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Erapol L-ETX75D

POLYETHER (PTMEG) TDI PREPOLYMER

TECHNICAL DATASHEET

Erapol L-ETX75D is a liquid isocyanate terminated prepolymer based on the high performance PTMEG polyether polyol. When reacted with MOCA the product produces a polyether elastomer with a hardness of 75 Shore D, but has been designed to have a long pot life.

Polymers made from **Erapol L-ETX75D** exhibit high impact strength coupled with outstanding abrasion and chemical resistance as well as high load bearing capacity.

Additionally, **Erapol L-ETX75D** is a lower free TDI prepolymer.

Application

Successful applications include rigid wear parts for mining and industrial use, drive pulleys, pads, hydrocyclone parts, feed and distributor boxes, gears etc.

Product Specification

% NCO	9.20 ± 0.20
Specific Gravity at 25°C (77°F)	1.10
Viscosity at 80°C (176°F) (cps)	500 - 700
Colour	Clear, pale amber

Mixing and Curing Conditions

		L-ETX75D / MOCA	L-ETX75D / Eracure 300
Erapol L-ETX75D	(pph)	100	100
MOCA Level	(pph)	27.8	-
Eracure 300 Level		-	22.3
Recommended % Theory		95	95
Erapol Temperature	°C (°F)	60 – 70 (140 – 158)	60 – 70 (140 – 158)
Curative Temperature	°C (°F)	110 (230)	25 – 30 (77 – 86)
Pot Life	(mins)	3 - 5	3 - 5
Mould Temperature	°C (°F)	100 (212)	100 (212)
Demould Time at 100°C (212°F)	(mins)	20 - 25	20 - 25
Post Cure Time at 100°C (212°F)	(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.

		L-ETX75D/MOCA	L-ETX75D/Eracure 300	TEST METHOD
Hardness	(Shore D)	75	70	ASTM D2240
Tensile Strength	psi (MPa)	7266 (50.1)	7078 (48.8)	ASTM D412
100% Modulus	psi (MPa)	6164 (42.5)	4554 (31.4)	ASTM D412
Elongation	(%)	195	325	ASTM D412
Angle Tear Strength, Die C	pli (kN/m)	799 (140)	829 (145.2)	ASTM D624
Split Tear Strength	pli (kN/m)	297 (52)	323 (56.6)	AS1683.12
DIN Resilience	(%)	40	-	DIN 53512
DIN Abrasion Resistance 10N	(mm ³)	106	133	ASTM D5963
Cured Specific Gravity	(g/cm ³)	1.18	1.17	ASTM D1817
Flexural Strength	(MPa)	22.5	51.2	ASTM D790
Flexural Modulus	(MPa)	844	-	ASTM D790

Processing Procedure

1. **Erapol L-ETX75D** should be heated to $65 \pm 5^\circ\text{C}$ 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. When adding MOCA to **Erapol L-ETX75D**, the MOCA must be melted at $110\text{-}120^\circ\text{C}$ prior to mixing and Eracure 300 processed at room temperature. After adding curative, mix thoroughly and degas at -95 kpa for 1.5 minutes.
3. Pour the mixed materials into moulds, which have been pre-heated into moulds at 110°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 it at best marginal if a primer is not used. Please consult Era Polymers for specific recommendations to improve adhesion.

Handling Precautions

Erapol L-ETX75D 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.