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## Erapol E90A

POLYETHER (PTMEG) TDI PREPOLYMER

# TECHNICAL DATASHEET

**Erapol E90A** is a liquid isocyanate terminated pre-polymer based on PTMEG polyether polyol.

Polymers made from **Erapol E90A** exhibit outstanding abrasion, impact and chemical resistance, along with high load bearing capacity.

## Application

Typical uses of this polymer include forklift truck tyres, rolls, and gears, die pads etc.

## Product Specification

<b>% NCO</b>	4.20 ± 0.25
<b>Specific Gravity @ 25°C</b>	1.06
<b>Viscosity @ 80°C (cps)</b>	800 - 1300
<b>Colour</b>	Clear, light amber

## Mixing and Curing Conditions

		<b>E90A / MOCA</b>	<b>E90A / Ethacure 300</b>	<b>E90A / Eracure 110</b>
<b>Erapol E90A</b>	(pph)	100	100	100
<b>MOCA Level</b>	(pph)	12.5	-	-
<b>Ethacure 300 Level</b>	(pph)	-	10.2	-
<b>Eracure 110 Level</b>	(pph)	-	-	10.9
<b>Recommended % Theory</b>		95	95	95
<b>Erapol Temperature</b>	(°C)	75 - 85	65 - 75	65 - 75
<b>Curative Temperature</b>	(°C)	110 - 120	20 - 30	25 - 35
<b>Pot Life</b>	(mins)	10	10	10 - 14
<b>Demould Time @ 100°C</b>	(hrs)	1	1	2 - 4
<b>Post Cure Time @ 100°C</b>	(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.

		E90A / MOCA	E90A / E300*	E90A / E110**	TEST METHOD
<b>Hardness</b>	(Shore A)	90 ± 3	90	90 ± 3	AS1683.15
<b>Tensile Strength</b>	MPa (psi)	42.0 (6092)	38.0 (5511)	39.0 (5655)	AS1683.11
<b>100% Modulus</b>	MPa (psi)	9.3 (1349)	7.8 (1131)	9.0 (1305)	AS1683.11
<b>300% Modulus</b>	MPa (psi)	17.8 (2582)	15.4 (2234)	16.0 (2321)	AS1683.11
<b>Angle Tear Strength, Die C</b>	(kN/m)	85	75	80	AS1683.12
<b>Trouser Tear Strength</b>	(kN/m)	37	35	27	AS1683.12
<b>Elongation</b>	(%)	420	420	610	AS1683.11
<b>DIN Resilience</b>	(%)	55	51	51	DIN53512
<b>DIN Abrasion Resistance 10N</b>	(mm <sup>3</sup> )	55	65	27	AS1683.21
<b>DIN Abrasion Resistance 5N</b>	(mm <sup>3</sup> )	18	22	15	AS1683.21
<b>Compression Set / 22 hr @ 70°C</b>	(%)	30	45	-	AS1683.13
<b>Cured Specific Gravity</b>	(g/cm <sup>3</sup> )	1.10	1.10	1.10	AS1683.4

Please note \* Ethacure 300

\*\* Eracure 110

## Processing Procedure

1. **Erapol E90A** should be heated to 80 ± 5°C and thoroughly degassed at 1 - 5 mm Hg of vacuum until excessive foaming stops.
2. The curative should be added to **E90A**, the MOCA must first be melted at 110 - 120°C prior to mixing and the 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, which have been preheated to 80 - 100°C and pre-coated with release agent.

## Adhesion

Adhesion of Erapol based elastomers to various substrates it at best marginal if a primer is not used. Please consult Era Polymers for specific recommendations to improve adhesion.

## Handling Precautions

**Erapol E90A** 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.