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# TECHNICAL DATA

## Erapol RN50D

*HIGH PERFORMANCE POLYESTER POLYURETHANE*

**Erapol RN50D** is an isocyanate-terminated polyester based urethane prepolymer. It is formulated for use with MOCA curative. It features a longer gel time than Erapol RN3050 for easier processing.

**Erapol RN50D** elastomers provide properties generally not available with rubbers, plastics or metals. They show improved solvent and oil resistance and better thermal stability than most general-purpose rubbers and plastics. Other outstanding properties include high abrasion and tear resistance, excellent load-bearing capacity, toughness and resiliency.

### PRODUCT SPECIFICATIONS

<b>Colour</b>	Clear, Light Amber
<b>%NCO</b>	5.1 ± 0.2
<b>Viscosity at 80°C (cP)</b>	1200 - 1800

### MIXING AND CURING RECOMMENDATIONS

	<b>RN50D / MOCA</b>	<b>RN50D / Ethacure 300</b>	<b>RN50D / Eracure 110</b>
<b>Mix ratio (RN50D / curative)</b>	100 / 15.4	100 / 12.4	100 / 13.1
<b>Recommended percent theory</b>	95	95	95
<b>Prepolymer temperature (°C)</b>	80	65	65
<b>Curative temperature (°C)</b>	100 - 110	25 - 30	25 - 30
<b>Potlife* (minutes)</b>	2	2	2
<b>Demould time at 100 °C (hours)</b>	1	1	1
<b>Post cure time at 100 °C (hours)</b>	16	16	16

\* Pot life based on a 200g sample, prepolymer at 80°C, MOCA at 100°C, Ethacure 300 and Eracure 110 at 25°C.

\*\* Demould time based on a 200g rectangular slab. Demould time will depend on the size and shape of the cast part, the mould temperature and the curing temperature.

This information is of general nature and is supplied without recommendation of guarantee. It does not make claim to be free from patent infringement. Properties shown are typical and do not imply specification tolerances. Era Polymers cannot accept liability for loss or damage through use. Whilst these technical details are based on expert knowledge, practical experience and laboratory testing, successful application depends upon the nature and conditions in which the products are supplied. Users must, by comprehensive testing, evaluate this product in their own application.

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## TYPICAL CURED PROPERTIES

Properties presented below are based on several determinations and are not intended for specification purposes.

	<b>RN50D / MOCA</b>	<b>RN50D / Ethacure 300</b>	<b>RN50D / Eracure 110</b>
<b>Hardness (Shore D)</b>	50 ± 3	45 ± 3	45 ± 3
<b>Tensile strength (MPa)</b>	54.1	50.7	49.4
<b>100% Modulus (MPa)</b>	9.2	8.4	8.6
<b>300% Modulus (MPa)</b>	17.4	12.1	12.3
<b>Elongation (%)</b>	550	650	660
<b>DIN Abrasion resistance (mm<sup>3</sup>)</b>	70	-	-
<b>DIN resilience (%)</b>	29	28	28
<b>Angle tear strength (Die C, kN/m)</b>	124	121.3	123.5
<b>Trouser tear strength (kN/m)</b>	49	55.8	57.2
<b>Compression Set (22 hours @ 70 °C)</b>	30	-	-
<b>Cured density (g/cm<sup>3</sup>)</b>	1.28	1.27	1.27

## RECOMMENDED PROCESSING PROCEDURE

1. Heat pre-weighed amounts of **ERAPOL RN50D** to 80-100°C and degas at 1-5 mm of vacuum for at least 5 minutes or until excessive bubbling stops. Containers should be unlined metal, plastic or glass and should be large enough to allow for foaming during degassing.
2. MOCA must be melted at 120°C prior to mixing. Ethacure 300 and Eracure 110 can be used at room temperature. After adding curative, mix thoroughly and degas at 1-5 mm for 1 to 2 minutes.
3. Pour mixed system into moulds, preheated to 100°C, which have been coated with **Salease** mould release or equivalent.
4. Cure in accordance with above recommendations.

## ADHESION

Adhesion of **Erapol** elastomers to various substrates is at best marginal if a primer is not used. Please consult Era Polymers for specific recommendations to improve adhesion.

## HANDLING PRECAUTIONS

Consult the product's material safety data sheet (MSDS) for specific hazard and handling information before use.

**Erapol RN50D** contains small amounts of free TDI. The product should be used in well-ventilated areas. Avoid inhaling vapours and protect skin and eyes from contact.

In case of skin contact, immediately remove excess, wash with soap and water. For eye contact, immediately flush with water for at least 15 minutes.

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

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