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Enkolit

Plastic Adhesive Compound

Application Instructions for Adhesive Bonding

Areas and types of use Material properties

ENKOLIT is used for bonding and sealing metal profiles and sheets (e. g. titanium zinc, copper, aluminium and stainless steel) to other building materials. The strengths achieved comply with DIN 1055. Neutral certificates for tests conducted on wall copings installed 30 years ago are available. When installing the metal sheets of facades and roofs over a large area level securing of the sheet surfaces in the visible area is improved by applying ENKOLIT in strips or partial areas.

ENKOLIT is a permanently plastic adhesive and sealing compound for straightforward bonding of window sill and wall copings. It is also suitable for fixing verges and eaves, flashings and metal claddings.

ENKOLIT is applied generously over the entire surface and therefore no cavities can occur. This prevents drumming noises caused by rainfall (sound insulation) and makes it impossible for insects to build their nests. At the same time ENKOLIT prevents corrosion damage caused by moisture forming on the underside of the metal sheets.

Even when freshly applied it does not run on vertical surfaces, provided that the application instructions are followed. Laboratory tests have shown that ENKOLIT is stable at temperatures up to + 110 °C.

ENKOLIT is resistant to industrial gases, salt water and seawater, red algae and plant roots as well as being fungicidal.

Substrate

Suitable substrates include masonry, natural and cast stone, plywood, fibrous cement, slate and phenolic resin-bonded chipboard. The substrate must be sound, dry and clean and should have no significant irregularities. Clean, sound surfaces do not require a priming coat. Sanding surfaces must be primed with VA-933. Loose and crumbling plaster and levelling layers must be renewed. In the case of perforated brickwork a levelling screed or chipboard fixed with plugs must be applied to give an uninterrupted bonding surface.

ENKOLIT must only be used on seasoned, dry wood in order to avoid cross sectional changes (distortion of the surface and consequently insufficient bonding surface). Inorganic wood preservatives containing salt are compatible.

When fixing metal sheets on metal a mechanical means of securing against slippage is necessary. ENKOLIT must be applied over the entire surface using the ENKE grooved spreader. The amount of 1.5 kg/m² must not be exceeded. In this

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case it is very important to pay attention to the application instructions.

Substrates that are not suitable for bonding with ENKOLIT:

- bitumen felt and other bituminous substrates because of the solvents that are included in ENKOLIT. They will partly destroy the cladding layer of the roofing felts with the result that bitumen may become fluid.
- plastic sheeting because of the solvents that are included in ENKOLIT. They will swell the plastic sheeting and the application and the bonding on the entire surface is impossible.
- non mineral heat insulation's made of e. g. Polystyrene because of the solvents that are included in ENKOLIT. They will destroy the heat insulation after some time.

ENKOLIT must be protected against mineral oils and organic solvents. Non bituminous sealing compounds (silicone, butyl, thiokol, acrylic, polyurethane compounds) are not compatible with ENKOLIT.

Because of the escaping solvents indoor use of ENKOLIT is impossible.

By using ENKOLIT for the bonding of window sills it is absolutely necessary that there is no chance for the solvents to evaporate into the interior because of their odour. In this case an additional sealing with silicone rubber has to be made.

Application temperature

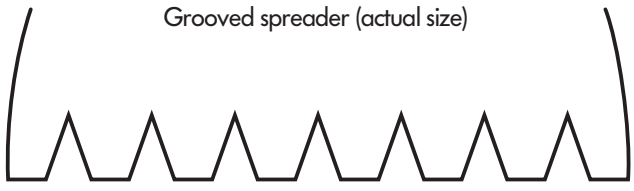
ENKOLIT should not be applied at temperatures below +5 °C or above +30 °C . If ENKOLIT is stored at too low a temperature it only slowly reaches the required application temperature in the bucket. If the outside temperature falls below +5 °C, especially at night, storage must be in a room where the temperature is higher. If ENKOLIT is too cold to be applied (<+5 °C) it can be brought up to temperature by placing the bucket in a water bath.

The materials to be bonded with ENKOLIT must also be at a temperature above +5 °C, but not higher than +50 °C.

At temperatures lower than +5 °C there is a danger of hoar frost forming on the metal surfaces which will prevent good adhesion.

Applying ENKOLIT

ENKOLIT must be applied over the entire surface using the ENKE grooved spreader (see diagram). The comb like method of applying ENKOLIT means that air can escape sideways when the metal sheets are placed and all over bonding is achieved. The grooves must all be made in the same direction (see diagram).



Important:
Enkolit must be applied to both surfaces when the areas to be bonded are more than 30 cm wide. In this case it is not necessary to double the amount of ENKOLIT. Distribute the required amount on both surfaces.

Amount

On a flat surface 2.5–3.0 kg/m^2 is required but on uneven surfaces the amount may have to be increased. A maximum of 5 kg/m^2 must not be exceeded because with summer temperatures (above +50 °C) there is a danger that the adhesive compound will slip before the solvents have had time to evaporate.

Working time

The components to be bonded can be joined together immediately after applying ENKOLIT but not later than 60 minutes after application.

Application of pressure

Pressure must be applied when the components to be bonded are joined together. For small components firm hand pressure is sufficient. Where possible it is also sufficient to stand on the joined components applying pressure slowly and uniformly.

Application on horizontal surfaces

When installing wall, fascia or parapet claddings made up of several individual sheets, a joint plate at least 10 cm wide, corresponding to the sheet profile, must be glued under the joints to ensure that water drains away. Continuous length of more than 6 m should be avoided by using expansion compensators or sliding seams. The space between the metal sheets on the joint plate depends on the expansion of the materials the metal sheets are made of. It is important that the metal sheets have no chance to push themselves up in the air.

Application on sloping and vertical surfaces

When metal sheets are installed to protect sloping surfaces a mechanical means of securing against slippage is necessary, i. e. mechanical fixing points. In the case of titanium zinc, for example, concealed cleats, cleat rails or the like are used. This eliminates unsightly screw head caps. Because of the overlapping of the metal sheets on sloping surfaces there will be no expansion problems.

On vertical substrates ENKOLIT must be applied to both surfaces, i. e. 1 to 1.5 kg/m^2 on each surface. The number of Fixing points must be increased by the use of sliding cleats, cleat strips or the like. For fascia and parapet claddings the normal number of cleats is used. The material bonded to the substrate must be pressed down very thoroughly after placing (refer to the Application of pressure).

Soldering

When i. e. titanium zinc is bonded with ENKOLIT, soldering to produce waterproof joints is normally unnecessary. If, however, a soldered joint is unavoidable for technical or structural reasons, this method of joining is still possible. In the areas where soldering is necessary ENKOLIT should not be applied so that the soldering points are free of ENKOLIT. But there should be only a few cm that are not covered with the compound.

Advice on safty

1. Do not eat or drink while working with ENKOLIT!

2. Odour development is possible – not suitable for indoor use!

Enkolit Technical Data

Sheet overhangs and thickness

Adhesive bonding with ENKOLIT, sheet thickness, max. sheet overhangs for buildings up to 50 m high to the eaves.

Sheet-metal components to be bonded	Material/min. sheet thickness (nominal) mm	Max. sheet overhang mm	Additional edge, sheet mech. secured
Wall/fascia cladding and the like (expansion compensators every 6–8 m)	Zn 0.7 Cu 0.7 Al 0.7 SS 0.4	≤ 30	no
	Zn 0.7 Cu 0.8 Al 0.7 SS 0.4	≥ 30	yes
	Zn 0.8[1)] Cu 0.7 Al 0.8 SS 0.5	≤ 60	no
	Zn 1.0[1)] Cu 1.0 Al 1.0	≤ 100	no
Window sill claddings	Zn 0.7[2)] Cu 0.7[2)] Al 0.7 SS 0.4	≤ 40	no
	Zn 0.8[1)] Cu 0.8[1)] Al 0.8 SS 0.5	≤ 60	no

1) If edge sheets with mechanical securing are installed the sheet thicknesses can be reduced and the max. overhangs increased.

2) If edge sheets are used as above the max. overhangs can be increased.

All the information given is based on practical experience and careful testing. The user has an obligation to carry out adequate tests to ensure that the use of ENKOLIT is suitable for his particular purpose. Successful results depend on careful and correct use. Since the manufacturer has no influence over this, the warranty can only be given for the perfect condition of the product itself; incorrect application and any resulting damage are expressly excluded from this warranty.

Enke
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