



**Era Polymers Africa Pty. Ltd.**  
 61 Brunton Circle, Founders View, Edenvale  
 SOUTH AFRICA  
 Telephone: +27 11 608 2584  
 Fax: +27 086 585 7384  
 Website: www.erapol.co.za  
 Email: info@erapol.co.za

## Erapol ESA95A

POLYETHER (PTMEG) TDI PREPOLYMER

### TECHNICAL DATASHEET

**Erapol ESA95A** is a liquid isocyanate terminated pre-polymer based on PTMEG polyether polyol.

Polymers made from **Erapol ESA95A** exhibit outstanding abrasion, impact and chemical resistance, along with high load bearing capacity.

### Application

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

### Product Specification

<b>% NCO</b>	6.25 ± 0.25
<b>Specific Gravity at 25°C</b>	1.07
<b>Viscosity at 80°C (cps)</b>	300 - 700
<b>Colour</b>	Clear, light amber

### Mixing and Curing Conditions

		ESA95A/MOCA	ESA95A/Ethacure 300	ESA95A/Eracure 110
<b>Erapol ESA95A</b>	(pph)	100	100	100
<b>MOCA Level</b>	(pph)	19.0	-	-
<b>Ethacure 300 Level</b>	(pph)	-	15.0	-
<b>Eracure 110 Level</b>	(pph)	-	-	16.2
<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	20 - 30
<b>Pot Life</b>	(mins)	6	4	5 - 6
<b>Demould Time at 100°C</b>	(hrs)	1	1	1 - 2
<b>Post Cure Time at 100°C</b>	(hrs)	16	16	16



This information is of general nature and is supplied without recommendation of 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.

		ESA95A/MOCA	ESA95A/E300*	ESA95A/E110**	TEST METHOD
<b>Hardness</b>	(Shore A)	95 ± 3	93 ± 3	95 ± 3	ASTM D2240
<b>Tensile Strength</b>	MPa (psi)	45.0 (6527)	42.7 (6193)	41.0 (5947)	ASTM D412
<b>100% Modulus</b>	MPa (psi)	14.3 (2074)	11.0 (1595)	12.6 (1827)	ASTM D412
<b>300% Modulus</b>	MPa (psi)	34 (4931)	26.2 (3800)	27.2 (3945)	ASTM D412
<b>Angle Tear Strength, Die C</b>	(kN/m)	90	110	110	ASTM D624
<b>Trouser Tear Strength</b>	(kN/m)	42	38	40	AS1683.12
<b>Elongation</b>	(%)	390	420	420	ASTM D412
<b>DIN Resilience</b>	(%)	40	46	47	DIN 53512
<b>DIN Abrasion Resistance 10N</b>	(mm <sup>3</sup> )	70	68	38	ASTM D5963
<b>DIN Abrasion Resistance 5N</b>	(mm <sup>3</sup> )	25	28	19	ASTM D5963
<b>Compression Set / 22 hr at 70°C</b>	(%)	35	38	38	ASTM D395
<b>Cured Specific Gravity</b>	(g/cm <sup>3</sup> )	1.13	1.13	1.13	ASTM D1817

Please note \* Ethacure 300

\*\* Eracure 110

## Processing Procedure

1. **Erapol ESA95A** 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 **ESA95A**, 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 ESA95A** 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.