



Era Polymers Pty. Ltd.
2-4 Green Street, Banksmeadow
Sydney, NSW 2019
AUSTRALIA
www.erapol.com.au

Erapol L-RN92A

HIGH PERFORMANCE POLYESTER
POLYURETHANE

TECHNICAL DATASHEET

Erapol L-RN92A is an isocyanate-terminated polyester based urethane prepolymer. It is formulated for use with **MOCA** curative. Additionally, **Erapol L-RN92A** is a lower free TDI version of Erapol RN90A.

Application

Erapol L-RN92A 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

% NCO	4.50 ± 0.20
Viscosity at 176°F (80°C) (cps)	1600 – 2100
Color	Clear, Light Amber

Mixing and Curing Conditions

		L-RN92A / MOCA – 95% th.	L-RN92A / MOCA – 90% th.	L-RN92A / Ethacure 300	L-RN92A / Eracure 110
Erapol L-RN92A	(pph)	100	100	100	100
MOCA Level	(pph)	13.6	12.9	-	-
Ethacure 300 Level	(pph)	-	-	10.9	-
Eracure 110 Level	(pph)	-	-	-	11.6
Recommended % Theory		95	90	95	95
Erapol Temperature	°F (°C)	167 - 185 (75 - 85)	167 - 185 (75 - 85)	149 (65)	149 (65)
Curative Temperature	°F (°C)	230 – 248 (110 – 120)	230 – 248 (110 – 120)	77 – 86 (25 – 30)	77 – 86 (25 – 30)
Pot Life	(mins)	3 – 5	3 – 5	3 – 5	3 – 5
Demold Time at 212°F (100°C)	(mins)	15 – 30	15 – 30	15 – 30	20 – 30
Post Cure Time at 212°F (100°C)	(hrs)	16	16	16	16



This information is of general nature and is supplied without recommendation or 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.

Physical Properties

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

		L-RN92A / MOCA – 95% th.	L-RN92A / MOCA – 90% th.	L-RN92A / E300*	L-RN92A / E110**	TEST METHOD
Hardness	(Shore A)	90	90	90	88	ASTM D2240
Tensile Strength	psi (MPa)	7542 (52.0)	7426 (51.2)	6962 (48)	6817 (47)	ASTM D412
100% Modulus	psi (MPa)	1044 (7.2)	1001 (6.9)	1015 (7.0)	1015 (7.0)	ASTM D412
300% Modulus	psi (MPa)	2524 (17.4)	2335 (16.1)	2480 (17.1)	2799 (19.3)	ASTM D412
Elongation	(%)	575	670	600	610	ASTM D412
Angle Tear Strength, Die C	pli (kN/m)	554 (97)	652 (114)	600 (105)	502 (88)	ASTM D624
Split Tear	pli (kN/m)	-	126 (22.0)	-	-	ASTM D470-05
DIN Resilience	(%)	27	26	37	28	DIN 53512
Bashore Rebound	(%)	20	20	-	-	ASTM D2632
DIN Abrasion Resistance 10N	(mm ³)	48	31	56	29	ASTM D5963
Compression Set / 22hrs at 158°F	(%)	44	29	45	-	ASTM D395, B
Cured Specific Gravity	(g/cm ³)	1.27	1.27	1.26	1.25	ASTM D1817

*Ethacure 300 **Eracure 110

Processing Procedure

1. Heat pre-weighed amounts of **Erapol L-RN92A** to 167 – 185°F (75 – 85°C) and degas at -95 kPa 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 230 – 248°F (110 – 120°C) prior to mixing, and Ethacure 300 and Eracure 110 are processed at room temperature. After adding the curative, mix thoroughly and degas at -95 kPa 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.

Plasticizer

Eracure C32 and **Fyrol** (plasticizer) can be used in combination with **MOCA** to lower the hardness of **Erapol L-RN92A** below 90 Shore A. Typically the plasticizer is mixed into the prepolymer, followed by the addition of the curative. It is good practice to add a suitable catalyst such as **Eracat** (0.5 to 1.0 pbw) to aid curing. The following formulations will give a guide to the hardness.

Several other commercially available curatives can be used with **Erapol L-RN92A**. For further details contact **Era Polymers** Technical Department.

Hardness (Shore A)	Parts By Weight			
	L-RN92A	Eracure C32	MOCA	Fyrol
45	100	8.7	0	10
50	100	8.7	0	0
55	100	6.9	2.8	0
60	100	6.2	3.8	0
65	100	5.7	4.7	0
70	100	5.2	5.5	0
75	100	4.3	6.9	0
80	100	3.5	8.3	0
85	100	1.7	11.0	0
90	100	0	13.6	0

NOTES

1. All hardness results are averages, expect ± 3 Shore A.
2. Add **Eracure C32** and **Fyrol** to **L-RN92A**, mix and degas, followed by addition of **MOCA**.
3. A suitable catalyst such as **Eracat** can be added. As a guide, 65 Shore A formulation will have a working life of approximately 60 minutes.

For further details contact **Era Polymers** Technical Department.

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-RN92A 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.