Status: November 2025

Installation instructions Polyfin 5018 SK

General remarks

The long-term positional stability of a Polyfin 5018 SK roof waterproofing system depends primarily on the positional stability of the underlying layers (insulation, vapor barrier, old structures, etc.). If the positional stability here is not optimal or not suitable for transferring the wind loads that occur, even a highly stable bond of Polyfin Duo 5018 SK cannot secure the roofing in position.
It must also be ensured that all layers of the roof layer package located below the waterproofing are bonded to the substrate in a wind-resistant manner (with regard to the expected wind loads).
As a general rule, these specific processing instructions, which primarily relate to the bonding of the roofing membrane to the substrate, must always be viewed in conjunction with the current version of the general installation guidelines. These processing instructions supplement the general installation guidelines, but do not replace them.

Substrate requirements for bonding Polyfin 5018 SK:

- The wind suction resistance of the supporting shell is assumed.
- The additional layers of the roof layer build up built on the supporting shell must be bonded to the substrate in a suitable manner in accordance with the manufacturer's instructions to provide sufficient resistance to the wind suction loads to be assumed.
- Surfaces must be rubbed down, even, free of gravel pockets and foreign objects, and dry.
- In general, substrates must be free of loose components such as dust, cement slurry, etc. Contamination with other release agents such as formwork oils must also be avoided.
- All substrates to which the product is to be bonded must be dry and free of oil and grease.
- Absorbent substrates must be primed with an adhesion-promoting primer if necessary.
- Joints in concrete substrates, with the exception of expansion joints, must be mortared and rubbed smooth.

Processing temperature, weather conditions, and storage:

- For proper, reliable adhesion, a temperature of at least +8°C must be maintained. This applies to all materials involved in the bonding process (Polyfin® 5018 SK roofing membrane, but also the substrate to which it is to be bonded), as well as to the ambient temperature.
- If the roofing membrane is to be bonded at lower temperatures, appropriate protective measures must be taken to ensure that the above conditions are met. This can be achieved, for example, by storing the roofing membrane in a conditioned environment prior to processing and by enclosing the areas in which work is to be carried out (with heating if necessary).
- Unprocessed rolls must be protected from moisture.
- Unprocessed rolls must be protected from light. Prolonged exposure to light of unprocessed Polyfin® 5018 SK rolls can impair the adhesive properties of the SK layer on the outer winding.
- Higher outside temperatures can temporarily impair the removability of the protective film on the underside. The process is reversible, i.e., once the membranes have cooled down, the protective film is easier to remove again.

Substrate preparation, substrates suitable for bonding

Thermal insulation:
Often, the weakest point in a properly bonded system is NOT the bond between the roofing membrane and the insulation material. In most cases, wind suction resistance is limited by the internal tensile strength of the insulation material or by the adhesion or bonding of any laminates to the rigid foam or mineral fibers of the respective insulation board.
When bonding Polyfin® 5018 SK to insulation materials, the instructions and approvals of the respective insulation material manufacturers must therefore be observed.
Insulation boards must be laid tightly together and without any height differences.

EPS – expanded polystyrene: Polyfin® 5018 SK membranes can be bonded directly to DAA-quality EPS insulation materials without additional primer, provided they have a minimum compressive strength of 100

kPa at 10% compression (corresponds to “dm”). It is particularly important to ensure that the surface is free of dust and other loose particles. It may be necessary to sweep the surface in a suitable manner before applying Polyfin® 5018 SK.

PIR / PU – polyurethane and polyiso:
Aluminium foil faced: Bonding is only possible after prior consultation with Polyfin Application Technology on a project-specific basis. The insulation manufacturer's specifications must be observed.
Mineral tissue faced: An adhesive primer must be applied before bonding. The adhesive primer must be completely dry before bonding the Polyfin® 5018 SK membrane. The insulation manufacturer's specifications must be observed.
Unfaced: Uncovered PIR/PU insulation is unsuitable as a substrate for this application.
Mineral wool:
Rockwool Bondrock MV (mineral tissue faced), Rockwool Solar Rock and Rockwool Megarock: An adhesive primer must be applied before bonding. The adhesive primer must be completely dry before bonding the Polyfin® 5018 SK membrane. The insulation manufacturer's specifications must be observed.
Timberboarding and wooden derivates:
OSB/3 and OSB/4: An adhesive primer must be applied before bonding. The adhesive primer must be completely dry before bonding the Polyfin Duo® 5018 SK membrane.
An unadhered zone with a width of ≥ 5 cm and ≤ 10 cm must be created above the panel joints (“drag strip”), in which there is no adhesion between Polyfin® 5018 SK and the formwork.**Timber boarding (e.g. flute and chip boards):**
Polyfin® 5018 SK must not be bonded to board formwork.

Bitumen substrates (e.g. in case of roof refurbishments):
Elastomeric bitumen (SBS), Oxidized bitumen (gravel chip-coated, sand-coated, talc-coated): The substrate must be thoroughly cleaned and free of loose particles. An adhesive primer must be applied before bonding. The adhesive primer must be completely dry before bonding the Polyfin® 5018 SK membrane.
Plastomeric bitumen (APP): Plastomer bitumen membranes are not suitable as a substrate.
Mineral substrates, e.g., reinforced concrete:
Concrete substrates must be smooth, even, free of gravel pockets, burrs, and loose components such as surface cement slurry. It may be necessary to fill the substrate beforehand. An adhesive primer must be applied before bonding. The adhesive primer must be completely dry before bonding the Polyfin® 5018 SK membrane.

Notes on practical processing :

Bonding to the substrate:
Method a):
Roll out the sheet and align it. Then roll back about half of the sheet. Carefully cut the release film on the underside across the entire width and pull it off in the direction of installation as you roll back the sheet. Repeat the process with the other half of the sheet.
Press the sheet down firmly over the entire surface with a broom. Finally, press it down firmly over the entire surface, e.g., with a lawn roller filled completely with water and max. 60 cm wide.
Method b):
Unroll the membrane completely and align it. Pull out the release film from the side and press down the membrane as described in option a). Tip: It is best to work in pairs so that one person can secure the membrane against slipping while the other pulls out the release film from the side..

Seam overlap and cross joints:
The strips must always overlap by at least 8 cm in the area of seam overlaps.
Cross joints must be welded over with Polyfin Duo® 3018 or Polyfin® 3020 strips.

Seam joining and detail designs:
Further information on seam joining technology and detailed training in general can be found in the “Polyfin Installation Instructions.”

Connection to other roofing membranes and accessories from the Polyfin® product range:
Polyfin® SK sheets can be welded to products from the Polyfin® product family using hot air. This applies, for example, to molded parts such as inner and outer corners, collars for encasing penetrations such as lightning

protection connection flags and anchor points, but also to Polyfin composite sheets and drainage elements with 4020 v collars.

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