

## TECHNICAL DATASHEET

**Erapol ESA L-E60D** is a high-performance liquid isocyanate terminated prepolymer based on PTMEG polyether polyol.

Polymers made from **Erapol ESA L-E60D** exhibit high impact strength coupled with excellent abrasion, hydrolysis resistance and chemical resistance as well as high load bearing capacity.

Additionally, **Erapol ESA L-E60D** has a free TDI content lower than 1%.

### Application

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

### Product Specification

% NCO	7.40 ± 0.20
Specific Gravity at 25°C	1.06
Viscosity at 80°C (cPs)	300 – 700
Colour	Clear, light amber

### Mixing and Curing Conditions

		ESA L-E60D / MOCA	ESA L-E60D / Ethacure 300
<b>Erapol ESA L-E60D</b>	(pph)	100	100
<b>MOCA Level</b>	(pph)	21.2	-
<b>Ethacure 300 Level</b>	(pph)	-	17.0
<b>Recommended % Theory</b>		90	90
<b>Erapol Temperature</b>	(°C)	60 – 70	55 – 60
<b>Curative Temperature</b>	(°C)	110 – 120	20 – 30
<b>Pot Life</b>	(mins)	5 – 6	4 – 5
<b>Demould Time at 110°C</b>	(mins)	30	30
<b>Post Cure Time at 110°C</b>	(hrs)	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.

		ESA L-E60D / MOCA	ESA L-E60D / Ethacure 300	TEST METHOD
<b>Hardness</b>	(Shore D)	60 ± 3	60 ± 3	ASTM D2240
<b>Tensile Strength</b>	MPa (psi)	45 (6527)	45 (6570)	ASTM D412
<b>100% Modulus</b>	MPa (psi)	19.9 (2886)	18.2 (2640)	ASTM D412
<b>300% Modulus</b>	MPa (psi)	42.4 (6150)	38.4 (5569)	ASTM D412
<b>Elongation</b>	(%)	300	350	ASTM D412
<b>Angle Tear Strength, Die C</b>	(kN/m)	110	101	ASTM D624
<b>Trouser Tear Strength</b>	(kN/m)	46	41	ASTM D1938
<b>DIN Resilience</b>	(%)	46	46	DIN 53512
<b>DIN Abrasion Resistance</b>	(mm <sup>3</sup> )	63	73	ASTM D5963
<b>Compression Set / 22 hr at 70°C</b>	(%)	27	43	ASTM D395, B
<b>Cured Density</b>	(g/cm <sup>3</sup> )	1.16	1.13	ASTM D1817

## Processing Procedure

1. **Erapol ESA L-E60D** 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 **ESA L-E60D**, the MOCA must first be melted at 110 - 120°C prior to mixing and Ethacure 300 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 100 - 110°C and pre-coated with release agent.

**NOTE:** If curing temperature is less than 100 - 110°C the polymer may have a glassiness/brittle appearance.

## 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 ESA L-E60D** 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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