2022 ONE HUNDRED YEARS

EJOT®

The strong duo for the basebead area

Basic baseboard profile Pro BSOP-HL and basebead profile Pro SOP

GERMAN INNOVATION AWARD '23 WINNER

Bringing it together.

A good external thermal insulation composite system needs a flawless finish

An external thermal insulation composite system (ETICS) is the most commonly used type of facade insulation. In addition to protecting against weather-related influences, it helps to save energy and reduces the building's carbon footprint.

An ETICS is usually carried out up to the base of the building. If this base is designed to be recessed, the lower end of the ETICS must be specially designed. This means that special profiles are used, so-called basebead profiles and basic baseboard profiles. They form the lower horizontal end and seal the ETICS in the direction of the floor to protect against moisture penetration as well as insects and rodents. A drip edge formed by the basebead profile directs any rainwater away from the building.

The basic baseboard profile Pro BSOP-HL (High Load) is unique in the international market. Thanks to an optimised, patent-pending product geometry, it unites in combination with the Pro SOP basebead profile, the strengths and advantages of all established systems. Together they form a strong duo for the base area.


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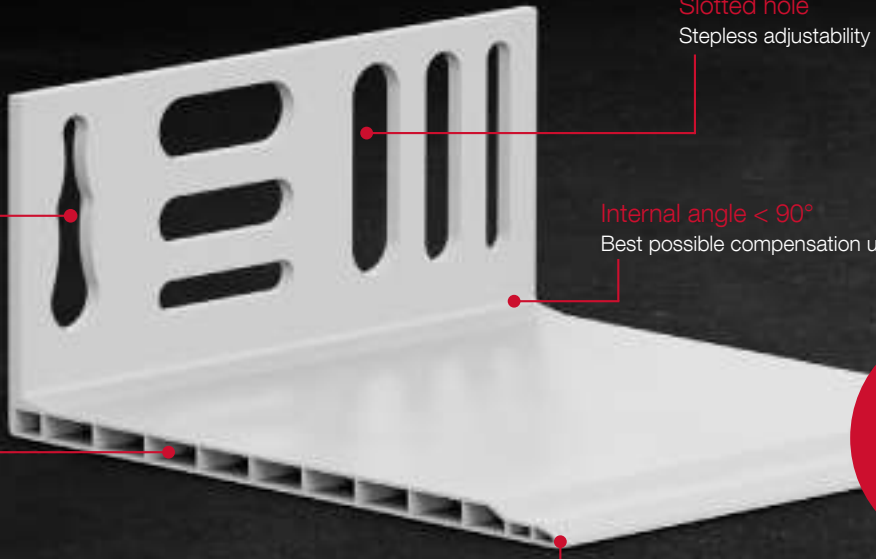
Basic baseboard profile
Pro BSOP-HL (High Load)



Slotted hole
Stepless adjustability

Internal angle < 90°
Best possible compensation under load

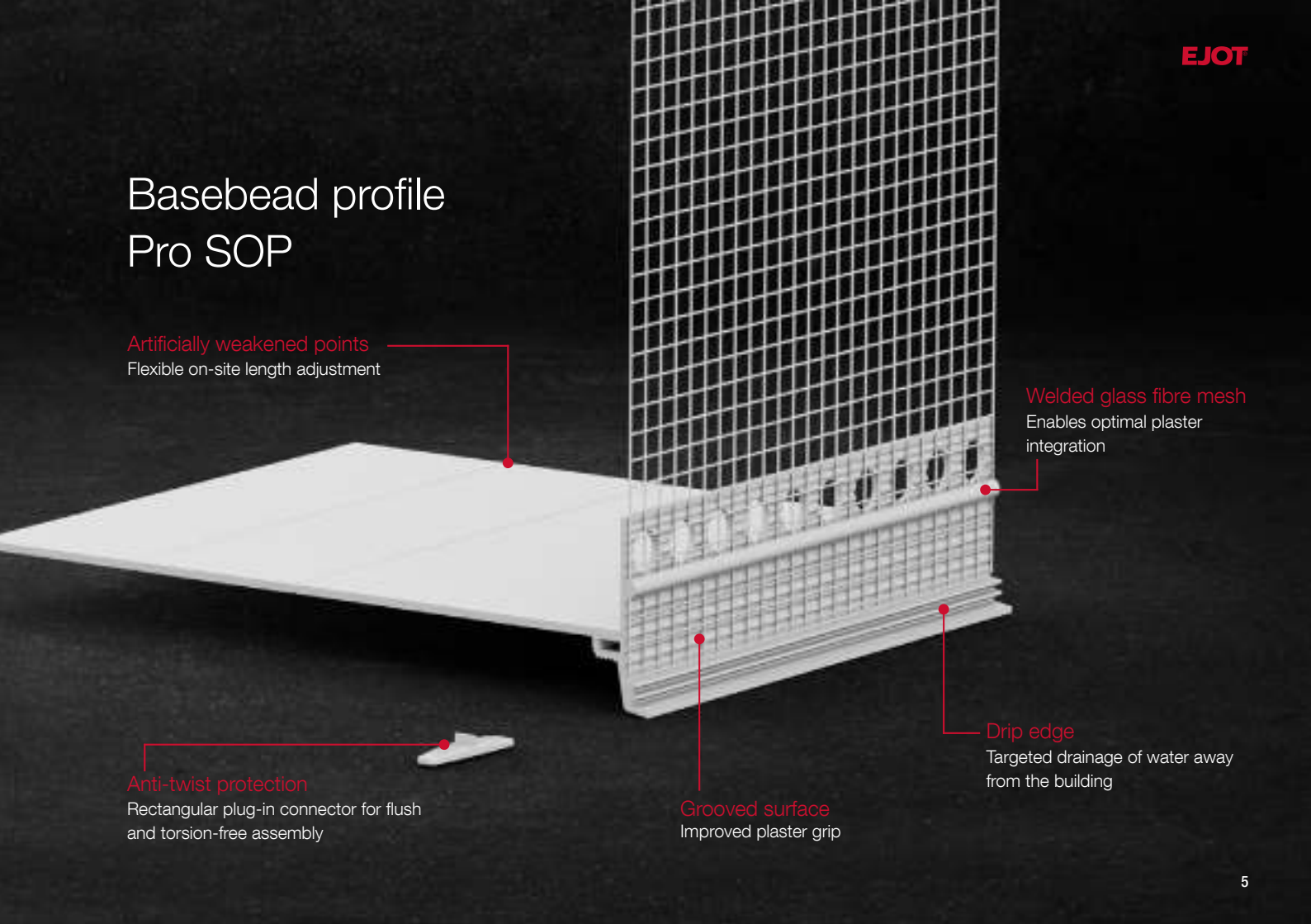
Drill template
Flexible attachment point
for different fasteners

Patent
pending

Hollow-chamber
Significantly reduced thermal bridge effect
with high form stability at the same time

Profile leg
Slanted design for easier accommodation
of the Pro-SOP basebead profile

Basebead profile Pro SOP



Artificially weakened points
Flexible on-site length adjustment

Welded glass fibre mesh
Enables optimal plaster integration

Drip edge
Targeted drainage of water away from the building

Anti-twist protection
Rectangular plug-in connector for flush and torsion-free assembly

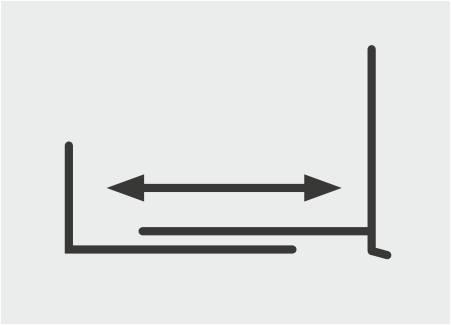
Grooved surface
Improved plaster grip

Twice as good, an unbeatable pair

The basic baseboard profile Pro BSOP-HL and the basebead profile Pro SOP combine the advantages of the established systems made of aluminium and PVC solid material and eliminate their disadvantages.

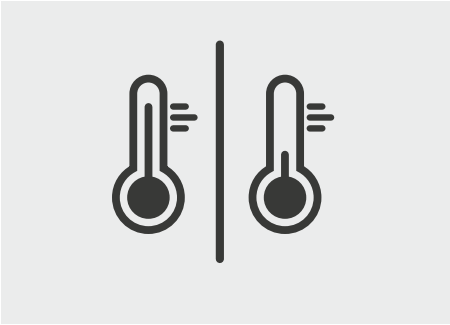
Maximum dimensional stability

Compensation of deformations due to the load effect of the ETICS and best possible preservation of the optimum installation angle of 90°.



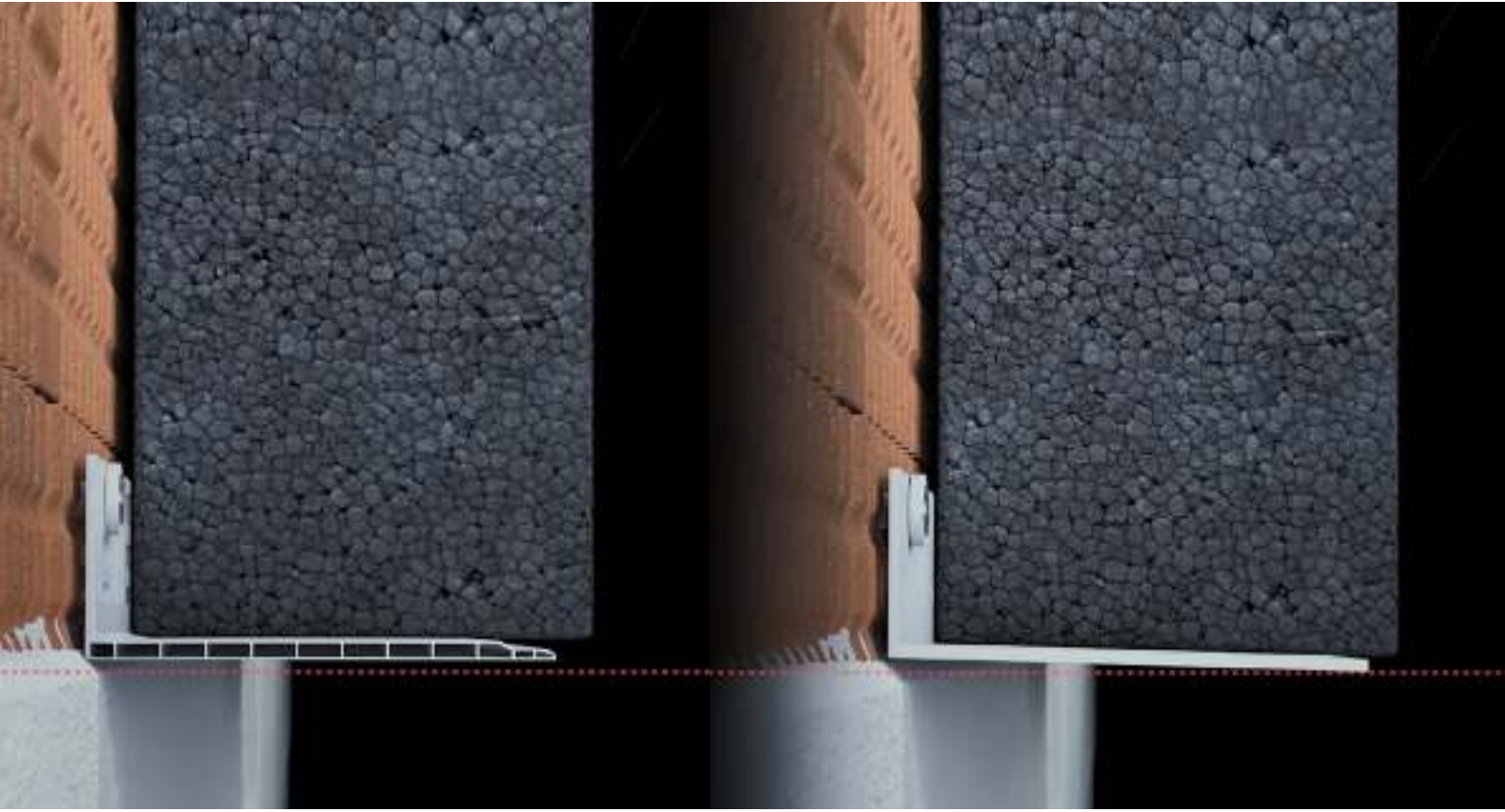
Highly flexible

Wide range of uses with minimal product variety thanks to stepless pre-assembly of the basebead profile and trimming of the basic baseboard profile directly on the construction site.



Low thermal bridge effect

Superior to aluminium and PVC solid material in terms of energy efficiency thanks to the innovative hollow-chamber geometry.



Maximum dimensional stability

Maximum dimensional stability

Particularly in the base area, a flawless appearance and a clean finish, at right angles to the facade, are significant. Due to the weight of the external thermal insulation composite system, the dimensional stability of the profiles used is particularly important. This is the only way to ensure a flawless finish.

The basic baseboard profile Pro BSOP-HL features a new and unique geometry. The innovative structure with its hollow-chambers, which are formed by horizontal top surfaces and vertical webs, enables maximum stability.

When delivered, the internal angle of the profile is < 90°, which means that any deformations caused by the load effect of the ETICS can be well compensated - even with heavy insulation materials such as mineral wool or wood fibre.

These product properties ensure a simple and right-angled attachment of the pre-inserted basebead profile and thus high-quality further processing. Comparable profiles made of solid PVC do not meet these requirements.

even with heavy insulating materials such as mineral wool

and wood fibre

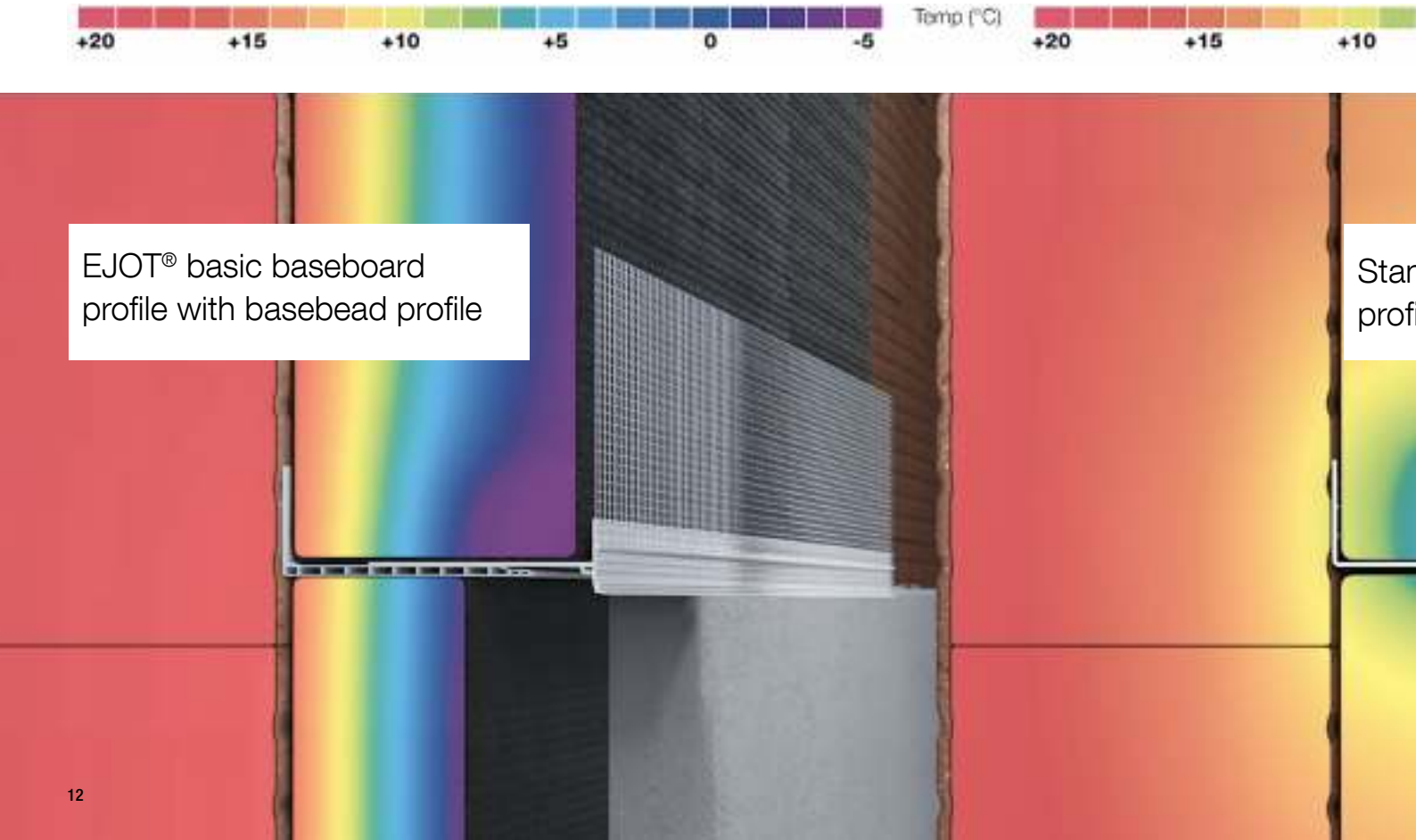
Highly flexible

The basic baseboard profile Pro BSOP-HL and the basebead profile Pro SOP enable a wide range of applications with a low number of variants.

A versatile drill template on the Pro BSOP-HL allows flexible fastening to the substrate by accommodating different fasteners (diameter 6.0 / 8.0 and 10.0 mm). The slotted hole geometry also enables stepless adjustability.

Due to the two-part design and the resulting possibility of overlapping the products, several insulation thicknesses can be covered with just one combination. Furthermore, substrate tolerances can be easily compensated. Additionally, the basebead profile Pro SOP can be adjusted on site without any problems using the predetermined breaking points. In contrast to standard aluminium profiles, where a special profile has to be used for each insulating material thickness, a lean product portfolio can be implemented here.

A special anti-twist protection in the form of an innovative, rectangular connector guarantees flush and torsion-free assembly. A high-quality welded glass fibre mesh, which forms the flat finish of the basebead profile, ensures optimum plaster integration and a flawless end result.



EJOT® basic baseboard profile with basebead profile

Star
profi

Low thermal bridge effect

Thermal bridges are areas where the heat from the inside escapes faster than on the rest of the facade surface. Especially when using an ETICS, these losses should be avoided as much as possible in order not to generate any damaged areas and not to negatively influence the energy savings that result from the ETICS.

Basebead profiles influence the external thermal insulation composite system along the entire length of the building base. Aluminium profiles, which are still frequently used for stability reasons, are strong technical heat conductors. Their use causes large thermal bridges which are to be avoided.

Both the basic baseboard profile Pro BSOP-HL and the basebead profile Pro SOP are made of PVC and thus generally have a significantly lower thermal bridge effect than aluminium profiles. Thanks to the innovative hollow-chamber, the basic baseboard profile Pro BSOP-HL is even superior to standard basic baseboard profiles made of PVC solid material.

Over

99%

lower than standard aluminium basebead profile

Up to

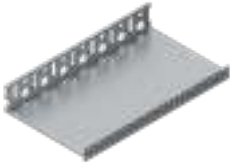
60%

lower than standard basebead profile made of solid PVC material

Thermal transmission comparative study with FIW in Munich

Products and results

Unit = PSI value in W/mK = heat loss in watts per 1 running meter and 1 Kelvin temperature delta

ASOP 162 / 2.0 - Aluminium profile	ASOP 162 / 1.2 - Aluminium profile	ASOP 163 / 0.8 - Aluminium profile	EJOT Pro BSOP-HL 100 with EJOT Pro SOP 120	BSOP 100 with SOP 120
				
Aluminium profile, extruded, web thickness 2 mm	Aluminium profile, roll-formed, web thickness 1.2 mm	Aluminium profile, roll-formed, web thickness 0.8 mm	Basic baseboard profile **hollow-chamber,** 100 mm with basebead profile 120 mm	Basic baseboard profile made of solid PVC material, 100 mm with basebead profile 120 mm
0.4103 W/mK	0.3593 W/mK	0.3177 W/mK	0.0016 W/mK	0.0042 W/mK
100 %			**0.4 %**	**1 %**

Verification of the heat loss based on a typical single and multi-family house

- Mural: 300 mm thick masonry made of sand-lime brick
- Insulation thickness: 160 mm
- Base insulation: 50 mm
- Insulating material thermal conductivity: = 0.035 W/mK
- Building (see table)

Description	Detached house	Multi-family house
		
Heat-exchanging envelope (Entire building)	458.0 m²	580.0 m²
Circumferential length of basebead profile (Without French windows and front doors, approximate value)	35.3 m	32.7 m
Outer end wall U-value (Standard detail facade with 160 mm ETICS, not base)	**0.196 W/(m²K)**	**0.196 W/(m²K)**

Note:
Assumptions regarding the facade area and the circumferential length of the basebead profiles are made on the basis of two "typical buildings" of the ZUB Kassel. Based on current statistics, market observations and a differentiated recording of construction activity, these type buildings reflect certain mean values (e.g. average size) for German single and multi-family house construction in current construction practice.

Aim:
Compliance with the required U-value for the outer wall

Result for detached house

Base insulation 50 mm	U in W/(m²K)	ΔU in %	Required insulation thickness compensation in mm – calculated*	Required insulation thickness compensation in mm – actual**	Note
EJOT Pro BSOP-HL 100 with SOP 120, hollow-chamber profile	**0.197**	**0.1**	**0**	–	**No adjustment required when using PVC profiles**
BSOP 100 with SOP 120, solid material	**0.197**	**0.2**	**0**	–	
ASOP 162 – 2.0 mm	0.228	16.1	25	**40**	When using all aluminium profiles, the insulating material thickness would have to be increased in order not to negatively influence the U-value of the wall: ASOP 162 = 25 mm = **40 mm** ASOP 163/1.2 = 22 mm = **40 mm** ASOP 163/0.8 = 20 mm = **20 mm**
ASOP 163 – 1.2 mm	0.224	14.1	22	**40**	
ASOP 163 – 0.8 mm	0.221	12.5	20	**20**	

*It is specified how much thicker the ETICS would have to be so that the thermal bridge effect of the basebead profile would be compensated
**Taking into account standard insulating material thicknesses with a thermal conductivity of 0.035 W/(mK).

Result Multi-family house

Base insulation 50 mm	U in W/(m²K)	ΔU in %	Required insulation thickness compensation in mm – calculated*	Required insulation thickness compensation in mm – actual**	Note
EJOT Pro BSOP-HL 100 with SOP 120, hollow-chamber profile	**0.197**	**0.0**	**0**	–	**No adjustment required when using PVC profiles**
BSOP 100 with SOP 120, solid material	**0.197**	**0.1**	**0**	–	
ASOP 162 – 2.0 mm	0.220	11.8	19	**20**	When using all aluminium profiles, the insulating material thickness would have to be increased in order not to negatively influence the U-value of the wall: ASOP 162 = 19 mm = **20 mm** ASOP 163/1.2 = 17 mm = **20 mm** ASOP 163/0.8 = 15 mm = **20 mm**
ASOP 163 – 1.2 mm	0.217	10.3	17	**20**	
ASOP 163 – 0.8 mm	0.214	9.1	15	**20**	

*It is specified how much thicker the ETICS would have to be so that the thermal bridge effect of the basebead profile would be compensated
**Taking into account standard insulating material thicknesses with a thermal conductivity of 0.035 W/(mK).

Conclusion

If the basebead profiles are taken into account in a detailed thermal bridge calculation as part of the building's energy balance, thermal bridge allowances of different sizes are shown.

For the two PVC profiles examined, the thermal bridge allowance is practically zero if the pure profile is considered, without the geometric thermal bridge.

For the three aluminium basebead profiles examined, there are significant thermal bridge allowances that have to be compensated by a greater insulation thickness.

Go to video

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2022 100 ONE HUNDRED YEARS

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