reinforcement or embedded near the surface in the basecoat.</p>	Mesh size	6x6 mm
		Width	330 mm
		Size	560/400 x 330 mm
		Packaging unit	50 pieces / package
Gewebeeckwinkel mesh corner angle	Description		
	<p>The Gewebeeckwinkel mesh corner angle forms a flush and impact resistant edge for WARM WALL systems.</p>	Mesh size	4x4 or 5x5 mm
		Profile length	2500 mm
		Size	100/150 and 100/230 mm
		Packaging unit	40 pieces / package
Speedero	Description		
	<p>Filler and adhesive foam for bonding EPS insulation materials, reveal boards and the WARM WALL tapered insulation.</p>	Design	800 ml
		Yield	4.0 – 12.0 m ² /can
		Packaging unit	12 pcs./carton



Videos for Knauf systems and products can be found under the following link:

youtube.com/knauf



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