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## ICEMA® R 145 Professional

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<b>TYPE OF PRODUCT:</b>	Solvent-free moisture cure one-component polyurethane adhesive
<b>AREAS OF APPLICATION:</b>	Bonding for different kinds of assembly work. <b>ICEMA® R 145 Professional</b> has very good adhesion to pre-treated metals such as galvanised steel, high-grade steel, undercoated steel, aluminium, non-ferrous metals, as well as thermosetting plastics, DKS, PS, GF-polyesters, hardened PVC, ABS, wood and cemented materials.
<b>REMARKS:</b>	Due to the large number of different areas of application and possible differences in the reaction of the bond, testing is required before use in production.
<b>TECHNICAL DATA:</b>	
DENSITY (20 °C):	approx. 1.12 g/cm <sup>3</sup>
VISCOSITY ( 20 °C):	approx. 7000 mPas
OPEN TIME:	
(20 °C, 50% relative humidity)	
without spraying with water	approx. 40 minutes,
after spraying with water	approx. 16 minutes.
COLOUR:	yellow
HAZARD. GOODS CLASSIF.:	see Safety Data Sheet
DILUENT:	no diluent necessary
CLEANING AGENT:	ISA-Verdünner 1 (for cleaning equipment)
USE:	100 - 200 g/m <sup>2</sup> , according to type of application
APPLICATION TEMP.:	at least 10 °C
SHELF LIFE:	12 months in a dry environment between -25 °C and +30 °C in unopened cartridges and containers. Protect from moisture. Opened containers must be closed airtight and used up as soon as possible.

## INSTRUCTIONS FOR USE

### General

**ICEMA® R 145 Professional** crosslinks in the presence of moisture to form a solid, permanently elastic film. Although the water vapour in the ambient air and 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 glueing are to be conducted with respect to the specific application.

More moisture and higher temperatures accelerate the crosslinking process and therefore influence the shelf life, open wet 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, the temperature and the pressure exerted. This property is desired for many applications and is a special advantage of this adhesive. In certain individual applications foaming may however be disadvantageous or render the adhesive unsuitable.

The foam that develops in the glue joint when bonding together porous materials normally penetrates the underground quite independent of the processing viscosity. This also holds true for EPS HR-foam, as long as the adhesive still features a processing viscosity of less than 8000 mPas (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 liability 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

**ICEMA® R 145 Professional** is applied to one side of the bond. The following 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, suction ventilation is absolutely necessary.

### Addition of Moisture

To accelerate curing and gain independence from the varying degrees of moisture available, a fine spray of water is usually supplied to the bonding site.

Although water is sprayed in most cases onto the coating film of adhesive, in some cases the opposite side may also be sprayed. Usually 5 – 10% of the applied adhesive is sufficient.

### Assembling and Pressing

The parts may be assembled and pressed immediately after applying the adhesive and spraying it with water. This must take place within the open wet time. The parts should continue to be pressed until the adhesive has cured to ensure the closest contact of the

bonding surfaces. The amount of pressure required and the type of pressing process employed is largely determined by the type and size of the parts to be bonded, since the adhesive itself does not require pressure in order to cure and the pressure only serves to hold the bonding parts together.

### 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,
	+ 40 °C	approx. 60 minutes,
	+ 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 individually determined, as they may vary due to existing conditions. Ask for our advice on this.

**STATUS:** 15.04.2010 (replaces all prior editions)

Issued by: Reactive Lab Europe

**PRINTED ON:** 15.04.2010

### Please note :

The information, specified in this Product Information, is based on careful laboratory tests and prevailing practical experience.

The information is not binding, which is also generally true for our practical customer service, given verbally, in writing and by tests, since, on account of the versatility of applications and use, also including possible industrial property rights of third parties, we cannot assume any responsibility.

Analysis results and all information regarding state and suitability of our products are only guidelines with no obligation on our part, unless they have been guaranteed expressly in writing, and above all do not represent a guarantee for specific properties.

We advise determining the suitability of our products with respect to their suitability for the intended use and application technology by adequate further testing.

In addition to the above, our General Sales and Delivery Conditions are applicable.

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