

**Advanced Materials****RenCast<sup>®</sup> FC 53 Isocyanate / FC 53 Polyol**

CASTING RESIN  
QUICK SETTING POLYURETHANE SYSTEM

**KEY PROPERTIES**

- Low viscosity, unfilled for gravity and vacuum casting
- Can be cast in layers up to 10mm thickness
- Fast de-moulding time
- Opaque neutral colour for making any colour
- Can be filled with all types of dry fillers/pigments

**APPLICATIONS**

- Casting prototype components, scale models, templates
- With added filler: rapid impressions, negatives

**PRODUCT DATA**

Property	Unit	RenCast <sup>®</sup> FC 53 Isocyanate	RenCast <sup>®</sup> FC 53 Polyol
Appearance Colour	visual	Liquid Amber	Liquid Amber
Viscosity at 25°C	mPa s	30 - 70	65 - 75
Density	g/cm <sup>3</sup>	1.12	0.95

**PROCESSING**

Mix ratio	Parts by weight (unfilled system)	Parts by weight (filled)
RenCast <sup>®</sup> FC 53 A	100	100
RenCast <sup>®</sup> FC 53 B	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 53 Isocyanate FC 53 Polyol Unfilled	FC 53 Isocyanate FC 53 Polyol Filler DT 082
Appearance		visual	Beige unfilled	Beige filled
Viscosity at 25°C		mPa s	80	Paste
Pot life at 25°C	(1000 ml)	min	3 - 4	5-6
Max. Layer thickness		mm	10	60
Demoulding time		min	30 - 40	60-90

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

Density	ISO 1183	g/cm <sup>3</sup>	1.1	1.6
Hardness	ISO 868	Shore D	70 - 75	80 - 85
Deflection temperature	ISO 75	°C	85	90
Compressive strength	ISO 604	MPa	41	44
Compressive modulus	ISO 604	MPa	1150	2400
Flexural strength	ISO 178	MPa	41	34
Linear shrinkage @ 5 mm		mm/m	3.4	0
Linear shrinkage @ 10 mm		mm/m	6.4	0.3
Linear shrinkage @ 20 mm		mm/m		1

**STORAGE**

The resin and hardeners described in this instruction sheet have the shelf lives shown provided they are stored at 6 - 28°C in a dry place and sealed containers, preferably those in which they are supplied.

**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 <sup>®</sup> FC 53 Isocyanate	RenCast <sup>®</sup> FC 53 Polyol
Quantity and Weight	1 x 20 kg	1 x 20 kg
Quantity and Weight	1 x 5 kg	1 x 5 kg
Quantity and Weight	4 x 1 kg	4 x 1 kg
Filler DT 082 Multipacks of 6 x 1.5 kg and 15 kg containers		

**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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