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AUSTRALIA
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Erapol L-RN50D

HIGH PERFORMANCE POLYESTER POLYURETHANE

TECHNICAL DATASHEET

Erapol L-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. Additionally, **Erapol L-RN50D** is a lower free TDI version of Erapol RN50D.

Application

Erapol L-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 Specification

Color	Clear, Light Amber
% NCO	5.10 ± 0.20
Viscosity at 176°F (80°C) (cps)	1200 – 1800

Mixing and Curing Conditions

		L-RN50D / MOCA	L-RN50D / Eracure 300
Erapol L-RN50D	(pph)	100	100
MOCA level	(pph)	15.4	–
Eracure 300 level	(pph)	–	12.4
Recommended % Theory		95	95
Erapol Temperature	°F (°C)	167 - 185 (75 - 85)	149 (65)
Curative Temperature	°F (°C)	230 – 248 (110 – 120)	77 – 86 (25 – 30)
Pot Life *	(mins)	4.5 – 6	4.5 – 6
Demold Time at 212°F (100°C) **	(hrs)	1 - 2	1 - 2
Post Cure Time at 212°F (100°C)	(hrs)	16	16

* Pot life based on a 200g sample, prepolymer at 176°F, MOCA at 212°F and Eracure 300 at 77°F.
** Demold time based on a 200g rectangular slab. Demold time will depend on the size and shape of the cast part, the mold temperature and the curing temperature.

Physical Properties

Properties presented below are to be used as a guide and not intended for specification purposes.

		L-RN50D / MOCA	TEST METHOD
Hardness	(Shore D)	50	ASTM D2240
Hardness	(Shore A)	96	ASTM D2240
Tensile Strength	psi (MPa)	8369 (57.7)	ASTM D412
100% Modulus	psi (MPa)	1523 (10.5)	ASTM D412
200% Modulus	psi (MPa)	2103 (14.5)	ASTM D412
300% Modulus	psi (MPa)	3002 (20.7)	ASTM D412
Elongation	(%)	620	ASTM D412
Tear Strength, Die C	pli (kN/m)	691 (121)	ASTM D624
DIN Resilience	(%)	27	DIN 53512
DIN Abrasion Resistance 10N	(mm^3)	60	ASTM D5963
Compression Set / 22hrs at 158°F	(%)	36.6	ASTM D395, B
Cured Specific Gravity	(g/cm^3)	1.284	ASTM D1817

Processing Procedure

1. Heat pre-weighed amounts of **Erapol L-RN50D** to 176 – 212°F (80 – 100°C) and degas at -95Kpa 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 248°F (120°C) prior to mixing. **Eracure 300** can be used at room temperature. After adding the curative, mix thoroughly and degas at -95Kpa for 1 to 2 minutes.

3. Pour mixed system into molds, preheated to 212°F (100°C), which have been coated with **Salease** mold release or equivalent.

4. Cure in accordance with above recommendations.

Adhesion

Adhesion of Erapol-based 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 L-RN50D contains small amounts of free TDI. Therefore the product should be used in well-ventilated areas. Avoid breathing in vapors 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 breathing in vapors, remove exposed person to fresh air. Call a physician.