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## Erapol E83A

POLYETHER (PTMEG) TDI PREPOLYMER

### TECHNICAL DATASHEET

**Erapol E83A** is a liquid isocyanate terminated pre-polymer based on PTMEG polyol.

Polymers made from **Erapol E83A** exhibit outstanding resilience, low hysteresis and heat build up as well as excellent hydrolysis resistance.

### Application

**Erapol E83A** has a high resilience and is suitable for mining applications, particularly in slurry applications such as pipelining, pump impellers, floatation equipment etc.

**Erapol E83A** elastomers show excellent low temperature resistance, making them suitable for applications involving service temperatures below 0°C (up to - 60°C), e.g. Wheels and tyres.

### Product Specification

% NCO	3.10 ± 0.20
Specific Gravity at 25°C	1.05
Viscosity at 80°C (cps)	1000 - 1500
Colour	Clear, light amber

### Mixing and Curing Conditions

		E83A / MOCA	E83A / Ethacure 300	E83A / Eracure 110
Erapol E83A	(pph)	100	100	100
MOCA Level	(pph)	9.9	-	-
Ethacure 300 Level	(pph)	-	7.9	-
Eracure 110 Level	(pph)	-	-	8.4
Recommended % Theory		100	100	100
Erapol Temperature	(°C)	75 - 85	65 - 75	65 - 75
Curative Temperature	(°C)	110 - 120	20 - 30	20 - 30
Pot Life	(mins)	15	12	10
Demould Time at 100°C	(hrs)	1	1	2 - 4
Post Cure Time at 100°C	(hrs)	16	16	16



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## Physical Properties

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

		E83A / MOCA	E83A / E300*	E83A / E110**	TEST METHOD
<b>Hardness</b>	(Shore A)	83 ± 3	83 ± 3	80 ± 3	AS1683.15
<b>Tensile Strength</b>	MPa (psi)	33.0 (4786)	32.0 (4641)	32.0 (4641)	AS1683.11
<b>100% Modulus</b>	MPa (psi)	4.6 (667)	4.6 (667)	4.8 (696)	AS1683.11
<b>300% Modulus</b>	MPa (psi)	8.3 (1204)	6.9 (1001)	8.0 (1160)	AS1683.11
<b>Angle Tear Strength, Die C</b>	(kN/m)	72	65	69	AS1683.12
<b>Trouser Tear Strength</b>	(kN/m)	27	24	22	AS1683.12
<b>Elongation</b>	(%)	550	450	545	AS1683.11
<b>DIN Resilience</b>	(%)	62	61	62	DIN53512
<b>DIN Abrasion Resistance 10N</b>	(mm <sup>3</sup> )	35	41	21	AS1683.21
<b>DIN Abrasion Resistance 5N</b>	(mm <sup>3</sup> )	12	18	10	AS1683.21
<b>Compression Set / 22 hr at 70°C</b>	(%)	28	40	-	AS1683.13
<b>Cured Specific Gravity</b>	(g/cm <sup>3</sup> )	1.08	1.08	1.10	AS1683.4

Please note \* Ethacure 300

\*\* Eracure 110

## Processing Procedure

1. **Erapol E83A** 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 **E83A**, 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.
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 E83A** 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.



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