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AUSTRALIA
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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 ± 0.25
Specific Gravity @ 25°C	1.15
Viscosity @ 80°C (cps)	400 - 800
Colour	Clear, light amber

Mixing and Curing Conditions

		ETX85D / MOCA	ETX85D / Ethacure 300
Erapol ETX85D	(pph)	100	100
MOCA Level	(pph)	33.0	-
Ethacure 300 Level	(pph)	-	27.0
Recommended % Theory		85	85
Erapol Temperature	(°C)	60 - 65	55 - 65
Curative Temperature	(°C)	110 - 120	25
Pot Life	(mins)	2.5	3
Demould Time @ 110°C	(hrs)	< 1	< 1
Post Cure Time @ 110°C	(hrs)	24	24

After Post cure, must be left 24 Hrs at ambient temperature before being subjected to any further testing or processing.

Physical Properties

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

		ETX85D / MOCA	ETX85D / Ethacure 300	TEST METHOD
Hardness	(Shore D)	84 ± 5	82 ± 2	AS1683.15
Tensile Strength	MPa (psi)	58.0 (8412)	51.0 (7397)	AS1683.11
100% Modulus	MPa (psi)	42.0 (6092)	-	AS1683.11
300% Modulus	MPa (psi)	49.0 (7107)	-	AS1683.11
Angle Tear Strength, Die C	(kN/m)	265	-	AS1683.12
Elongation	(%)	220	75	AS1683.11
DIN Resilience	(%)	34	41	DIN53512
DIN Abrasion Resistance 10N	(mm^3)	123	-	AS1683.21
DIN Abrasion Resistance 5N	(mm^3)	40	40	AS1683.21
Compression Set / 22 hr @ 70°C	(%)	-	-	AS1683.13
Cured Specific Gravity	(g/cm^3)	1.13	1.13 ± 0.03	AS1683.4

Processing Procedure

1. **Erapol ETX85D** should be heated to the recommended processing temperature and thoroughly degassed at 1 - 5 mm Hg of vacuum until excessive foaming stops.

2. The curative should be added to **ETX85D**, 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, which have been preheated to 100 - 110°C and pre-coated with release agent.

NOTE: If post cure temperature is less than 100°C, the polymer may have a glassiness/brittle appearance. The post cure time should be adhered.

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 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. Call a physician.

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