

Knauf WARM WALL Basis EPS in Solid Construction ETICS for Doubling on old ETICS or Wood Wool Lightweight Panels

WE111a.de – With mineral-based render system

WE111b.de – With organic render system

WE111c.de – With mineral-based / organic-based render system

WE111d.de – With mineral-based scratch render system

Note on English translation / Hinweise zur englischen Fassung

This is a translation of the System Data Sheet 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.

Dies ist eine Übersetzung des in Deutschland gültigen Detailblattes. Alle angegebenen Werte und Eigenschaften entsprechen den in Deutschland gültigen Normen und bauaufsichtlichen Regelungen. Sie gelten nur bei Verwendung der angegebenen Produkte, Systemkomponenten, Anwendungsregeln und Konstruktionsdetails in Verbindung mit den Vorgaben der bauaufsichtlichen Nachweise.

Die Knauf Gips KG lehnt jegliche Haftung für Einsatz und Anwendung außerhalb Deutschlands ab, da in diesem Fall eine Anpassung an nationale Normen und bauaufsichtliche Regelungen notwendig ist.

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Notes on the document

The contents of this document relate to the use of the Knauf WARM WALL Systems with EPS insulation materials acc. to Z-33.43-82 as a doubling system.

It is therefore necessary to access further information exclusively relating to the new system from the [system data sheet Knauf WARM WALL Basis EPS in Solid Construction WE111.de](#).

Using technical documentation

Knauf system data sheets are the planning and application basis for the use of Knauf systems. The contained information and specifications, constructions, details and stated products are based on the Certificates of Usability (e.g. general National Technical Approvals abZ and general type approvals aBG) valid at the date they are published as well as on the applicable standards. Furthermore, design and structural requirements and those regarding building physics (fire protection and sound insulation) are considered.

The details shown are solution suggestions intended for general orientation in the subject matter and must be adapted if necessary to suit the constructional features on site. Ancillary trades are only represented schematically.

Explanation of terms

In this system data sheet, the following terms that diverge from the system and insulation material approvals are used:

- Finish coat with paint coat instead of a final coating

Abbreviations used in the document:

- EAD: European Assessment Document
- EPS: Expanded polystyrene
- GEG: German energy saving ordinance
- HWL boards: Wood wool lightweight boards
- MW: Mineral wool
- VDPM: Verband für Dämmsysteme, Putz und Mörtel e. V. - Federation for Insulation Systems, Plaster and Mortar
- ETICS: External thermal insulation composite system

Proofs and technical documentation

Certificates of Usability

Proofs	Description
Z-33.49-981	WARM WALL doubling on existing ETICS or cement-bonded wood wool panels
Z-33.43-82	WARM WALL Basis EPS in Solid Construction, glued and dowelled system
Z-33.49-1505	ETICS doubling system of the VDPM (association approvals)

Knauf system documentation

Link to download	Description
Knauf WARM WALL Render Systems AWF11.de	Selection and application of suitable render products and systems
Knauf WARM WALL Basis EPS in Solid Construction WE111.de	ETICS with EPS Insulation Materials

Knauf product data sheets

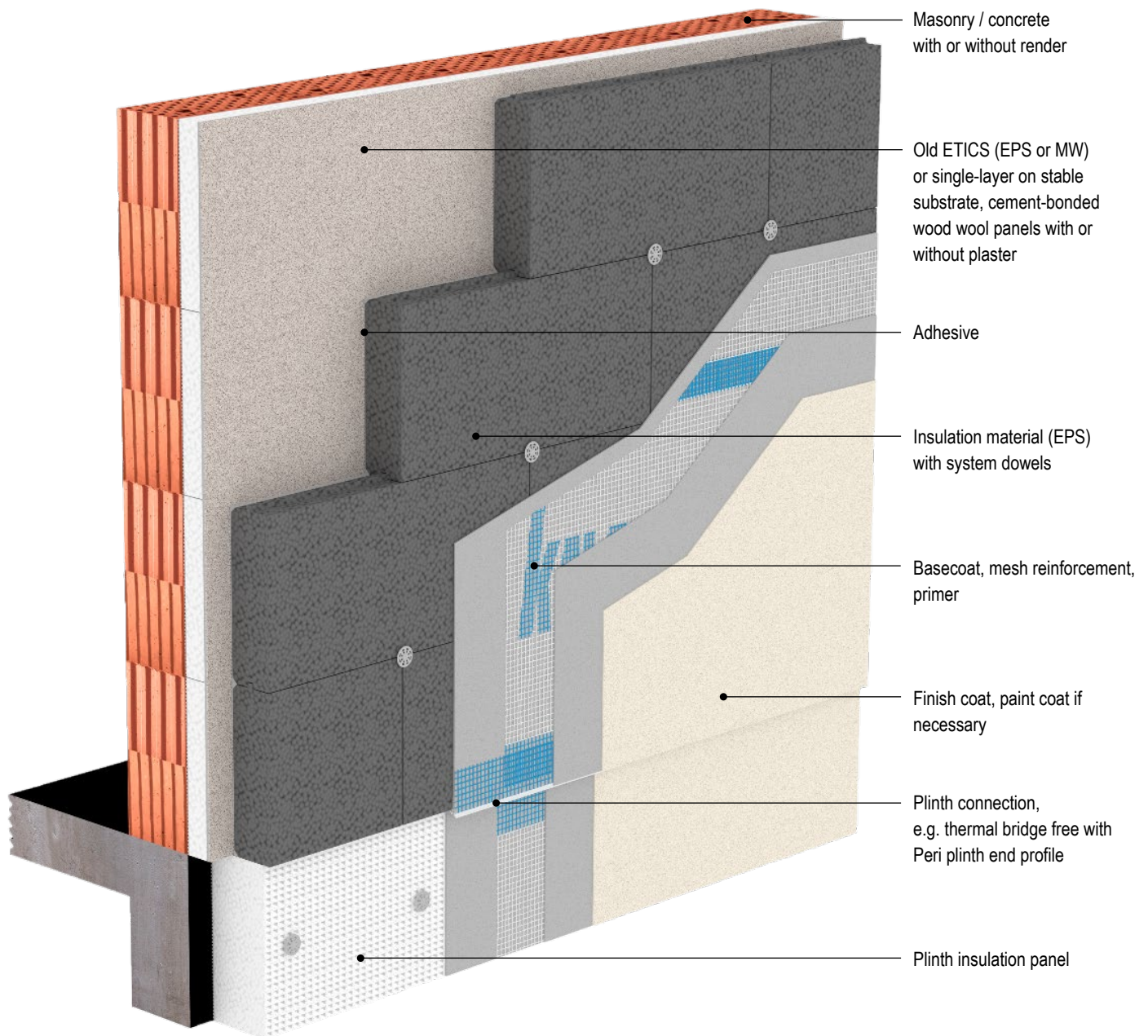
Observe the product data sheets of the individual Knauf system components.

Field of application

Knauf WARM WALL Basis EPS Doubling in Solid Construction is a building authority approved external thermal insulation composite system (ETICS), and can be applied as doubling for energy-related and optical remodelling on existing ETICS (old ETICS) or on wood wool lightweight panels (cement-bonded wood wool panels). The new system is glued to the substrate and additional dowels are applied.

System properties

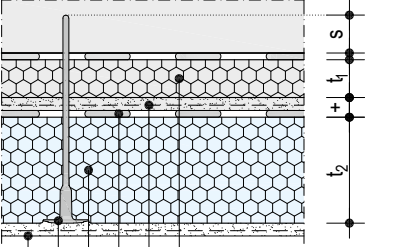
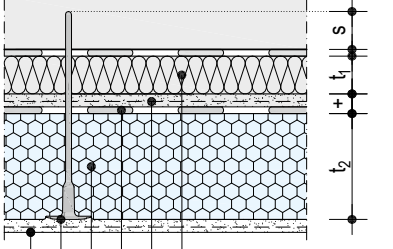
- Reaction to fire of the doubling system (new and old system) depends on the configuration as not easily flammable or flammable, see table [page 6](#)
- Approved total thickness of the thermal insulation material when doubling onto existing external thermal insulation composite systems with mineral wool insulation materials up to a maximum of 200 mm, when doubling onto existing external thermal insulation composite systems with EPS insulation boards or onto existing wood wool lightweight panels up to a maximum of 400 mm.



Notes

Multiple upgrading (doubling) as well as upgrading on the ETICS connected using rails is not permissible.
 Adhesive bonding of the insulation boards of the new system using adhesive foam is not permissible.
 Observe the approval Z-33.43-82 and [system data sheet Knauf WARM WALL Basis EPS in Solid Construction WE111.de](#) for the new system as well as the approval Z-33.49-981 for the entire system.

System variants

Scheme drawings	Insulation material of the old system	Insulation material of the new system	Maximum insulation material thickness (total = old system + new system) $t_1 + t_2$	Maximum weight (dry) of the plaster cladding (total = old system + new system)
 <p>Existing EPS insulation material / wood wool lightweight panels Existing plaster system Adhesive Insulation material (EPS) System dowel Plaster system</p>	<p>EPS</p> <p>Single-layer on the substrate of cement-bonded wood wool lightweight panels (permanent sheathing) with or without plaster</p>	<p>EPS (glued and dowelled)</p>	<p>≤ 400 mm</p>	<p>≤ 50 kg/m²</p> <p>The insulation material thickness of the overall system > 200 mm may not exceed the weight of the plaster cladding on the new system of 22 kg/m².</p>
 <p>Existing mineral wool insulation Existing plaster system Adhesive Insulation material (EPS) System dowel Plaster system</p>	<p>Mineral wool</p>	<p>EPS (glued and dowelled)</p>	<p>≤ 200 mm</p>	<p>≤ 30 kg/m²</p>

t_1 = Insulation material of the old system

t_2 = Insulation material of the new system

s = Anchoring depth in load-bearing substrate (see table [page 13](#))

Requirements acc. to building regulation bye-laws

The demands on the reaction to fire of the façade lining are defined in the state building codes (LBO) and the corresponding fire prevention regulations of the German states. They are differentiated in dependence on the building height and/or building classes.

Additional special guidelines or regulations must be observed for special constructions and buildings such as hospitals, meeting halls, residential care homes, schools, shopping centres, etc. ETICS in areas such as firewalls, building party walls, access galleries, means of escape, fire service passage routes, etc. must be designed as non-combustible according to the state building codes (building material class A according to DIN 41021).

Building heights	Floor upper edge ¹⁾	Required fire behaviour of ETICS	Building material class of ETICS Acc. to DIN 4102-1	
	Building class 1 – 3 (low height buildings)	$h = 0 - 7 \text{ m}$	Flammable	B2
	Building class 4 – 5 (medium height buildings)	$h > 7 - 22 \text{ m}$	Not easily flammable	B1
	High-rise buildings	$h > 22 \text{ m}$	Non-combustible	A ²⁾

- 1) The specified heights may be defined differently in the individual German states. They can be found in the respective state building codes. The height specifications refer to the dimension of the upper edge of the highest floor on which common rooms can be built, measured from the average terrain height (clause 2, paragraph 3 of the Musterbauordnung [German model building code] as well as the respective state building code).
- 2) Only possible with new system Knauf WARM WAND Plus MW in solid construction, see [system data sheet P323-E01.de](#) and [WE112.de](#)
Building regulation minimum requirements with other building types: see “[Technische Systeminformation – WDVS und Brandschutz - Technical system information - ETICS and fire resistance](#)” of the VDPM (German association for insulation systems, plaster and mortar (German only)).

Reaction to fire

Reaction to fire of the doubling system with WARM WALL Basis EPS

When using a total system with EPS insulation panels or (cement-bonded wood wool panels, additional fire protection measures are necessary should the external thermal insulation composite system be configured as a not easily flammable system (B1) according to the building regulation bye-laws. The fire protection measures are intended to protect the not easily flammable façade against fires from the exterior (plinth fires) and from the interior (room fires).

Old system		+	New system	=	Total system				
Insulation	Current reaction to fire of ETICS		Insulation		Insulation material thickness total $t_1 + t_2$ mm	Reaction to fire of ETICS without additional measures	Additional fire-safety measures		Resulting reaction to fire of ETICS in total
							Old system	New system	
EPS / wood wool panels	Flammable	EPS	EPS	EPS	Up to 100	Flammable	Plinth fire	Plinth fire	Not easily flammable
					> 100 to 300	Flammable	Plinth fire + room fire ¹⁾	Plinth fire + room fire ¹⁾	Not easily flammable
					> 300 to 400	Flammable	–	–	Flammable
	Not easily flammable	EPS	EPS	EPS	Up to 100	Flammable	–	Plinth fire	Not easily flammable
					> 100 to 300	Flammable	–	Plinth fire + room fire ¹⁾	Not easily flammable
					> 300 to 400	Flammable	–	–	Flammable
Mineral wool	Not easily flammable	EPS	EPS	EPS	Up to 100	Flammable	–	Plinth fire	Not easily flammable
					> 100 to 200	Flammable	–	Plinth fire + room fire ¹⁾	Not easily flammable
	Non-combustible	EPS	EPS	EPS	Up to 100	Flammable	–	Plinth fire	Not easily flammable
					> 100 to 200	Flammable	–	Plinth fire + room fire ¹⁾	Not easily flammable

t_1 = Insulation material of the old system

t_2 = Insulation material of the new system

1) Mesh loop not permissible.

Note In case of a not easily flammable system, ensure that an additional fire break that penetrates the entire system is applied underneath the flanking combustible constructional components (e.g. roofs).

Fire classification of the old system

Insulation	Proof of the reaction to fire ²⁾	Reaction to fire
EPS	–	Flammable
	Available	Not easily flammable
Cement-bonded wood wool panels ≥ 25 mm and ≤ 100 mm with or without plaster	–	Flammable
	Available	Not easily flammable
Mineral wool panels / lamellae	–	Not easily flammable
	Available	Non-combustible

2) A proof of the reaction to fire is not absolutely necessary.

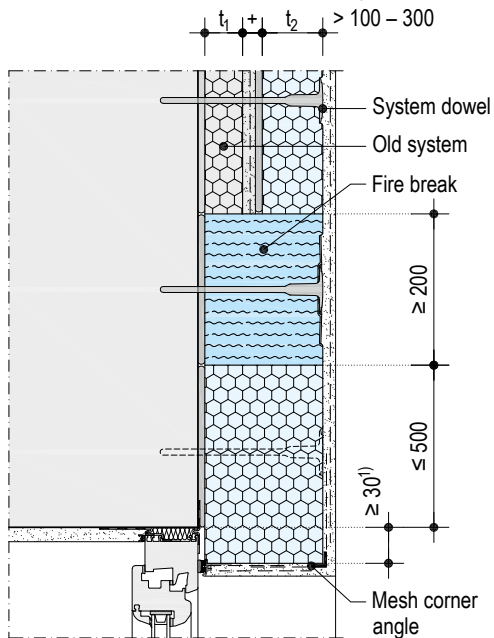
Fire protection requirements for doubling with WARM WALL Basis EPS as a B1 system

An important element of the fire protection measures consists of the use of fire breaks for the plinth fire and room fire protection zones at the insulation height. The required properties, application and usage of the fire breaks as well as the correct application of adhesive and plaster system should be taken from the [system data sheet Knauf WARM WALL Basis EPS in Solid Construction WE111.de](#), section "Fire resistance".

Room fire protection zone (fire from the interior)

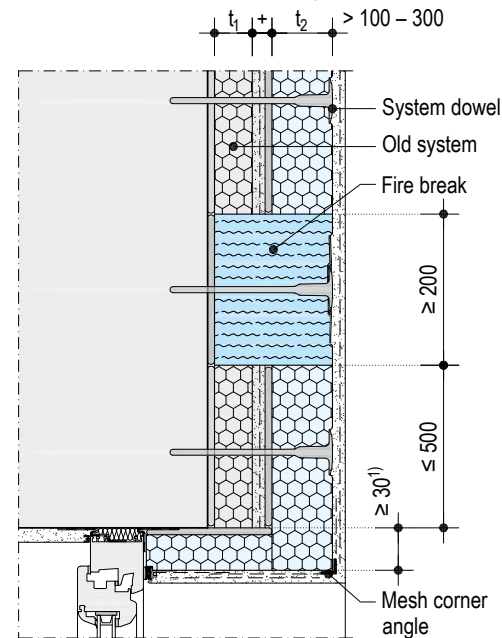
Details

Window frame exterior flush with masonry

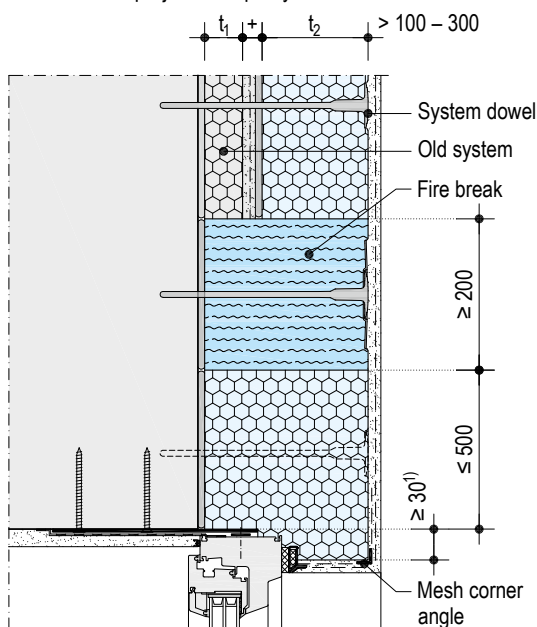


Scale 1:10 | Dimensions in mm

Window frame in centre of masonry



Window frame projected or partly in the insulation level



t_1 = Insulation material of the old system

t_2 = Insulation material of the new system

1) See DIN 4108 amendment 2

Note

For application of additional fire resistance measures against a plinth fire and room fire see [system data sheet Knauf WARM WALL Basis EPS in Solid Construction WE111.de](#), section "Fire resistance".

Fire break - anchoring

Should the reaction to fire of an old system be classified according to the current demands as not easily flammable or non-combustible, the fire break of the new system must not be placed on the stable mineral substrate. Gluing of the fire break on the old system and subsequent dowelling into the stable substrate is sufficient.

Fire protection requirements in the area of the floor edge deck

Position of the fire break on the building

Comment	Scheme drawings Dimensions in mm
<p>Non-combustible floor edge deck</p> <p>With a non-combustible floor edge deck, the width of the fire break ≥ 200 mm is sufficient.</p> <p>If it is not possible to fit the fire break on the ceiling head, it may be placed alternatively in the vicinity.</p>	
<p>Combustible floor edge deck</p> <p>If a floor edge deck made of combustible insulation materials is located in the vicinity of a fire break, it must exceed the height of the floor deck above and below it by at least 50 mm. If this measure is not possible for technical reasons, the floor edge deck must be removed and replaced by a non-combustible floor edge deck.</p>	
<p>Edge decks that have a plaster covering of reinforced plaster systems in a thickness of at least 4 mm are treated in the same way as non-combustible floor edge decks.</p>	

Fire protection requirements in the area of the fire wall

Position of the fire break on the building

Comment	Scheme drawings Dimensions in mm
<p>Integrating fire wall (in the expansion joint area)</p> <p>If an integrating fire wall is located in the expansion joint area, the expansion joint must be fully filled with mineral wool. Furthermore, a fire break must be installed at the height and thickness of the fire wall but at least 200 mm wide. The fire break is glued to the full surface and fixed by dowels (see system data sheet Knauf WARM WALL Basis EPS in Solid Construction WE111.de, section "Fire resistance"). The width of the expansion joint must be adopted across the entire ETICS.</p> <p>The vertical fire break can be constructed up to 300 mm above adjacent horizontal surfaces or upper edges (splash water area) of the ground level. For external sealing of expansion joint against driving rain, materials can be used that are classified as flammable.</p> <p>Vertical fire breaks are unnecessary if there are no fire walls in the expansion joint area.</p>	

t_1 = Insulation material of the old system
 t_2 = Insulation material of the new system

<p>Notes</p>	<p>The use of the vertical fire break in the area of fire walls is only permitted on the front faces of the fire walls that integrate into a level and even exterior wall. Separate fire protection measures that fulfil the general protection goal must be implemented on projecting or angled (< 180°) fire walls. In these cases, consultation with the Technical Advisory Service for Plaster and Façade or consultation with a professional planner is recommended.</p> <p>Vertical fire breaks in the old system can remain if the required properties for a fire break can be proven in the German National Technical Approval aBG.</p>
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Notes on Knauf WARM WALL system

- Type and state of the existing wall configuration including the old system or wood wool lightweight boards, whose stability and load-bearing capacity and the suitability for doubling must be determined in advance by a competent expert. The proof must include all load-bearing and associated positioned elements. Fire classification and self-weight of the old system, particularly of the plaster cladding as well as existing insulation thickness or wood wool lightweight boards must be determined.
- Physical building demands must be examined and tested in detail.
- Thermal-bridges must be avoided, see DIN 4108 amendment 2.
- The assessment of the thermal insulation shall be performed in accordance with DIN 4108-2 and if required the GEG (German energy saving ordinance).
- The structural stability of the existing wall must be assured before installation of ETICS. The proof must include all load-bearing and associated positioned elements.
- We recommend use of a handover certificate for transferring the site to another trade.

Planning prerequisites

- All connections and detailed features must be planned by the client or performed on their behalf before commencement. If necessary, the planning service is the responsibility of the professional installer!
- Plan all connections to be driving-rain proof with Joint Sealing Tape FD or suitable window connection profiles.
- The necessary substrate preparation must be undertaken on a case-by-case basis and must be described in full detail in the tender specifications.
- Any necessary fire protection measures must be described in a fire protection concept.
- Building expansion joints must be implemented in ETICS including the cladding and designed accordingly so that the same movement is possible at the same location without any hindrance.
The joints must be sealed to be driving-rain proof.
- The ETICS is unsuitable for exposure to compressive loads due to deformation from the substrate. As long as this cannot be excluded with certainty, suitable measures (e.g. expansion joints) must ensure that they can be accepted.

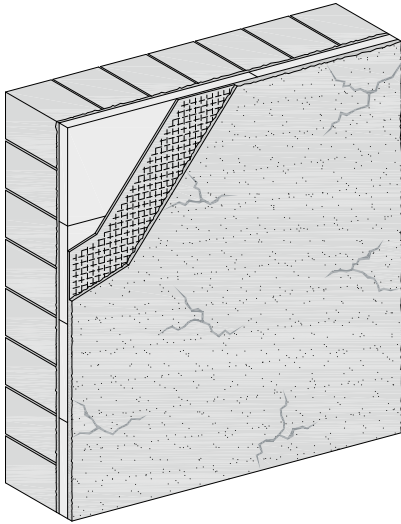
On-site conditions

- The stability of the dowels in non-standard or unknown substrates must be checked.
- Rising damp may not be present.
- Ensure that all openings (interface gaps) are sealed.
- The internal plastering and screed works should be completed and the components should be dry enough so that an excessive accumulation of moisture is avoided.
- The contractor is solely responsible for inspecting the condition of the substrate and the on-site conditions. Substrate tests and possible measures are listed on [page 12](#) as well as in [system data sheet Knauf WARM WALL Basis EPS in Solid Construction WE111.de](#), section "Substrate check and pretreatment".
- Unless otherwise stated in the product data sheets, ensure that the air and component temperatures are not below +5 °C during processing and setting (e.g. thumb pressure test). It is recommended that the maximum temperature does not exceed +30 °C when applying the materials.

- Stored insulation materials on building sites must be protected against moisture and direct sunlight. When glueing and applying plaster, suitable protection measures against precipitation and UV-radiation on the façade must be provided.
- Cover or apply a watertight covering to easily-soiled building components (e.g. window sills) prior to application. Observe the Code of Practice "Abklebe- und Abdeckerarbeiten für Maler- und Stuckateurarbeiten" issued by the Bundesverband Ausbau und Fassade (German only). Protect surfaces from precipitation and direct sunlight.
- The ETICS (old system) must be stable overall and meet the requirements of comparable approved ETICS with bonded or dowelled and bonded thermal insulation material with regard to the attachment and properties of the insulation boards and the design of the ETICS.
- The wood wool lightweight boards must be stable and firmly cement bonded to the wall.
- The surface of the doubled old system / wood wool lightweight boards must be stable, dry, even and free of grease and dust as well as free of any residual substances that may reduce the adhesion. Check existing coatings and linings (paints and old renders) for stability and compatibility with the adhesive of the new system, and remove unstable coatings completely if necessary. If required, check in advance that the adhesive of the new system has set properly.
- Knauf Duo-Kleber is recommended on weak or non-absorbent substrates (plastered old ETICS).
- Adhesive bonding of the insulation boards of the doubling using adhesive foam is not permissible.
- Substrate unevenness of up to 20 mm can be levelled with the adhesive for bonded and dowelled new systems. For larger tolerances, separate levelling is required, e.g. by applying a layer of plaster. When applying an additional layer of plaster, observe the permissible total weight of the plaster system.

Suitability testing

Suitability of the existing façade for doubling

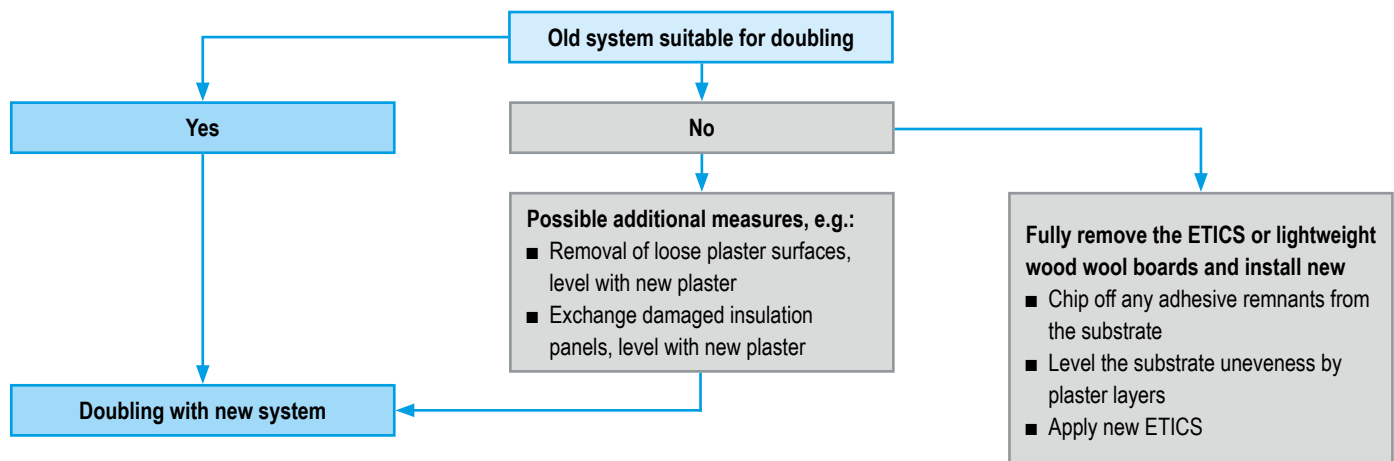


The existing façade with external thermal insulation composite system (ETICS) or wood wool lightweight boards (HWL boards) must be checked by a competent expert:

- EPS or mineral wool (MW), glued or glued and dowelled adequately?
- Type and state of the wall and ETICS design or the HWL boards?
- Stability and loadbearing capacity of ETICS or the HWL boards?
- Self-weight of the old system, particularly the plaster system (basecoat and finishing plaster) and existing insulation material thickness of the ETICS or HWL boards, if required, proof of the reaction to fire or the insulation material.
- Back ventilation of the insulation layer, e.g. due to skips in the adhesive or missing adhesive strips on the edges of the panels?

Observe when doubling

- No multiple upgrading (doubling) as well as upgrading on the ETICS connected using rails
- Total thickness of the insulation material including doubling ≤ 400 mm, in combination with the old system as a mineral wool insulation material ≤ 200 mm
- If required, fire protection measures (see page 7), to achieve “not easily flammable” reaction to fire
- Clean the surface
- Dowelling through all insulation material layers in stable masonry/concrete
- Built-ins, e.g. adapt window sills to new insulation material thicknesses
- Observe the roof overhangs
- If necessary, reveals, plinth insulation and fascia insulation etc. to avoid thermal bridges
- All applied connections must be driving-rain proof
- Ensure that all openings (interface gaps) are sealed

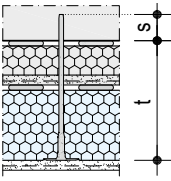

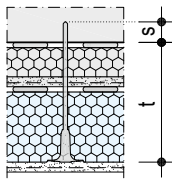
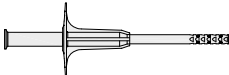
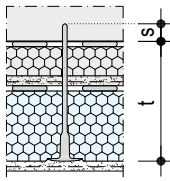



Dowelling in the substrate

Statements on dowelling in the substrate, determination of the number of dowels, installation instructions and can be found in the [system data sheet Knauf WARM WALL Basis EPS in Solid Construction WE111.de](#), section "Insulation material fastening".

Determination of dowel length

Dowel lengths in dependence on the insulation material thickness (façade levelling max. 5 mm)

Thickness t = New system without plaster + old system up to stable substrate	Dowel length		Thickness t = New system without plaster + old system up to stable substrate	Dowel length		Thickness t = New system without plaster + old system up to stable substrate	Dowel length	
	Dowel installation Surface flush			Dowel installation Surface flush			Dowel installation Surface flush, recessed or countersunk Schraubdübel STR U 2G dowel	
								
	CNplus 8 insulation anchor nail			Schraubdübel HTR-P dowel			Schraubdübel STR U 2G dowel	
t ≤ mm	A, B, C s ≥ 35 mm mm	D, E s ≥ 55 mm mm	t ≤ mm	A, B, C, D s ≥ 25 mm mm	E s ≥ 45 mm mm	t ≤ mm	A, B, C, D s ≥ 25 mm mm	E s ≥ 65 mm mm
95	130	150	95	120	140	90	115	155
115	150	170	115	140	160	110	135	175
135	170	190	135	160	180	130	155	195
155	190	210	155	180	200	150	175	215
175	210	230	175	200	220	170	195	235
195	230	250	195	220	240	190	215	255
215	250	270	215	240	260	210	235	275
235	270	290	235	260	280	230	255	295
255	290	310	255	280	300	250	275	315
275	310	330	275	300	–	270	295	335
295	330	350	–	–	–	290	315	355
315	350	370	–	–	–	310	335	375
335	370	390	–	–	–	330	355	395
355	390	–	–	–	–	350	375	415
–	–	–	–	–	–	370	395	435
–	–	–	–	–	–	390	415	455
–	–	–	–	–	–	410	435	–
–	–	–	–	–	–	430	455	–

A to E = Use categories acc. to EAD 330196-00-0604

s = anchoring depth in load-bearing substrate

Calculation of the dowel length: Anchoring depth s + thickness t

New system insulation material thickness for

- Recessed dowelling with Schraubdübel STR U 2G dowel and STR Rondelle EPS: minimum 100 mm
- Countersunk dowelling with Schraubdübel STR U 2G dowel, dowel plate VT 2G and STR Rondelle EPS: minimum 80 mm

The TermoZ CS II 8 dowel can be used as an alternative to the Schraubdübel STR U 2G dowel.

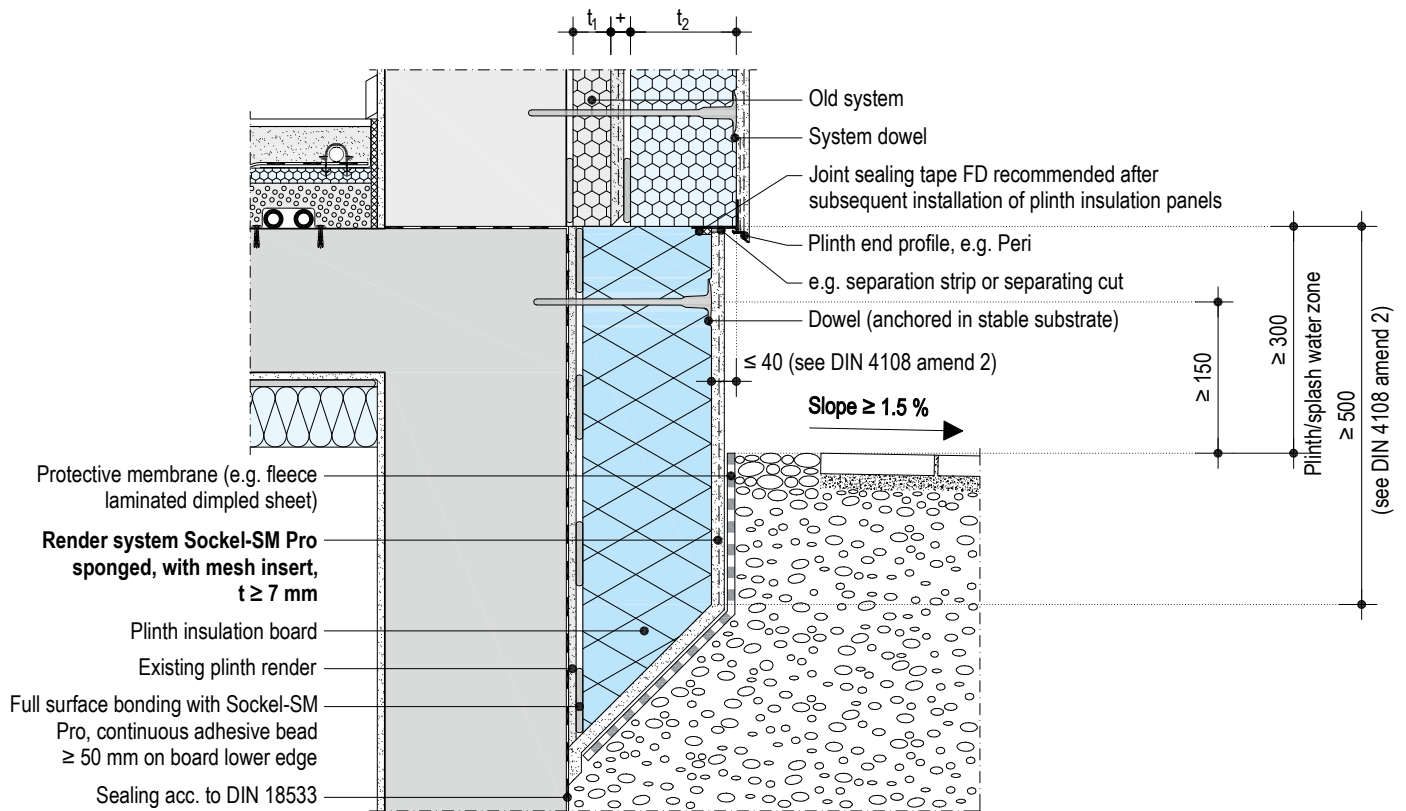
See the general type approval Z-33.43-82 for further system dowels.

Recessed plinth and splash water zone

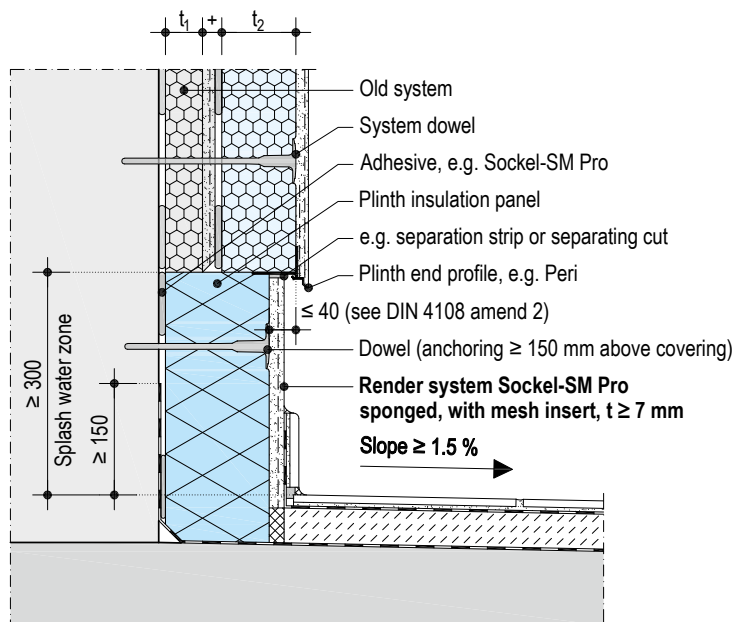
Scale 1:10 | Dimensions in mm

WE111.de-SO-V21 Integration into the soil

Application with Sockel-SM Pro



WE111.de-BA-V6 Projecting balcony slab or terrace



t_1 = Insulation material of the old system

t_2 = Insulation material of the new system

1) Height ≤ 0.9 m when configured as a not easily flammable ETICS system (B1).

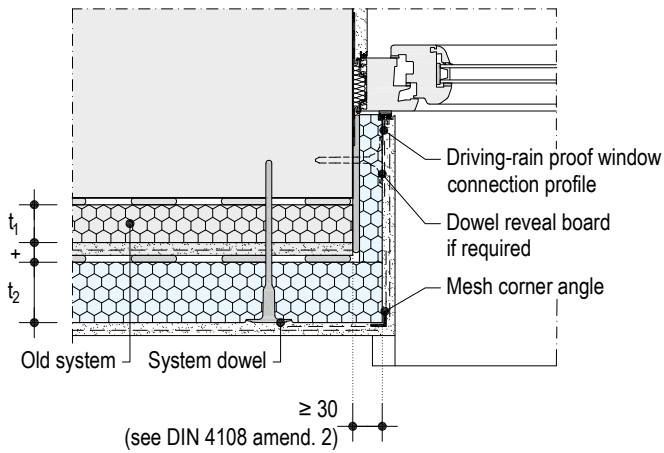
2) Excellent building waterproofing in finished state.

Note Observe guideline "Fassadensockelputz/Aussenanlage - Façade plinth render / outdoor areas", (German only) from the Fachverband der Stuckateure für Ausbau und Fassade Baden Württemberg, Germany as well as the DIN 18531.

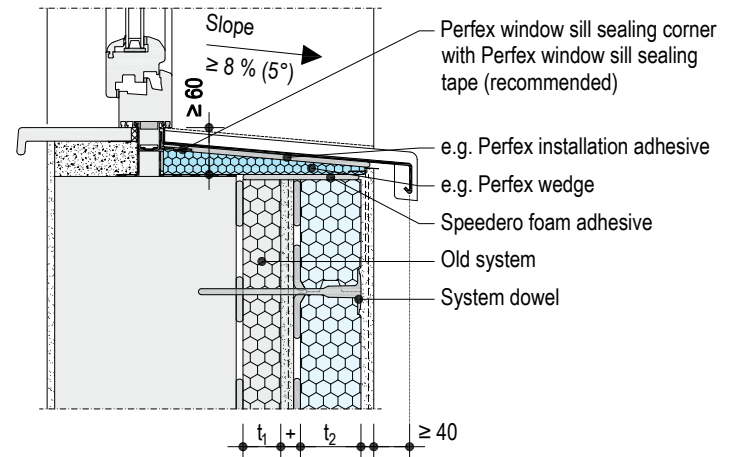
Window in centre of masonry

WE111.de-FE-H9 Horizontal section

Scale 1:10 | Dimensions in mm

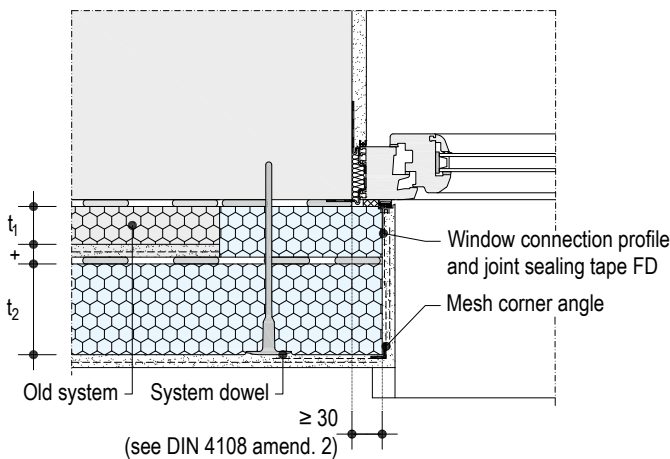


WE111.de-FE-V9 Vertical section

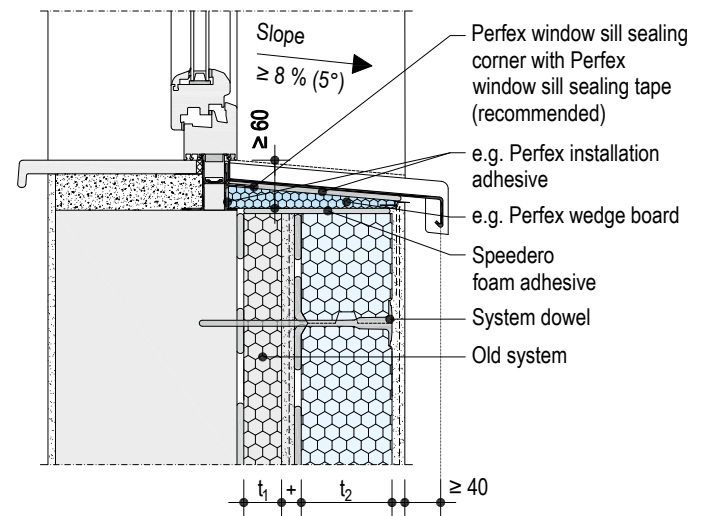


Window frame exterior flush with masonry

WE111.de-FE-H10 Horizontal section



WE111.de-FE-V10 Vertical section



t_1 = Insulation material of the old system

t_2 = Insulation material of the new system

1) In case driving-rain proofing has not been certified, an additional Fugendichtband FD Joint Sealing Tape must be installed (see detail WE111.de-FE-H10 as well as tables "Driving-rain proof window connection profiles" in system data sheet Knauf WARM WALL Basis EPS in Solid Construction WE111.de, section "Driving-rain proof").

Notes

Take care to ensure fully sealed openings (interface gaps) and ensure that filling is applied under window frames.

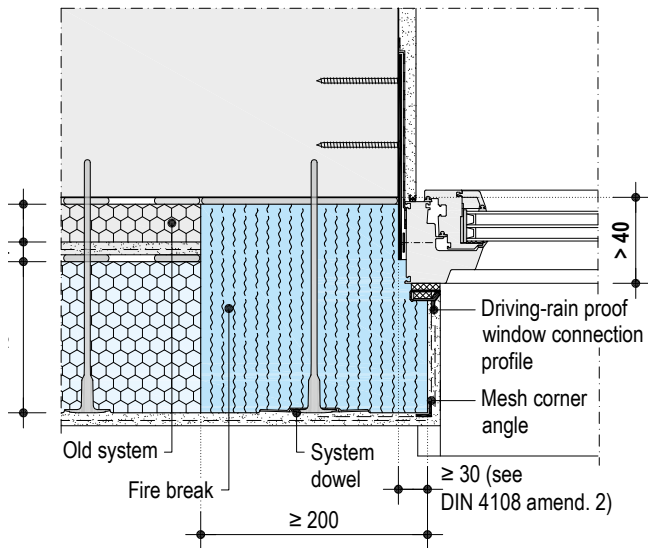
The window installation and seals are represented schematically, refer to "Guideline on the installation of windows and doors" from the RAL-Gütegemeinschaft Fenster und Haustüren e.V. (German Quality Assurance Association Windows and Doors) or the guideline "Connection of windows and roller blinds with plaster, drywall and external thermal insulation composite systems" (German only) from the Fachverband der Stuckateure für Ausbau und Fassade Baden Württemberg, Germany.

Window before the masonry

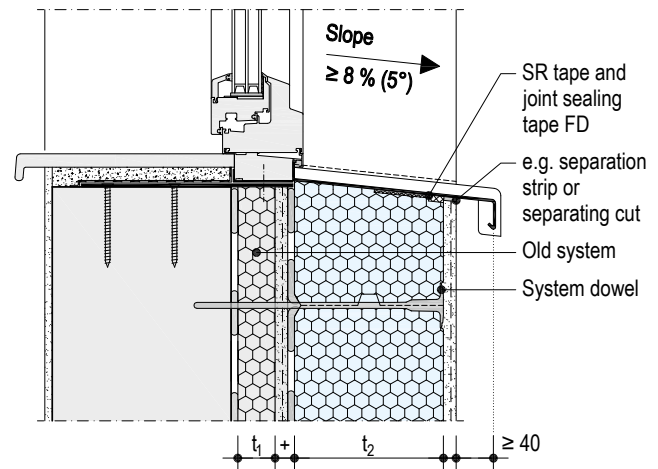
Scale 1:10 | Dimensions in mm

WE111.de-FE-H11 Horizontal section

ETICS as a B1 system – Fire break in lintel and reveal



WE111.de-FE-V11 Vertical section

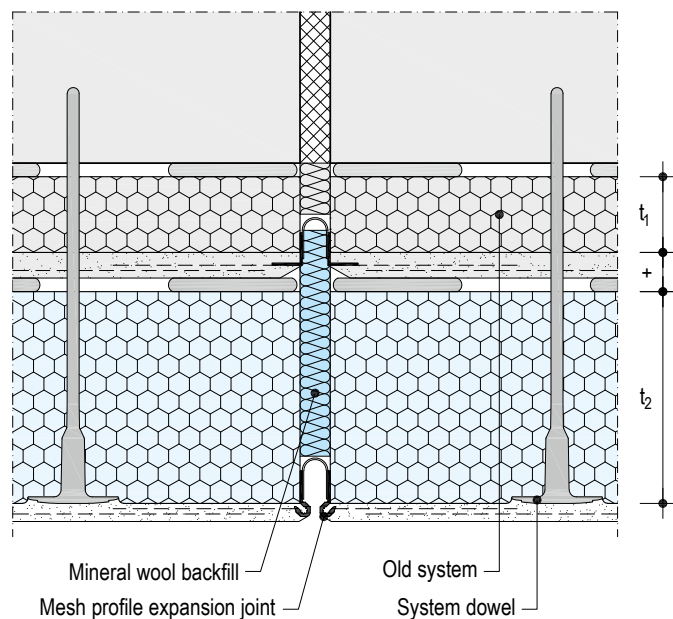


Expansion and connection joints

Scale 1:5

WE111.de-FU-H3 Vertical building expansion joint

Not in the area of the fire wall



Bridging fire walls with expansion joint: see design details [page 10](#).

t₁ = Insulation material of the old system

t₂ = Insulation material of the new system

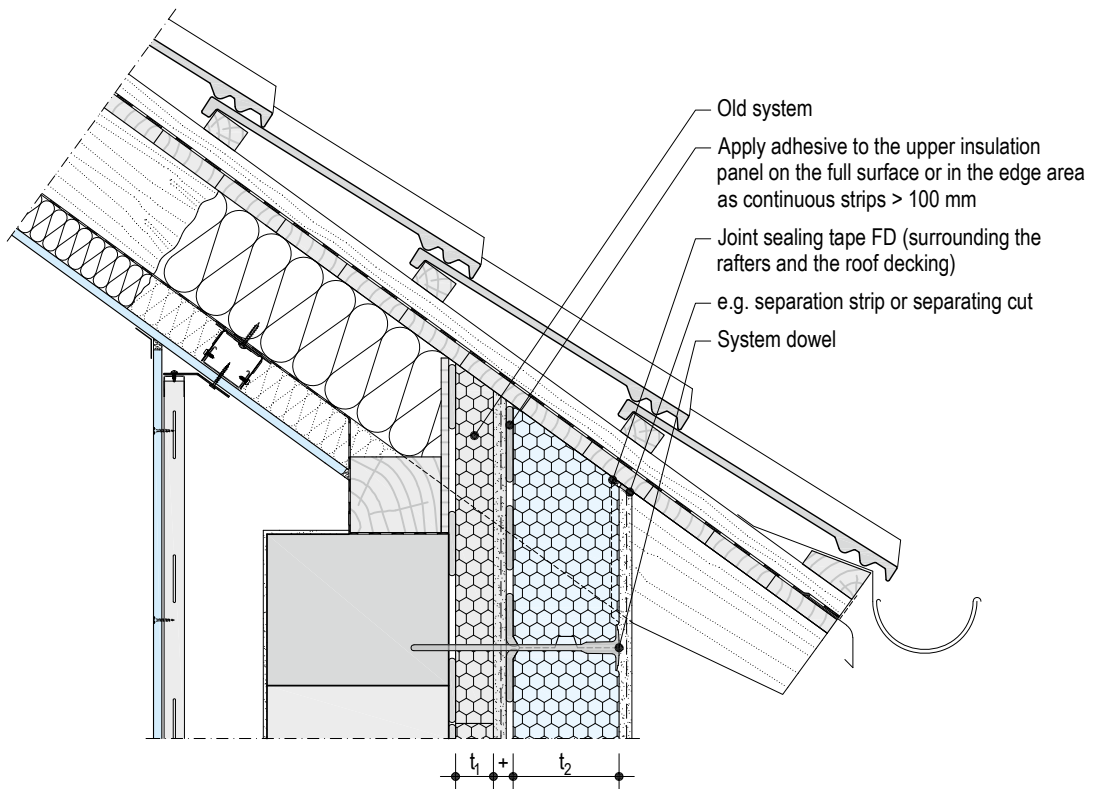
1) In case driving-rain proofing has not been certified, an additional Fugendichtband FD Joint Sealing Tape must be installed (see detail WE111.de-FE-H10 as well as tables "Driving-rain proof window connection profiles" in [system data sheet Knauf WARM WALL Basis EPS in Solid Construction WE111.de](#), section "Driving-rain proof").

Notes	Take care to ensure fully sealed openings (interface gaps) and ensure that filling is applied under window frames.
	The window installation and seals are represented schematically, refer to "Guideline on the installation of windows and doors" from the RAL-Gütegemeinschaft Fenster und Haustüren e.V. (German Quality Assurance Association Windows and Doors) or the 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.

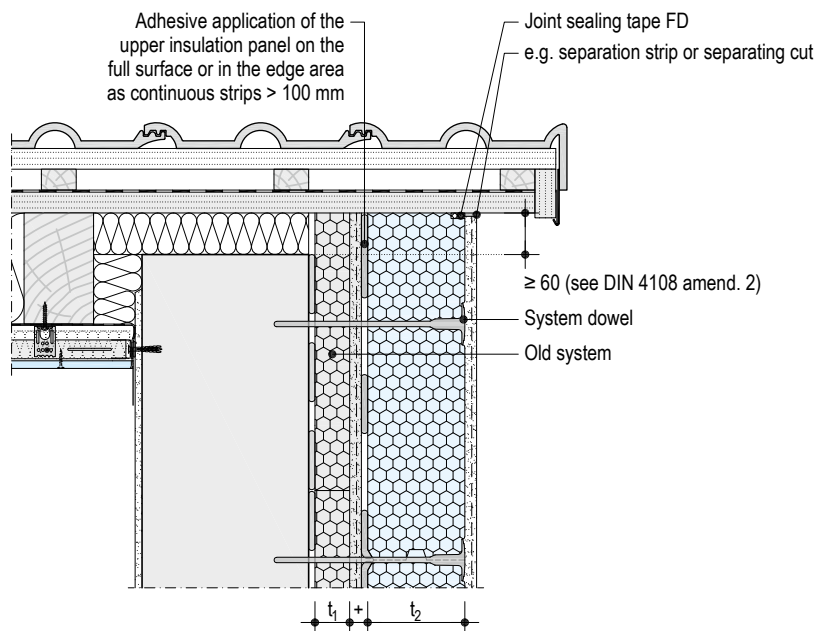
Roof area

WE111.de-DA-V13 Eaves connection to roof weatherboarding

Scale 1:10 | Dimensions in mm



WE111.de-DA-V14 Bargeboard connection



t_1 = Insulation material of the old system

t_2 = Insulation material of the new system

1) Refer to "Ausführung luftdichter Konstruktionen und Anschlüsse - Implementing airtight constructions and connections (German only)" issued by the Fachverband der Stuckateure für Ausbau und Fassade Baden-Württemberg, Germany.

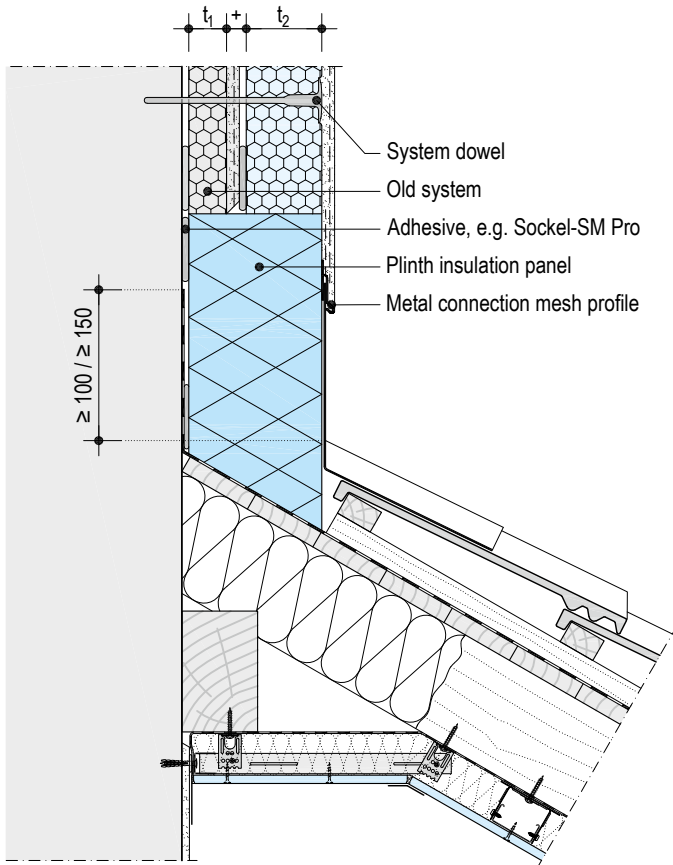
Note

Observe guideline "Metallanschlüsse an Putz und Wärmedämm-Verbundsysteme - Metal connections to render and external thermal insulation composite systems", (German only) from the Fachverband der Stuckateure für Ausbau und Fassade Baden-Württemberg, Germany as well as the DIN 18531.

Roof area (continuation)

WE111.de-DA-V19 Roof connection to rising wall

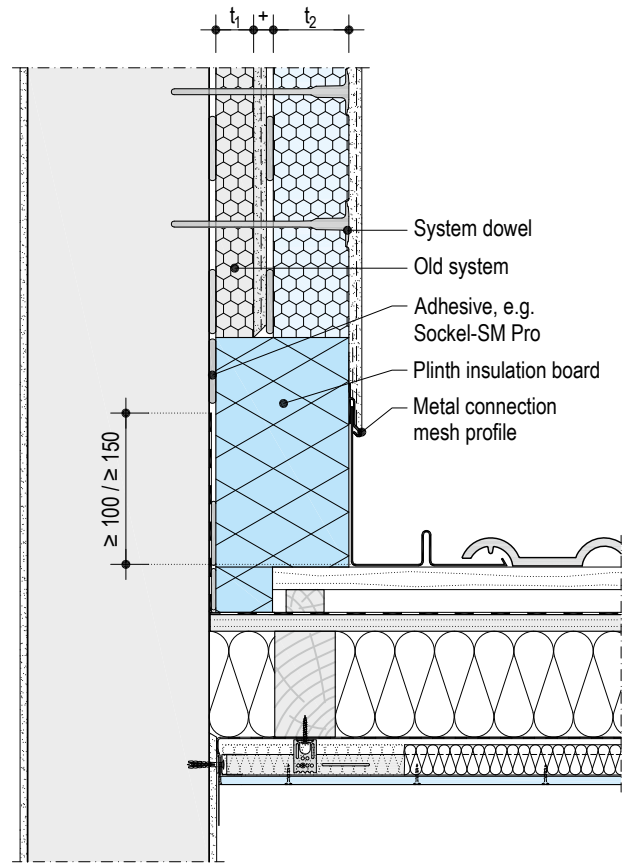
Rafters lateral to rising wall



Scale 1:10 | Dimensions in mm

WE111.de-DA-V15 Roof connection to rising wall

Rafters parallel to rising wall



t_1 = Insulation material of the old system

t_2 = Insulation material of the new system

1) Height of seals on rising component dependent on the usage of the roof and roof pitch, see DIN 18531.

Note

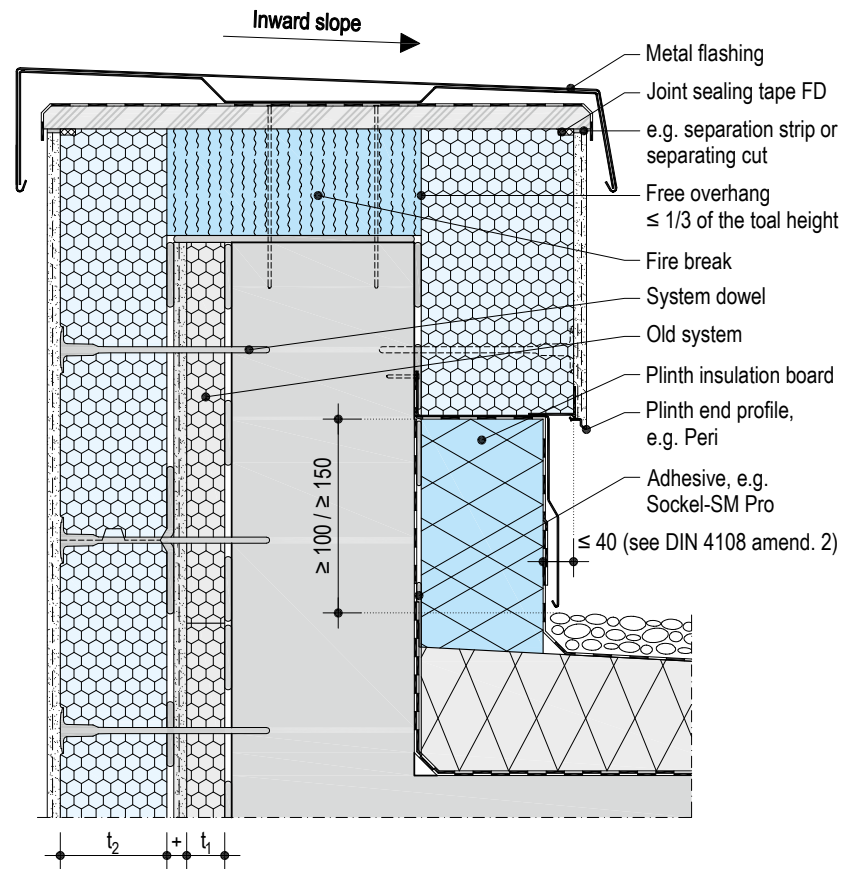
Observe guideline "Metallanschlüsse an Putz und Wärmedämm-Verbundsysteme - Metal connections to render and external thermal insulation composite systems", (German only) from the Fachverband der Stuckateure für Ausbau und Fassade Baden Württemberg, Germany.

Roof area (continuation)

Scale 1:10 | Dimensions in mm

WE111.de-DA-V17 Roof connection to fascia

When configured as a not easily flammable ETICS system (B1).



t_1 = Insulation material of the old system

t_2 = Insulation material of the new system

- 1) For spacings and heights of upstands and chamfers on covers as well as drip edge spacings, refer to the specialist rules of the plumbing/roofing trade.
- 2) Height of seals on rising component dependent on the usage of the roof and roof pitch, see DIN 18531.

Note

Observe guideline "Metallanschlüsse an Putz und Wärmedämm-Verbundsysteme - Metal connections to render and external thermal insulation composite systems", (German only) from the Fachverband der Stuckateure für Ausbau und Fassade Baden Württemberg, Germany.

Information on the sustainability of Knauf WARM WALL Basis EPS– Doubling

Building assessment systems ensure the sustainable quality of buildings and constructional structures by a detailed assessment of ecological, economic, social, functional and technical aspects.

In Germany, the following certification systems are of particular relevance:

- DGNB System
Deutsches Gütesiegel Nachhaltiges Bauen
- BNB
Bewertungssystem Nachhaltiges Bauen - Quality rating system for environmentally sustainable building)
- QNG
Quality seal for sustainable buildings
- LEED
Leadership in Energy and Environmental Design

Knauf WARM WALL systems can positively influence many of these criteria.

DGNB/BNB/QNG

Ecological quality

- Total primary energy requirement
Reduction of the building energy requirement over the entire lifecycle due to efficient WARM WALL systems

Economic quality

- Building related life-cycle costs:
Reduction of the operating costs due to cost-effective WARM WALL systems

Sociocultural and functional quality

- Thermal comfort in summer or winter:
Cozy room climate with WARM WALL systems

Technical quality

- Premium quality thermal and moisture protection for the building shell:
With WARM WALL systems significantly exceeding GEG requirements

LEED

Materials and Resources

- Regional Materials:
Regional material availability depending on location of building.
Information on request



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

youtube.com/knauf



Find the right systems for your requirements!

knauf.com/systemfinder



The Tablet App Knauf Infothek now provides all the current information and documents from Knauf Gips KG at any time and in every location in a clear and comfortable way.

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