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AUSTRALIA
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Erapol ET83A

POLYETHER (PTMEG) TDI PREPOLYMER

TECHNICAL DATASHEET

Erapol ET83A is a liquid isocyanate terminated pre-polymer based on a high molecular weight PTMEG polyol.

Polymers made from **Erapol ET83A** exhibit outstanding resilience; low hysteresis and heat build up as well as excellent hydrolysis resistance.

Additionally it offers lower viscosity and faster demould time compared to **Erapol E83A**.

Application

As a result of high resilience, it is especially suitable for mining applications, particularly in slurry applications such as pipelining, pump impellers, floatation equipment etc.

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

Product Specification

% NCO	3.10 ± 0.25
Specific Gravity @ 25°C	1.05
Viscosity @ 80°C (cps)	1300 - 1800
Colour	Clear, light amber

Mixing and Curing Conditions

		ET83A / MOCA	ET83A / Ethacure 300
Erapol ET83A	(pph)	100	100
MOCA Level	(pph)	10.0	-
Ethacure 300 Level	(pph)	-	8.0
Recommended % Theory		100	100
Erapol Temperature	(°C)	75 - 85	65 - 75
Curative Temperature	(°C)	110 - 120	20 - 30
Pot Life	(mins)	8	6
Demould Time @ 100°C	(hrs)	1	1
Post Cure Time @ 100°C	(hrs)	16	16

Physical Properties

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

		ET83A / MOCA	ET83A / Ethacure 300	TEST METHOD
Hardness	(Shore A)	83 ± 3	83	AS1683.15
Tensile Strength	MPa (psi)	33.1 (4801)	31.7 (4598)	AS1683.11
100% Modulus	MPa (psi)	4.8 (696)	3.8 (551)	AS1683.11
300% Modulus	MPa (psi)	8.3 (1204)	6.9 (1001)	AS1683.11
Angle Tear Strength, Die C	(kN/m)	75	65	AS1683.12
Elongation	(%)	500	450	AS1683.11
DIN Resilience	(%)	60	64	DIN53512
DIN Abrasion Resistance 10N	(mm^3)	45	54	AS1683.21
DIN Abrasion Resistance 5N	(mm^3)	16	22	AS1683.21
Compression Set / 22 hr @ 70°C	(%)	30	40	AS1683.13
Cured Specific Gravity	(g/cm^3)	1.08	1.08	AS1683.4

Processing Procedure

1. **Erapol ET83A** 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 **ET83A**, 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 at 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 ET83A 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.