

MW Top Lamella 3611

041 WDV, "nichtbrennbar" (non-combustible), for use in the Brillux ETIC Systems MW Top and MW Ecotop and for use as a fire barrier



Field of application

Insulation board approved in the system build-up for use in the Brillux ETIC Systems MW Top and MW Ecotop. Also for use as a fire barrier in the ETIC Systems EPS Qju or EPS Prime.

Properties

- mineral wool insulation boards made from mineral raw materials
- with high tear strength due to fibers running perpendicular to the substrate
- precoated on both sides (up to 24 cm insulation thickness)
- "nichtbrennbar" (non-combustible)
- water-repellent
- dimensionally stable under temperature change
- aging-resistant
- water vapor permeable

Material description

Rated thermal conductivity	$\lambda_B = 0.041 \text{ W/(m}\cdot\text{K)}$
Nominal value of the thermal conductivity	$\lambda_D = 0.040 \text{ W/(m}\cdot\text{K)}$ in accordance with EN 13162
Reaction to fire	Class A1 in accordance with EN 13501-1, "nichtbrennbar" (non-combustible), dimensionally stable up to 1000 °C
Water vapor diffusion resistance factor	$\mu = 1.0$ in accordance with EN 12086
Raw density	70–95 kg/m ³ in accordance with EN 1602
Tensile strength perpendicular to the board plane	$\geq 80 \text{ kPa}$ in accordance with EN 1607

Material description

Length tolerance	± 5 mm/m																														
Width tolerance	± 2 mm/m																														
Thickness tolerance	± 3 / - 1 mm																														
Perpendicularity	4 mm/m, corresponds to 2 mm over 50 cm leg length																														
Edge design	Blunt edges																														
Insulation board format	Length 120 cm / Width: 20 cm																														
Thicknesses/packaging	<table><thead><tr><th>Insulation board thicknesses</th><th>m² per pack</th></tr></thead><tbody><tr><td>5 cm</td><td>approx. 1,92 m²</td></tr><tr><td>6 cm</td><td>approx. 1,92 m²</td></tr><tr><td>8 cm</td><td>approx. 1,44 m²</td></tr><tr><td>10 cm</td><td>approx. 0,96 m²</td></tr><tr><td>12 cm</td><td>approx. 0,96 m²</td></tr><tr><td>14 cm</td><td>approx. 0,96 m²</td></tr><tr><td>16 cm</td><td>approx. 0,96 m²</td></tr><tr><td>18 cm</td><td>approx. 0,96 m²</td></tr><tr><td>20 cm</td><td>approx. 0,96 m²</td></tr><tr><td>22 cm</td><td>approx. 0,48 m²</td></tr><tr><td>24 cm</td><td>approx. 0,48 m²</td></tr><tr><td>26 cm</td><td>approx. 0,48 m²</td></tr><tr><td>28 cm</td><td>approx. 0,48 m²</td></tr><tr><td>30 cm</td><td>approx. 0,48 m²</td></tr></tbody></table>	Insulation board thicknesses	m ² per pack	5 cm	approx. 1,92 m ²	6 cm	approx. 1,92 m ²	8 cm	approx. 1,44 m ²	10 cm	approx. 0,96 m ²	12 cm	approx. 0,96 m ²	14 cm	approx. 0,96 m ²	16 cm	approx. 0,96 m ²	18 cm	approx. 0,96 m ²	20 cm	approx. 0,96 m ²	22 cm	approx. 0,48 m ²	24 cm	approx. 0,48 m ²	26 cm	approx. 0,48 m ²	28 cm	approx. 0,48 m ²	30 cm	approx. 0,48 m ²
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Further insulation board thicknesses on request.

Storage

Store in a dry place and protect from moisture. Do not expose to natural weathering.

Substrate preparation Follow the instructions in the relevant system description for MW Top or MW Ecotop. For use as a fire barrier, follow the instructions in the relevant system descriptions for EPS Qju or EPS Prime.

Adhesive application Adhesive application with a notched trowel on level substrates (for thicknesses up to 20 cm).
Apply the mixed adhesive mortar to the entire surface of the load-bearing, level substrate by hand with a stainless steel trowel or mechanically, immediately before positioning the MW Top Lamella 3611 and comb through it with a notched trowel, e.g. 10 x 10 mm or 15 x 15 mm. For use of ETICS Poly Adhesive 3574 with a notched trowel 4 x 6 x 4 mm.

Mechanical adhesive application

Alternatively, the adhesive can be applied mechanically over a partial area. For insulation boards thicker than 20 cm, this is generally required. When applying the adhesive mortar in beads to the substrate, at least 60% of the surface must be covered by strips of mortar. The mortar beads should have a width of approx. 3 to 5 cm and the spacing between the adhesive beads must not exceed 10 cm. The lamellas must be pressed into the fresh adhesive mortar bed immediately, within 10 minutes at the latest, then moved back and forth slightly on the substrate ("bedded in") and pressed on. Skin formation on the adhesive must be avoided.

Adhesive application on the lamella insulation boards (for thicknesses up to 20 cm)

Apply an adequate quantity of the adhesive with a notched trowel (e.g. 10 x 10 mm) on the rear side of the MW Top Lamella 3611. Bond the lamella insulation boards immediately. When bonding the lamellas, move it back and forth several times to guarantee adequate bonding with the substrate.

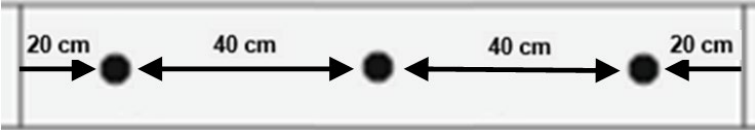
The adequate bonding and consumption can be verified by removing a bonded lamella insulation board. Follow the instructions in the Data Sheet for the relevant adhesive mortar. Bond the MW Top Lamella 3611 according to the instructions in the relevant MW Top or MW Ecotop System Description. Protect lamella insulation boards that have been recently attached to the facade from weathering, e.g., direct sunlight at high summer temperatures, rain and hail, by taking appropriate measures or coat them as soon as possible with reinforcement plaster.

Setting up fire barriers

For use as a fire barrier in the Brillux ETIC systems EPS Qju or EPS Prime, the lamella insulation boards must be bonded over the entire surface with a mineral adhesive mortar in accordance with the German national technical approval (abZ) and the German general construction technique permit (aBG). In order to ensure adhesion to the entire surface, apply the adhesive mortar in a combined procedure with a notched trowel to the substrate and to the back of the lamellas. The grooves should run crosswise to each other (one horizontal, one vertical). The quantity of adhesive is a function of the substrate unevenness that has to be compensated. The notches must be aligned accordingly. It may also be appropriate to use thicker insulation to compensate for larger distances to the surface of the facade insulation. Move the lamella insulation boards back and forth slightly when bonding them to the substrate ("bedding in").

The full-surface bonded fire barriers for protection against fire from the outside (base fire barriers) are always to be anchored with 3 ETICS anchors distributed across the middle of each lamella insulation board's surface. All other fire barriers for protection against interior fire (room fire) are to be anchored according to the load-bearing capacity of the substrate. Please refer to the "Anchoring of Fire Barriers" table and figure below. Follow the instructions for fire protection measures in the relevant system application.

Anchoring fire barriers

Insulation board thickness [cm]	Anchor washer	Amount of anchors Anchor/ Lamella	Anchor arrangement ¹⁾ In the center of the MW Top Lamella Subject to compliance with the maximum distances
≥ 5	Standard Ø 60 mm	3 (2.5 units/m)	

¹⁾ Anchoring with approved ETICS anchors to the middle of the lamella surface at a distance of max. 40 cm and max. 20 cm from the left and right edges, respectively.

Application temperature

Please refer to the information in the data sheet for the adhesive used.

Cutting insulation boards to size

Individual insulation boards can be cut to size using the Mineral Wool Cutter 1900 M-24 1446 or the PUR/MW Insulation Saw 1142. Additional information can be found in the Brillux tool product range.

The following information for anchoring is only applicable in the ETIC systems MW Top und MW Ecotop with render coating. When using ceramic coverings of natural stone as a top coat, it is important to follow the specific instructions on anchoring in accordance with abZ/aBG No. Z-33.46-1327 and the instructions for the relevant system description. The following information for anchoring is not applicable for this.

Only bonded to bondable substrates

When using the MW Top Lamella 3611 in the ETIC Systems MW Top and MW Ecotop with render coating on bondable substrates, the lamella insulation boards are additionally to be structurally anchored in accordance with abZ/aBG Z-33.44-258 and/or Z-33.47-865 while considering specific conditions near the boundary. Information on this topic is provided in the respective system description.

Bonded and anchored on non-bondable substrates

For installation of the MW Top Lamella 3611 in the ETIC Systems MW Top and MW Ecotop with render coating on non-bondable substrates, the lamella insulation boards must be anchored with a statically-relevant system anchoring in accordance with abZ/aBG Z-33.43-257. Approved ETICS anchors must be used for this purpose. Substrate unevennesses of up to max. 2 cm/m can be bridged for statically relevantly anchored ETICS insulation boards. The following information is based on anchoring below the fabric. Follow the instructions in the relevant system description for MW Top or MW Ecotop.

Determining wind load

The characteristic wind loads w_{ek} for anchoring must be calculated in accordance with the technical building regulations. According to the calculated wind loads, the required anchor quantities can be determined while considering the characteristic load-bearing capacity of anchors in compliance with the information below.

Determining the anchor quantities

Across-the-board assumption of anchor numbers

The anchor number can also be stipulated across the board for rectangular buildings with the aid of Tables 1a, 1b and 1c below as a function of the building height by solely determining the wind zone. A detailed calculation of the wind load must be performed for all other buildings. This results in a reduction of the number of anchors in some cases.

Depending on the determined wind load

The number of anchors for the statically-relevant anchoring of the MW Top Lamellas 3611 can be determined using the calculated wind loads based on Table 2 below.

Table 1**General anchor quantities for statically-relevant anchoring of the MW Top Lamella 3611 as a function of the building height**

The required number of anchors per m² (surface and edge area) as a function of the calculated wind zone and the insulation thickness ¹⁾

Building height	≤ 10 m	> 10 m to ≤ 18 m	> 18 m to ≤ 25 m
Insulation thickness [cm]	5-20	5-20	5-20
N _{Rk, Anchor} [kN] ²⁾	≥ 0,60 [kN]	≥ 0,60 [kN]	≥ 0,60 [kN]
Wind zone 1 Inland	4	5	8
Wind zone 2 Inland	5	8	8
Wind zone 2 Coasts and islands in the Baltic Sea	8	8	10
Wind zone 3 Inland	8	8	10
Wind zone 3 Coasts and islands in the Baltic Sea	8	11	11
Wind zone 4 Inland	8	11	11
Wind zone 4 Coasts and islands in the Baltic Sea	11	11	³⁾
Wind zone 4 Islands in the North Sea	11	³⁾	³⁾

¹⁾ Anchor arrangement in accordance with the overview below. Anchoring flush with the surface always in combination with the ETICS Anchor Washer 3711, Type SBL plus, (Ø 140 mm).

²⁾ Characteristic load-bearing capacity of the anchor in the substrate.

³⁾ According to the relevant standard, the simplified calculation procedure cannot be used in this case. Precise calculations based on the calculated wind load are required.

In the across-the-board assumption of anchor quantities presented here, more anchors could be used than would be required subsequent to a precise calculation.

Anchor arrangements for statically-relevant anchoring of the MW Top Lamella 3611

Anchor /m	Anchor arrangements	Anchor /m ²	Anchor arrangements
3		8 (8,33)	
4 (4,16)		10 (10,41)	
5		11 (11,45)	
6 (6,25)		14 (15,58)	

*) The values in brackets reflect the actual number. Differing anchor arrangements are possible, but may result in higher anchor quantities/m². The Brillux Consulting Service should be consulted about this.

Table 2

Load-bearing capacity table for statically-relevant anchoring of the MW Top Lamella 3611 ¹⁾

Anchor washer ¹⁾	Insulation board thickness [cm]	$N_{Rk, Anchor}$ ²⁾ [kN]	Maximum resistance to wind load w_{ek} [kN/m ²]	Number of anchors Anchor/m ²
SBL 140	≥ 5 bis 20	≥ 0,20	-0,770	4
SBL 140	≥ 4 bis 20	≥ 0,20	-1,000	5
SBL 140	≥ 4 bis 20	≥ 0,20	-1,200	6
SBL 140	≥ 4 bis 20	≥ 0,20	-1,600	8
SBL 140	≥ 4 bis 20	≥ 0,20	-2,000	10
SBL 140	≥ 5 bis 20	≥ 0,20	-2,000	11

¹⁾ Anchoring flush with the surface always in combination with the ETICS Anchor Washer 3711, Type SBL plus, (Ø 140 mm).

²⁾ When using anchors with a low load-bearing capacity value, use respectively more anchors. The maximum number of anchors permitted is 16/m².

Anchoring

Thermal bridge effect resulting from anchoring

When anchoring, the thermal bridge effect of the anchors is to be taken into account as follows:

$$U_c = U + \chi \cdot n \quad [\text{in } W/(m^2 \cdot K)]$$

Where:

U_c = corrected heat transfer coefficient of the component

U = the heat transfer coefficient of the undisturbed component in $W/(m^2 \cdot K)$

χ = point heat transfer coefficient of an anchor in W/K

n = number of anchors l/m^2 (average for the facade areas)

It may not be necessary to take the thermal bridge effect of the anchors into account if the maximum number of anchors n per m^2 of wall surface (the average for the facade areas), as a function of the insulation thickness and the heat transfer coefficient of the anchors, complies with the specifications provided in the table below.

It may also be possible to neglect this aspect in individual cases if it can be proven that the increase in the undisturbed component's heat transfer coefficient, which results from the thermal bridge effect of the anchors, does not exceed 3%.

Number of anchors per m^2 , up to which no consideration of the thermal bridge effect is required in the U value with a rated thermal conductivity of the insulation material of $\lambda = 0.041 W/(m \cdot K)$

χ in W/K	Insulation thickness cm				
	$5 < d \leq 10$	$10 < d \leq 15$	$15 < d \leq 20$	$20 < d \leq 25$	$25 < d$
0,002	5	4	3	2	2
0,001	11	7	6	5	4

¹⁾ Maximum number of anchors without any reciprocal interference

Notes

Safety measures for handling

Avoid contact with eyes and skin. Use dust-tight protective clothing and a P1 dust mask. For mechanical processing and working overhead, wear safety goggles. Avoid stirring up dust - vacuum instead of sweeping in rooms. Do not eat or drink or smoke while working.

Cables on the exterior wall

If cables are installed on the exterior wall, it is important to mark their paths on the insulation board to avoid damage (resulting from additional mechanical mounting) to them.

Name in abZ/aBG

In the abZ/aBG, the MW Top Lamella 3611 is referred to as "MW Top Lamelle, 041 Speedrock II".

Further specifications

Follow the instructions on the data sheets of the products used.

Remark

This Data Sheet is based on extensive development work and years of practical experience. The translation corresponds to the current German version, in compliance with the German laws, regulations, standards and guidelines. Its content does not constitute a contractual legal relationship. The user/buyer is not released from the responsibility of checking our products to ensure they are suitable for the intended application. In addition, our general terms of business apply.

When a new version of this Data Sheet with updated information is published, the previous version no longer applies. The current version is available on our website.

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