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

Erapol E77A

HIGH PERFORMANCE POLYETHER BASED
URETHANE ELASTOMER

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 - 60°C).

Product Specification

% NCO	2.4 ± 0.20
Specific Gravity at 25°C	1.08
Viscosity at 80°C (cps)	1800 - 3000
Colour	Clear, light amber

Mixing and Curing Conditions

		E77A / MOCA	E77A / Ethacure 300	E77A / Eracure 110
Erapol E77A	(pph)	100	100	100
MOCA Level	(pph)	7.3	-	-
Ethacure 300 Level	(pph)	-	6.1	-
Eracure 110 Level	(pph)	-	-	6.5
Recommended % Theory		95	100	100
Erapol Temperature	(°C)	80 - 90	80 - 90	80 – 90
Curative Temperature	(°C)	110 - 120	20 - 30	20 – 30
Pot Life	(mins)	25	11	12
Demould Time at 100°C	(hrs)	2	2	2
Post Cure Time at 100°C	(hrs)	16	16	16

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)	79 ± 3	78 ± 3	78 ± 3	AS1683.15
Tensile Strength MPa (psi)	30.0 (4351)	27.0 (3916)	24.0 (3481)	AS1683.11
100% Modulus MPa (psi)	4.8 (696)	4.6 (667)	4.6 (667)	AS1683.11
300% Modulus MPa (psi)	6.9 (1000)	9.0 (1305)	6.5 (943)	AS1683.11
Angle Tear Strength, Die C (kN/m)	59	72	68	AS1683.12
Trouser Tear Strength (kN/m)	22	25	19.3	AS1683.12
Elongation (%)	600	615	570	AS1683.11
DIN Resilience (%)	65	65	66	DIN53512
DIN Abrasion Resistance 10N (mm^3)	42	43	28	AS1683.21
Compression Set / 22 hr at 70°C (%	36	-	-	AS1683.13
Cured Specific Gravity (g/cm^3)	1.06	1.05	1.05	AS1683.4

Processing Procedure

1. **Erapol E77A** should be heated to 80 ± 5°C and thoroughly degassed at -95 kPa of vacuum until excessive foaming stops.

2. The curative should be added to **E77A**, the MOCA must first be melted at 110 - 120°C prior to mixing and Ethacure 300/Eracure 110 processed at room temperature. After adding the curative, mix thoroughly, being careful not to introduce air into the mixture. As required, the mixed prepolymer and curative can be degassed to remove entrapped from mixing process.

3. Pour mixed materials into moulds that have been preheated to 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.