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Erapol L-E83A

POLYETHER (PTMEG) TDI PREPOLYMER

TECHNICAL DATASHEET

Erapol L-E83A is a liquid isocyanate terminated prepolymer based on PTMEG polyol. Polymers made from **Erapol L-E83A** exhibit outstanding resilience, low hysteresis and heat build-up as well as excellent hydrolysis resistance. Additionally, **Erapol L-E83A** has a lower free TDI content compared to conventional grades.

Application

Erapol L-E83A has a high resilience and is suitable for mining applications, particularly in slurry applications such as pipelining, pump impellers, floatation equipment etc.

Erapol L-E83A elastomers show excellent low temperature resistance, making them suitable for applications involving service temperatures below 32°F (up to - 76°F), e.g. wheels and tires.

Product Specification

% NCO	3.10 ± 0.20
Specific Gravity at 77°F (25°C)	1.05
Viscosity at 176°F (80°C) (cps)	1000 - 1500
Color	Clear, light amber

Mixing and Curing Conditions

		L-E83A / MOCA	L-E83A / E300*	L-E83A / E110**
Erapol L-E83A	(pph)	100	100	100
MOCA Level	(pph)	9.9	-	-
Eracure 300 Level	(pph)	-	7.9	-
Eracure 110 Level	(pph)	-	-	8.4
Recommended % Theory		100	100	100
Erapol Temperature	°F (°C)	167 – 185 (75 – 85)	149 – 167 (65 – 75)	149 – 167 (65 – 75)
Curative Temperature	°F (°C)	230 – 248 (110 - 120)	68 – 86 (20 – 30)	68 – 86 (20 – 30)
Pot Life	(mins)	15	12	10
Demold Time at 212°F (100°C)	(hrs)	1	1	2 – 4
Post Cure Time at 212°F (100°C)	(hrs)	16	16	16

* Eracure 300; ** Eracure 110

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-E83A/MOCA	L-E83A/E300*	L-E83A/E110**	TEST METHOD
Hardness	(Shore A)	83	83	80	ASTM D2240
Tensile Strength	psi (MPa)	4786 (33)	4641 (32)	4641 (32)	ASTM D412
100% Modulus	psi (MPa)	667 (4.6)	667 (4.6)	696 (4.8)	ASTM D412
300% Modulus	psi (MPa)	1204 (8.3)	1001 (6.9)	1160 (8.0)	ASTM D412
Elongation	(%)	550	450	545	ASTM D412
Tear Strength, Die C	pli (kN/m)	411 (72)	371 (65)	394 (69)	ASTM D624
DIN Resilience	(%)	62	61	62	DIN 53512
DIN Abrasion Resistance 10N	(mm ³)	35	41	21	ASTM D5963
DIN Abrasion Resistance 5N	(mm ³)	12	18	10	ASTM D5963
Compression Set / 22 hrs at 158°F (70°C)	(%)	28	40	-	ASTM D395, B
Specific Gravity	(g/cm ³)	1.08	1.08	1.10	ASTM D1817

* Eracure 300 **Eracure 110

Processing Procedure

1. **Erapol L-E83A** should be heated to 167–185°F (80 ± 5°C) and thoroughly degassed at -95kpa of vacuum until excessive foaming stops.
2. The curative should be added to **L-E83A**, the MOCA must first be melted at 230–248°F (110–120°C) prior to mixing and Eracure 300/Eracure 110 processed at room temperature. After adding the curative, mix thoroughly, being careful not to introduce air into the mixture.
3. Pour mixed materials into molds that have been preheated to 176–212°F (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 L-E83A contains small amounts of free TDI. Therefore, the product should be used in well-ventilated areas. Avoid breathing in vapors 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 vapors, remove exposed person to fresh air. Call a physician.