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

Erapol RN83A

HIGH PERFORMANCE POLYESTER POLYURETHANE

TECHNICAL DATASHEET

Erapol RN83A is a polyester based urethane prepolymer. It has been formulated using a similar chemical backbone to Erapol RN3038, but gives a longer gel time than RN3038. It is intended for use with MOCA curative.

Application

Erapol RN83A 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

Colour	Clear, Light Amber
% NCO	3.20 ± 0.20
Viscosity at 80°C (176°F) (cps)	1700 - 2300

Mixing and Curing Conditions

		RN83A / MOCA	RN83A / Eracure 300	RN83A /Eracure 110
Erapol RN83A	(pph)	100	100	100
MOCA level	(pph)	9.7	-	-
Eracure 300 level	(pph)	-	7.8	-
Eracure 110 level	(pph)	-	-	8.3
Recommended % Theory		95	95	95
Erapol Temperature	°C (°F)	75-85 (167-185)	65 (149)	65 (149)
Curative Temperature	°C (°F)	100-110 (212-230)	25-30 (77-86)	25–30 (77-86)
Pot Life *	(mins)	8	6	6
Demould Time at 100°C (212°F) **	(hrs)	1	1	1
Post Cure Time at 100°C (212°F)	(hrs)	16	16	16

* Pot life based on a 200g sample, prepolymer at 80°C, MOCA at 100°C, Eracure 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.

Physical Properties

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

		RN83A / MOCA	RN83A / Eracure 300	RN83A / Eracure 110	TEST METHOD
Hardness	(Shore A)	83	77	77	ASTM D22-40
Tensile Strength	MPa (psi)	47.0 (6816)	46.0 (6671)	46.0 (6671)	ASTM D412
100% Modulus	MPa (psi)	4.9 (710)	-	-	ASTM D412
300% Modulus	MPa (psi)	8.3 (1203)	-	-	ASTM D412
Elongation	(%)	725	800	800	ASTM D412
Angle Tear Strength, Die C	(kN/m)	75	80	75	ASTM D624
Trouser Tear Strength	(kN/m)	40	35	35	ASTM D624
DIN Resilience	(%)	40	40	40	DIN 53512
DIN Abrasion Resistance 10N	(mm^3)	65	80	45	ASTM D5963
DIN Abrasion Resistance 5N	(mm^3)	34	43	28	ASTM D5963
Compression Set / 22 hr at 70°C	(%)	25	-	-	ASTM D395
Cured Specific Gravity	(g/cm^3)	1.26	1.25	1.25	ASTM D1817

Processing Procedure

1. Heat pre-weighed amounts of **ERAPOL RN83A** to 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 110°C prior to mixing. Eracure 300 and Eracure 110 can be used at room temperature. After adding curative, mix thoroughly and degas at -95Kpa 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. Allow the cast part to cure sufficiently before demoulding. Ensure cast parts are fully post cured to ensure maximum physical properties.

Automatic metering and mixing equipment can be used with all **ERAPOL RN83A** systems.

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 RN83A contains small amounts of free TDI. Therefore the product should be used in well-ventilated areas. Avoid breathing in 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 breathing in vapours, remove exposed person to fresh air. Call a physician.