

Advanced Materials

RenCast[®] FC 55 Isocyanate / FC 55 Polyol

CASTING RESIN
QUICK SETTING POLYURETHANE SYSTEM

KEY PROPERTIES

- Low viscosity, for gravity or vacuum casting
- Fast de-moulding time
- Opaque neutral product
- Can be coloured using a wide range of colour pigments

APPLICATIONS

- Prototype components
- Scale models
- Templates

PRODUCT DATA

Property	Unit	RenCast [®] FC 55 Isocyanate	RenCast [®] FC 55 Polyol
Appearance Colour	visual	Liquid Amber	Liquid Transparent
Viscosity at 25°C	mPa s	30 - 50**	80 - 170**
Density	g/cm ³	1.13	1.0

*** 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 purpose only. Data values are not guaranteed or warranted unless if specifically mentioned.*

TYPICAL SYSTEM DATA

PROCESSING

Mix ratio	Parts by weight (unfilled system)	Parts by weight (filled)
RenCast [®] FC 55 Isocyanate	100	100
RenCast [®] FC 55 Polyol	100	100
Filler DT 082		300

Mix the two components thoroughly in the ratio indicated.
Degassed material will improve properties. Post-curing will improve final properties.

PROPERTIES

Resin/Hardener mix:	Volume	Unit	FC 55 Isocyanate FC 55 Polyol Unfilled	FC 55 Isocyanate FC 55 Polyol Filler DT 082
Appearance		visual	Beige unfilled	Beige filled
Viscosity at 25°C		mPa s	60	paste
Pot life at 25°C	(1000 ml)	min	2 - 3	4-6
Max. Layer thickness		mm	10	60
Demoulding time		min	20 - 30	60

After cure: 7 days at RT or 14 hours at 80 °C

	ISO 1183	g/cm ³	1	1.6
Density	ISO 1183	g/cm ³	1	1.6
Hardness	ISO 868	Shore D	70 - 75	80 - 85
Deflection temperature	ISO 75	°C	85	90
Compressive strength	ISO 604	MPa	35	43
Compressive modulus	ISO 604	MPa	900	2200
Flexural strength	ISO 178	MPa	37	26
Linear shrinkage @ 5 mm		mm/m	5.2	1.4
Linear shrinkage @ 10 mm		mm/m	-	1.7
Linear shrinkage @ 20 mm		mm/m	-	2.6

STORAGE

Provided that RenCast[®] FC 55 Isocyanate and RenCast[®] FC 55 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 CONDITIONS

The product should be used when within the temperature range 18-25°C. Shake the unfilled and stir the filled system.

PACKAGING

System	RenCast [®] FC 55 Isocyanate	RenCast [®] FC 55 Polyol
Quantity and Weight	4 x 4.5 kg	4 x 4.5 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.

Huntsman Advanced Materials

(Switzerland) GmbH
Klybeckstrasse 200
4057 Basel
Switzerland

Tel: +41 (0)61 299 11 11
Fax: +41 (0)61 299 11 12

www.huntsman.com/advanced_materials
Email: advanced_materials@huntsman.com



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