

Advanced Materials**RenCast[®] 5146 Isocyanate / RenCast[®] 5146 Polyol**

CASTING RESIN
 MASS CASTING POLYURETHANE SYSTEM

KEY PROPERTIES

- **Mass casting system used in combination with Filler DT 082**
- **Low exotherm and minimal shrinkage, even in thick sections**

APPLICATIONS

- Sheet metal forming tools for steel and aluminium
- Negative moulds and tooling fixtures
- Large volume moulds for the ceramics industry

PRODUCT DATA

Property	Unit	RenCast [®] 5146 Isocyanate	RenCast [®] 5146 Polyol
Appearance Colour	visual	Liquid Light yellow	Liquid Opaque beige
Viscosity at 25°C	m Pa s	16 - 25**	1700 - 2100**
Density	g/cm ³	1.2	1.1

*** Specified data are on a regular basis analysed. Data which is described in this document as 'typical' is not analysed on a regular basis and is given for information purposes only. Data values are not guaranteed or warranted unless if specifically mentioned.*

TYPICAL SYSTEM DATA**PROCESSING**

Mix ratio	Parts by weight (Unfilled, face casting up to 20 mm)	Parts by weight (Filled, full casting to 300 mm)
RenCast [®] 5146 Isocyanat	80	80
RenCast [®] 5146 Polyol	100	100
Filler DT 082	-	360 - 420

Mix the Isocyanat and Polyol components thoroughly in the ratio indicated. Then mix the filler thoroughly into the A/B mix in the ratio indicated. Degassing the material prior to cure and post curing the mix will improve final properties.

For Mass Casting Options, please refer to publication no.

PROPERTIES

Resin/Hardener mix:	Volume	Unit	RenCast [®] 5146 Isocyanate RenCast [®] 5146 Polyol (unfilled)	RenCast [®] 5146 Isocyanate RenCast [®] 5146 Polyol Filler DT 082
Appearance			thin, milky liquid	high-viscosity cream liquid
Viscosity at 25°C		mPa s	1500 - 2000	Thick pourable paste
Pot life at 25°C	3kg	min	30 - 40	40 - 50
Max. Layer thickness		mm	20	
Demoulding time		h	8 - 14	15 - 20

After cure: 7 days at 25°C or 14 hours at 40°C

Density	ISO 1183	g/cm ³	1.2	1.6
Hardness	ISO 868	Shore D	80	85
Coefficient of thermal expansion	ISO 11359	10 ⁻⁶ K ⁻¹	100	45
Deflection temperature	ISO 75	°C	75 - 80	75 - 80
Compressive strength	ISO 604	MPa	85 - 90	90 - 95
Compressive modulus	ISO 604	MPa	3000	9500
Linear shrinkage		mm/m	2.0	0.6

STORAGE

Provided that RenCast[®] 5146 Isocyanate and RenCast[®] 5146 Polyol are stored in a dry place in their original, properly closed containers at the storage temperatures mentioned in the MSDS they will have the shelf lives indicated on the labels. Partly emptied containers should be closed immediately after use.

WORKING CONDITION

The product should be used when within the temperature range 18-25°C and should not be used in high humidity. Shake the B component prior to use.

PACKAGING

System	RenCast [®] 5146 Isocyanate	RenCast [®] 5146 Polyol	Filler DT 082
Quantity and Weight	20 kg	25 kg	15 kg

HANDLING PRECAUTIONS

Caution

Our products are generally quite harmless to handle provided that certain precautions normally taken when handling chemicals are observed. The uncured materials must not, for instance, be allowed to come into contact with foodstuffs or food utensils, and measures should be taken to prevent the uncured materials from coming in contact with the skin, since people with particularly sensitive skin may be affected. The wearing of impervious rubber or plastic gloves will normally be necessary; likewise the use of eye protection. The skin should be thoroughly cleansed at the end of each working period by washing with soap and warm water. The use of solvents is to be avoided. Disposable paper - not cloth towels - should be used to dry the skin. Adequate ventilation of the working area is recommended. These precautions are described in greater detail in the Material Safety Data sheets for the individual products and should be referred to for fuller information.

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