

U RESIN LM83D



U RESIN LM83D is a two component, UV stable, low viscosity water clear polyurethane system with a long pot life. The product has been designed to produce cast elastomers with high definition and excellent clarity.

The low viscosity and shrinkage enables the production of quality parts with excellent detail. Selected dyes such as the Reactint range can be used with U RESIN LM83D to obtain clear, coloured parts.

PROFILE:

	ISOCYANATE PREPOLYMER (A)	POLYOL CURATIVE (B)
Specific Gravity @ 25°C	1.02	1.05
Viscosity (cps)	2000	350-500
Appearance	Water Clear Liquid	Cloudy Straw Colour Liquid

	ISOCYANATE PREPOLYMER (A)	POLYOL CURATIVE (B)	MIXED
Ratio (weight)	100	37.6	
Recommended % Theory			90
Temperature			20-30
Pot Life (mins)			16-24
Post Cure @ 25°C (days)			7
Mould Temperature (°C)			50
Cure @50°C (hrs)			6-8
Shore Hardness (D)			83 ± 3
Tensile Strength (MPa)			59
Angle Tear Strength (kN/m)			160
Elongation (%)			10
Izod Impact Strength (kJ/m ²)			7
Cured Specific Gravity (g/cm ³)			1.15

The above results are based on 146 gram of mixed sample at 25°C. NOTE: When material is cast over thickness of 20mm it can appear slightly yellow. Heating the mould to 50°C and then pouring the U RESIN LM83D into the mould will enable a faster de-mould time.

APPLICATION

U RESIN LM83D can be used in applications such as prototype parts, display devices and lens materials.

MOULDING MATERIALS

Any of the U RESIN optically clear products can be poured into a urethane mould that has been prepared with an appropriate release agent. The U RESIN optically clear products can be used in silicone moulding materials but they must be addition-cured silicones.

U RESIN LM83D must be tested in the relevant silicone to check for compatibility.

Post curing the U RESIN optically clear product at 40-50°C for 6-8 hours can improve the surface finish.

NOTE: Both Part A and Part B components are moisture sensitive. Once opened, containers should be purged with nitrogen, if they are to be stored for a period of time. Part A should be clear, if it goes cloudy warm to 40°C for 1-2 hours until it goes clear.

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PROCESSING PROCEDURE

U RESIN LM83D products can be processed by hand or suitable polyurethane dispensing equipment. Do not cast this material when the Part A or Part B temperature is below 20°C as it will take too long to cure.

U RESIN LM83D must be cured in a room where the temperature does not drop below 20°C. This material will not reach its full physical properties unless it is given some heat curing in the oven, see above recommendations.

1. Weigh the correct amount of Part A into a container and degas at -95 kpa of vacuum or until excessive foaming stops.
2. Part B should be added to Part A and mixed thoroughly. Be careful not to entrap air whilst mixing. The product will go cloudy in the initial mixing stage and then will go clear after a few minutes. The mixed product can be degassed at -95 kpa of vacuum if required.
3. Pour the mixed material into moulds that are at 25°C. Allow the material to set at room temperature for 1-2 hours before beginning the post cure at an elevated temperature. Prepare the mould with a suitable release agent if casting de-mouldable parts.
4. Allow casting to cure before de-moulding.

NOTE: PART B must be completely stirred mechanically before use.

ADHESION

Adhesion of U RESIN based elastomers to various substrates is at best marginal if a primer is not used. Please consult U RESIN for specific recommendations to improve adhesion.

HANDLING PRECAUTIONS

Read and understand the product material safety data sheet (MSDS) before using this product.

U RESIN LM83D should be used in well-ventilated area.

Avoid breathing in vapours and protect skin and eyes from contact. In case of skin contact, immediately remove excess, wash with soap and water.

In case of eye contact, flush with water for at least 15 minutes.

If nose, throat or lungs become irritated from inhaling vapours, remove exposed person to fresh air. Call a physician.

The information contained herein is true and accurate, based on laboratory conditions. It is recommended that the user contact the manufacturer to confirm suitability as field conditions may vary and yield different results. Testing of this product is strongly recommended to confirm suitability for specific applications. Data should not be used for specification purposes.

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