



Era Polymers Pty. Ltd.
25-27 Green Street, Banksmeadow
Sydney, NSW 2019
AUSTRALIA
www.erapol.com.au

Erapol E77A

POLYETHER (PTMEG) TDI PREPOLYMER

TECHNICAL DATASHEET

Erapol E77A is a liquid isocyanate terminated pre-polymer based on PTMEG polyol. Polymers made from **Erapol E77A** exhibit outstanding resilience, low hysteresis and heat build-up as well as excellent hydrolysis resistance.

Application

Erapol E77A has a high resilience and is suitable for mining applications, particularly in slurry applications such as pipelining, pump impellers, floatation equipment etc.

Erapol E77A elastomers show excellent low temperature resistance, making them suitable for applications involving service temperatures below 0°C (up to -76°F).

Product Specification

% NCO	2.4 ± 0.2
Specific Gravity at 77°F (25°C)	1.08
Viscosity at 176°F (80°C) (cps)	1800 - 3000
Colour	Clear, light amber

Mixing and Curing Conditions

		E77A / MOCA	E77A / E300*	E77A / E110**
Erapol E77A	(pph)	100	100	100
MOCA Level	(pph)	7.3	-	-
Eracure 300 Level	(pph)	-	6.1	-
Eracure 110 Level	(pph)	-	-	6.5
Recommended % Theory		95	100	100
Erapol Temperature	°F (°C)	176 - 194 (80 - 90)	176 - 194 (80 - 90)	176 - 194 (80 - 90)
Curative Temperature	°F (°C)	230 - 248 (110 - 120)	68 - 86 (20 - 30)	68 - 86 (20 - 30)
Pot Life	(mins)	25	11	12
Demould Time at 212°F (100°C)	(hrs)	2	2	2
Post Cure Time at 212°F (100°C)	(hrs)	16	16	16

* Eracure 300; ** Eracure 110



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.

		E77A / MOCA	E77A / E300*	E77A / E110**	TEST METHOD
Hardness	(Shore A)	77	77	76	ASTM D2240
Tensile Strength	psi (MPa)	4351(30)	3916 (27)	3481 (24)	ASTM D412
100% Modulus	psi (MPa)	696 (4.8)	667 (4.6)	667 (4.6)	ASTM D412
300% Modulus	psi (MPa)	6.9 (1000)	9.0 (1305)	6.5 (943)	ASTM D412
Angle Tear Strength, Die C	pli (kN/m)	337 (59)	411 (72)	388 (68)	ASTM D624
Split Tear Strength	pli (kN/m)	126 (22)	143 (25)	110 (19)	AS1683.12
Elongation	(%)	600	615	570	ASTM D412
DIN Resilience	(%)	65	65	66	DIN 53512
DIN Abrasion Resistance 10N	(mm ³)	42	43	28	ASTM D5963
Compression Set / 22 hr at 70°C	(%)	36	-	-	ASTM D395 – Method B
Cured Specific Gravity	(g/cm ³)	1.06	1.05	1.05	ASTM D1817

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Processing Procedure

1. **Erapol E77A** should be heated to 167-185°F (80 ± 5°C) and thoroughly degassed at -95kpa of vacuum until excessive foaming stops.
2. The curative should be added to **E77A**, the MOCA must first be melted at 230-248°F (110 - 120°C) prior to mixing and Eracure 300/Eracure 110 processed at room temperature. After adding the curative, mix thoroughly, being careful not to introduce air into the mixture.
3. Pour mixed materials into moulds that have been preheated to 176 – 212°F (80 - 100°C) and pre-coated with release agent.

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

Erapol E77A 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. Call a physician.

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