H.B.Fuller Austria GesmbH

PRODUCT INFORMATION

ICEMA â R 145/88

TYPE OF PRODUCT:

Solvent-free moisture curing one-component polyurethane adhesive

AREAS OF APPLICATION:

Bonding of different kinds of assembly work. **ICEMA Ó R 145/88** 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, rigid PVC, ABS, wood and cemented materials.

REMARKS:

Due to the large variety of different materials, applications and possibly resulting differences in the adhesion properties, an adhesion test is mandatory before introducing the adhesive into the actual production process.

TECHNICAL DATA:

DENSITY (20°C):	approx. 1.50 g/cm^3
VISCOSITY (20°C):	approx. 140000 mPas
OPEN TIME:	
(20°C, 50% relative humidity)	
without spraying with water	approx. 5 minutes,
after spraying with water	approx. 2 minutes.
COLOUR:	white
HAZARD. GOODS CLASSIF.:	see Safety Data Sheet
DILUENT:	no dilute necessary
CLEANING AGENT:	ISA-Verdünner 1 (for cleaning equipment)
USE:	100 - 200 g/m^2, according to type of application
APPLICATION TEMP.:	at least 10°C
SHELF LIFE:	6 months in a dry environment between +5°C and +25°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 145/88 cross-links in the presence of moisture to form a solid, permanently elastic film. Although the water vapour in the ambient air and parts 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 strength of a completely cured glue are to be carried out with respect to the specific application.

More moisture and higher temperatures accelerate the cross-linking 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 guide numbers which may vary according to the existing conditions.

Some advice:

Carbon dioxide is formed during the curing reaction so that the adhesive foams to a certain 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 exclude this type of adhesive.

The foam developing in the glue joint, when bonding together porous materials, normally penetrates the underground quite independently of the processing viscosity. This also holds true for EPS rigid-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 bonding of dense materials, e.g. aluminium sheet with extruded polystyrene rigid foam, there is generally the liability of bulges to appear, as the foaming adhesive cannot expand freely. A possible solution are ventilation slots cutting 1-2 mm deep into the rigid-foam.

Instructions for Application

ICEMA® R 145/88 is applied to one side in a strip and if necessary further spread using a toothed trowel.

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. Approximately 30 g/m^2 of water 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 a close 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 required pressing times depends completely on the temperature and degree of available moisture. The following are standard values if water is sprayed onto the bonding site:

At + 20°C approx. 10 minutes,

+ 40°C approx. 5 minutes,

+ 60°C approx. 3 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.

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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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