Xella

Multipor base insulation system

The approved non-combustible and

multipor

pressure-resistant base insulation system

Multipor base insulation system

Particularly efficient under the toughest conditions

The plinth of a house is exposed to strong thermal and mechanical stresses, for example from ground moisture, splash water, vermin or rodents. The demands on the insulation of this area are correspondingly high. The Multipor base insulation system more than fulfils these requirements. It is solid, weather-resistant and highly thermally insulating. It also belongs to building material class A2-s1,d0, non-combustible. In combination with Multipor façade insulation, this creates a uniform external thermal insulation composite system from the plinth to the roof, which eliminates thermal bridges and makes the installation of fire barriers unnecessary.

Fire protection is particularly important and required in underground car parks. If walls as well as ceilings are insulated, only non-combustible insulation materials may generally be installed. This applies to the entire wall surface including of the plinth area. As the wall base can also be exposed to water in an underground car park, a base insulation system that can withstand this water load is required. The approved Multipor plinth insulation system meets these requirements - non-combustible and moisture-resistant - in an underground car park.

Further areas of application for the Multipor plinth insulation board:

- Plinth area exposed to splash water in underground car parks and their escape routes
- Balconies and terraces
- Arcades
- Air ducts

The clean plinth - a seamless connection between the building and the floor

The advantages at a glance:

Base insulation system approved by the DIBt

Tested and officially confirmed resistance of the fully mineral, non-combustible plinth insulation system to the increased requirements in the plinth/splash water area. In combination with Multipor façade insulation, you get a uniform ETICS without changing materials.

Does not burn, does not smoulder, does not smoke - no fire barrier required The Multipor plinth insulation board belongs to building material class A1 and is non-combustible. In the event of a fire, toxic vapours, smoke or dripping are excluded.

Solid, dimensionally stable and safe from pests

Multipor plinth insulation boards are pressure-resistant (300 kPa), compression-free and extremely robust. They offer a high level of protection against rodents and insects.

Thermal insulation

The Multipor plinth insulation board is fully mineral, solid and highly thermally insulating with a rated thermal conductivity value of λ = 0.045 W/(mK).

Free from biocides

No biocides are used in the plinth version with the Multipor plinth insulation board.

Fully mineral, ecological and recyclable

The Multipor plinth insulation board is manufactured in an environmentally friendly way from the mineral base and raw materials lime, sand, cement and water, to which a pore-forming agent is added. Its ecological harmlessness is confirmed by independent environmental institutes. Multipor is completely recyclable.

Technical features and processing

Simple, safe and fast processing

Table 1: Product characteristics of Multipor base insulation board TOPbase M3	
Rules and regulations	European Technical Assessment ETA-05/0093
Dry bulk density	100 - 115 kg/m³
Compressive strength	≥ 300 kPa
Transverse tensile strength/adhesive tensile strength	≥ 80 kPa
Thermal conductivity	λ = 0.045 W/(mK) (rated value)
Water vapour diffusion resistance coefficient	μ = 3
Dimensions	600 x 390 mm; d = 100 - 240 mm (in 20 mm increments)
Material requirements	4.3 panels/m²

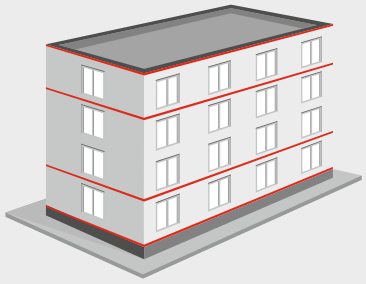
Table 2: Product characteristics of Multipor sealing slurry	
Delivery form	Bagged goods
Compressive strength	at least 15 N/mm²
Fresh mortar density	approx.1.83 g/cm³
Layer thickness: – Bonding – Reinforcement	 5.0 mm 4.0 - 5.0 mm
Consumption: – Bonding – Armouring	 approx. 6.25 kg/m² approx. 6.25 kg/m²
Processing temperature	+ 5°C to + 30°C
Weight per bag	25 kg
Pallet contents	49 bags

Save yourself the fire bars!

More stringent fire protection regulations - not an issue for Multipor ETICS

Various building authority approvals for external thermal insulation composite systems have been amended by the DIBt. These changes tighten the requirements, particularly with regard to the use of fire barriers with EPS insulation materials.

House façade with B1, flame-retardant insulation and fire barriers



Specifications for B1, flame-retardant insulation materials:

- Additional fire barriers (all round) at the base, above the ground floor and on the roof
- Basic dowelling of the fire bars of all systems
- Additional installation of fabric corner brackets for internal corners
- Plaster thickness (fabric levelling and finishing plaster) of at least 4 mm
- Full-surface bonding of the fire barriers - only with mineral mortar
- Valid for ETICS made of flame-retardant insulation materials up to 300 mm thick

Source: DIBt Newsletter 03/2015

House façade with non-combustible Multipor external thermal insulation composite system

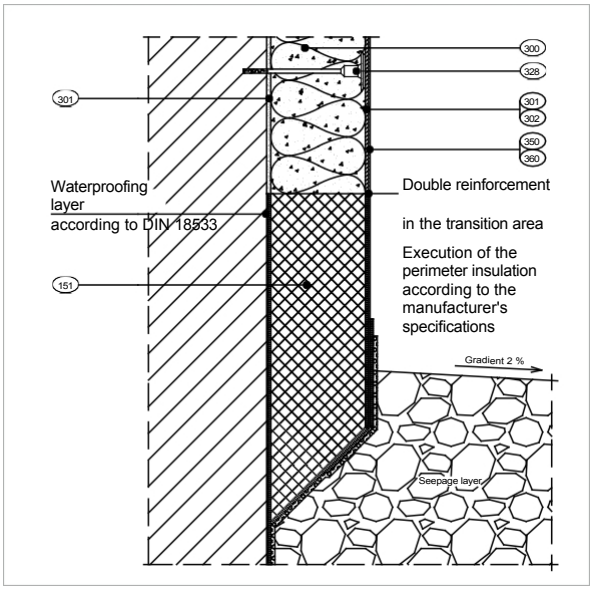
No fire barriers required - with Multipor!

A composite thermal insulation system with a uniform Multipor finish from the plinth to the roof is non-combustible, as the Multipor ETICS belongs to building material class A. The installation of fire barriers is not necessary.

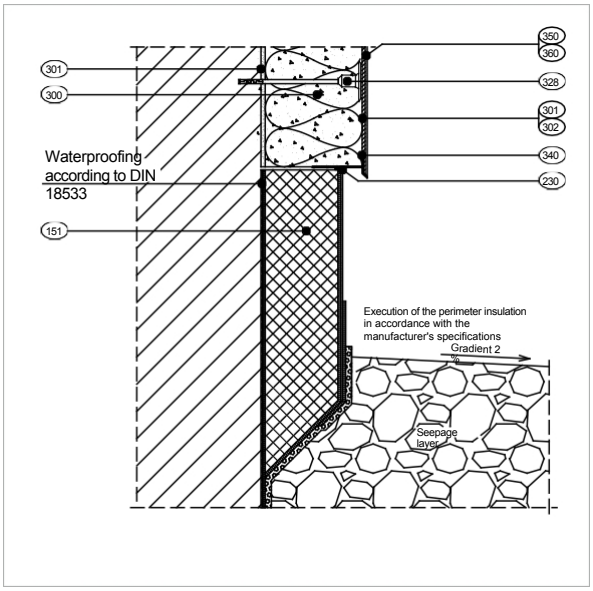
Advantages of Multipor ETICS:

- Does not burn, does not smoulder, does not smoke
- No change of material - no thermal bridges
- Standardised façade structure
- Efficient logistics
- Easy and safe to process

Examples of base insulation ETICS construction

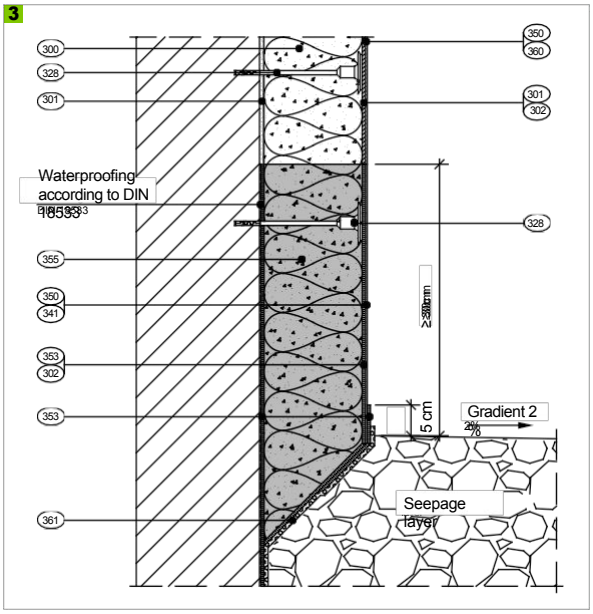


Transition to the plinth area (perimeter insulation)
ETICS flush with plinth - vertical section 19-032



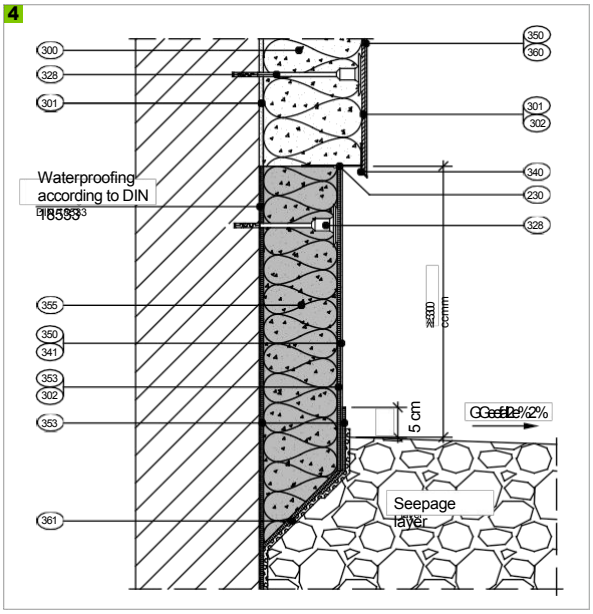
Connection to plinth area (perimeter insulation) with plinth insertion profile - recessed plinth - vertical section 19-033

3



Multipor plinth insulation - connection to ETICS and
Integration into the ground - flush plinth - vertical section 19-036

4



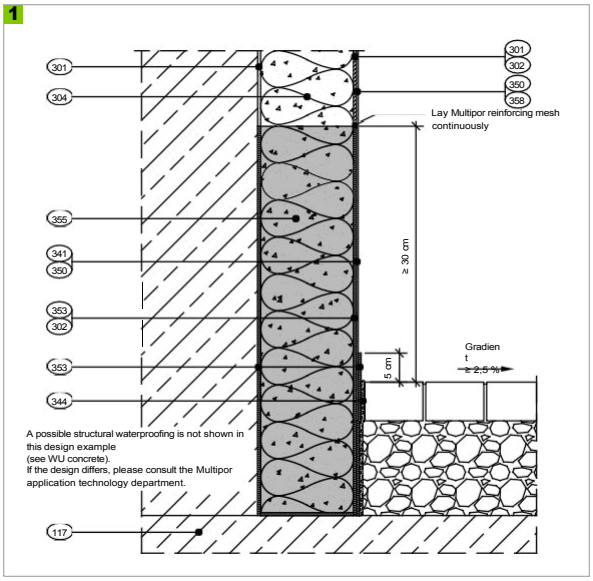
Multipor plinth insulation - connection to ETICS
(with base insertion profile) and integration into the ground
Recessed plinth - vertical section 19-037

Please note: Multipor plinth insulation may be installed to a maximum depth of one board width below ground level!

151 Perimeter insulation
230 Pre-compressed sealing tape
300 Multipor TOPwall M3
301 Multipor lightweight mortar (FIX X710)
302 Multipor reinforcing mesh 4 x 4 mm
328 Multipor shear plugs
340 Plinth end profile with drip edge
341 Base coat
350 Multipor finishing render or system-compatible Finishing plaster
353 Multipor sealing slurry
355 Multipor TOPbase M3
360 Multipor silicate facade paint
361 Dimpled sheet with sliding film

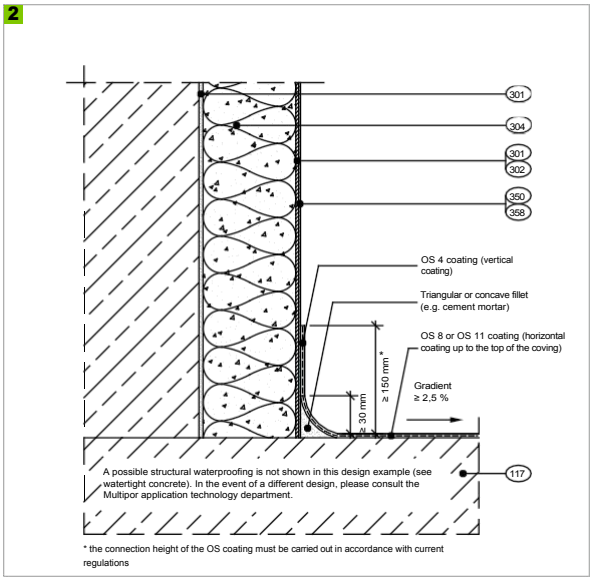
Examples of base insulation in underground car parks

1



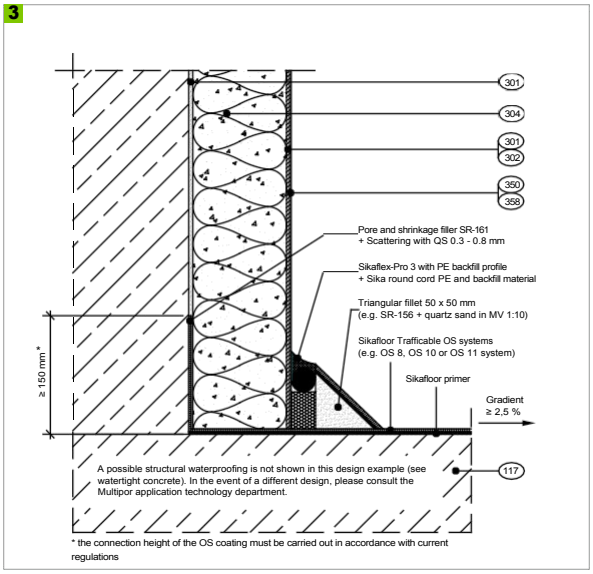
Wall-floor connection with Multipor skirting insulation system - Integration with permeable driving surface (e.g. paving) - Vertical section 16-029

2



Wall-floor connection underground car park with OS coating and Triangular/hollow fillet - vertical section 16-030

3



Wall-floor connection with Silka system - Vertical section 16-031

Please note: Multipor plinth insulation may be installed to a maximum depth of one board width below ground level!

117 Reinforced concrete ceiling
301 Multipor lightweight mortar (FIX X710)
302 Multipor reinforcing mesh 4 x 4 mm
304 Multipor TIPwall M4
341 Base coat
344 Dimpled film
350 Multipor finishing render (e.g. Multipor FIX X710)
353 Multipor sealing slurry
355 Multipor TOPbase M3
358 Multipor interior silicate paint

Processing instructions for plinth insulation

Substrate preparation
Before applying Multipor plinth insulation boards, the substrate must be prepared so that it is both load-bearing and clean and can absorb mineral sealing slurries.

If the existing building waterproofing also consists of mineral, flexible sealing slurries or mineral-bonded, two-component dispersion levelling compounds, the Multipor plinth insulation board can be applied directly to this substrate.

Bonding
The Multipor plinth insulation boards are always bonded with the mineral Multipor sealing slurry. This is mixed according to the instructions on the packaging.

Processing in the underground car park
When walls are insulated in an underground car park, non-combustible insulation materials are generally required. This requirement also extends to the base area of the insulated walls. The building authority-approved Multipor base insulation system fulfils this requirement 100% and ensures fire protection.

The floor surfaces and base areas of the rising wall surfaces are often coated with surface protection systems (OS systems) for protection. If such an OS system is present in the plinth area of a wall to be insulated, the OS system must be treated separately before the Multipor plinth insulation boards are bonded. For this purpose, a further layer of waterproofing is applied to the finished and set waterproofing (OS system) to absorb a quartz sand scattering. The fresh waterproofing layer is then sanded with an excess of fire-dried quartz sand with a grain size of 0.2 - 0.6 mm. After drying, the excess quartz sand must be removed. The Multipor plinth insulation boards are fully bonded to the substrate prepared in this way using Multipor sealing slurry. It is advisable to lay the insulation boards on edge. After the adhesive has hardened, the base insulation boards are dowelled at the top edge with an edge distance of at least 10 cm. Depending on the fire protection requirements, Multipor screw anchors or Multipor ceiling fasteners can be used for dowelling. Further processing is carried out as described above or can be taken from the corresponding design examples. For property-specific detailed solutions, please contact your area manager or Multipor Application Technology.

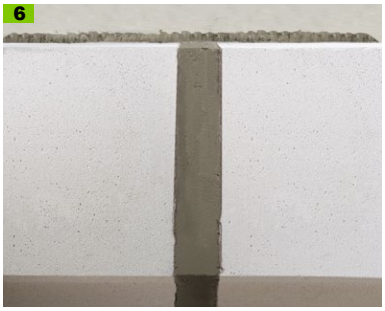
Mixing Multipor sealing slurry

Cut Multipor plinth insulation board at an angle

Apply Multipor sealing slurry over the entire surface with a 12 mm notched trowel

Press on Multipor plinth insulation board and float into place

Sand the surface



Pull sealing slurry over the joints

Insert Multipor screw anchors, fix Multipor plinth insulation board and leave to dry for 24 hours

For the reinforcement layer, apply Multipor sealing slurry to the Multipor plinth insulation board

Apply Multipor reinforcing mesh and plaster in place

Remove the reinforcement layer and allow to dry for 24 hours

Apply finishing plaster

Felting or texturing finishing plaster

Re-coat the area of the finishing render in contact with the ground with Multipor sealing slurry for moisture protection

Paint the plinth with water-repellent paint

Detailed processing information can be found in our Technical Information at www.xella.de

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Status 02/2024 | SYT-001-00103 | 2.500 | 02.24