



Ice^{ma}® R 145/31 S

- Type of Adhesive** Solvent-free moisture cure one-component polyurethane adhesive, flame retardant.
- Product Benefits** Very good adhesion to pre-treated metals, plastics, wood and cement-bound materials.
- Typical Applications** Bonding for different kinds of assembly work.
- Suitable substrates** Galvanised steel, high-grade steel, undercoated steel, aluminium, non-ferrous metals; plastics such as DKS, PS, GF-polyesters, rigid PVC, ABS; wood and cement-bound materials.
Due to the large number of different areas of application and possible differences in the adhesion behaviour, testing is required before use in production.

Typical Properties

Property	Value
Colour	Yellow
Density at 20°C	approx. 1.10 g/cm ³
Viscosity at 20°C	approx. 7360 mPa.s
Shelf life	12 months



Application Instructions

Application Temperature: at least 10°C

Open time (20°C, 50% relative humidity):

- without spraying water: approx. 45 minutes
- with spraying water: approx. 15 minutes

Consumption: 100 – 200 g/m², according to the type of application.

General:

The adhesive cross-links with moisture to form a solid, permanently elastic film. Although the water vapour in the ambient air and the parts to be bonded may already be sufficient for this process, water is usually sprayed onto the bonding site. Analyses on the influence of temperature and humidity on the solidity of a completely cured bonding have to be done respecting the specific application.

More moisture and higher temperatures accelerate the crosslinking process and therefore influence the shelf life, open time and curing time of the adhesive. The times indicated in this data sheet are therefore only guidelines, which may vary according to the existing conditions.

Special attention:

Carbon dioxide forms during the curing reaction so that the adhesive foams to a varying degree, depending on the amount applied, the type of bond line, the temperature and the applied pressure. This property is desired for many applications and is a special advantage. In particular cases, foaming may however be disadvantageous or exclude the use of the adhesive.

The foam that develops in the bond line when bonding porous materials normally penetrates the underground quite independent of the processing viscosity. This is also effective for EPS HR-foam, as long as the viscosity is less than 8000 mPa*s (20 °C). Homogeneous penetration is no longer guaranteed for higher viscosities. Visible bulges may very likely form on the top layer. With the glueing of dense materials, e.g. aluminium sheet with extruded polystyrene HR-foam, there is generally the risk of bulges to appear, as the foaming adhesive cannot expand freely. A possible solution are ventilation slots that are cut 1 – 2 mm deep into the HR-foam.



Instructions for Application:

This product is applied to one side. The following methods are suitable for application: hand rollers, toothed trowel, rolling machines, the "Lutzke spinning technique" or the "airless air-combi" spraying technique. When applied by spraying, exhausting is necessary.

Addition of Moisture:

To accelerate curing and gain independence from the varying degrees of moisture available, water is sprayed onto the coated adhesive film. In some cases the opposite side may also be sprayed. Usually 5 – 10% of the applied adhesive is sufficient.

Pressing Times:

The pressing times required are completely dependent on the temperature and degree of moisture available. The following are standard values if water is sprayed onto the bonding site:

- at 20°C approx. 90 minutes
- at 40°C approx. 60 minutes
- at 60°C approx. 30 minutes

With these times, a strength is reached which allows further working of the parts. The final strength is reached after several days.

Exact times for special applications must be determined individually, as they may vary due to existing conditions. Ask for our advice on this.



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TECHNICAL DATA SHEET

Cleaning Instructions	Please contact your local Sales Office for available cleaning solutions.
Typical Packaging	Please contact your local Sales Office for available packaging options.
Storage Conditions	In original sealed packaging protected from sun, dust, moisture and high temperatures. Clean and dry conditions above -25°C and below +30°C.
Disposal Advice	Please refer to the MSDS for disposal instructions.
Safety Advice	Please refer to the MSDS for safety advice.

Our Focus is Clear. Perfecting Adhesives.

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