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## Erapol ETX85D

POLYETHER (PTMEG) TDI PREPOLYMER

### TECHNICAL DATASHEET

**Erapol ETX85D** is a new generation of castable structural polyurethanes. It offers exceptional toughness at high hardness. Additionally it offers high stiffness yet is not brittle.

### Application

Typical uses for this polymer include structural parts, forklift truck tyres, rolls, gears etc.

### Product Specification

% NCO	12.00 ± 0.30
Specific Gravity at 25°C	1.15
Viscosity at 80°C (cps)	300 – 800
Colour	Clear, pale amber

### Mixing and Curing Conditions

		ETX85D / MOCA	ETX85D / Ethacure 300	ETX85D / Eracure 110
Erapol ETX85D	(pph)	100	100	100
MOCA Level	(pph)	32.4	–	–
Ethacure 300 level	(pph)	–	26.0	–
Eracure 110 level	(pph)	–	–	27.7
Recommended % Theory		85	85	85
Erapol Temperature	(°C)	60 – 65	55 – 65	55 – 65
Curative Temperature	(°C)	110 – 120	20 – 30	20 – 30
Pot Life	(mins)	2 – 3	3 – 4	3 – 4
Demould Time at 110°C	(hrs)	< 1	< 1	< 1
Post Cure Time at 110°C	(hrs)	16	16	16

All results are based on 200 grams of **Erapol ETX85D** at 65°C.



## Physical Properties

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

		ETX85D/MOCA	ETX85D/E300*	ETX85D/E110**	TEST METHOD
Hardness	(Shore D)	83 ± 3	80 ± 2	80 ± 2	AS1683.15
Tensile Strength	MPa (psi)	63.9 (9268)	62.4 (9050)	54.0 (7832)	AS1683.11
Elongation	(%)	100	80	60	AS1683.11
Angle Tear Strength, Die C	(kN/m)	190	203	205	AS1683.12
DIN Resilience	(%)	54	54	54	DIN 53512
DIN Abrasion Resistance 10N	(mm <sup>3</sup> )	145	148	100	AS1683.21
Cured Specific Gravity	(g/cm <sup>3</sup> )	1.18	1.18	1.18	AS1683.4
Flexural Strength	(MPa)	56.3	49.8	41.5	AS2132
Flexural Modulus	(MPa)	1923	2992	2398	AS2132
Izod Impact Strength, unnotched	(kJ/m <sup>2</sup> )	99.0	87.9	64.5	AS1146.1
Coefficient of thermal expansion	(1/C°)	-	-	8.7 x 10 <sup>-5</sup>	

\*Ethacure 300 \*\* Eracure 110

## Processing Procedure

1. **Erapol ETX85D** should be heated to the recommended processing temperature and thoroughly degassed at -95 kpa of vacuum until excessive foaming stops. Containers should be unlined metal or plastic and large enough to allow for foaming during degassing.
2. The curative should be added to **ETX85D**, the MOCA must first be melted at 110 - 120°C prior to mixing, Ethacure 300 and Eracure 110 processed at room temperature. After adding the curative, mix thoroughly, being careful not to introduce air into the mixture.
3. Pour the mixed materials into moulds, which have been pre-heated into moulds at 80 – 100°C and coated with release agent.

**NOTE:** If post cure temperature is less than 100°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.



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.

## Handling Precautions

**Erapol ETX85D** 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.

If nose, throat or lungs become irritated from breathing in vapours, remove exposed person to fresh air. Call a physician.