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AUSTRALIA
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Erapol E83A

POLYETHER (PTMEG) TDI PREPOLYMER

TECHNICAL DATASHEET

Erapol E83A is a liquid isocyanate terminated prepolymer based on PTMEG polyether polyol.

Polymers made from **Erapol E83A** exhibit outstanding abrasion, impact and chemical resistance, along with high load bearing capacity.

Application

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

Erapol 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

		E83A / MOCA	E83A / Ethacure 300	E83A / Eracure 110
Erapol E83A	(pph)	100	100	100
MOCA Level	(pph)	9.9	-	-
Ethacure 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
Demould Time at 212°F (100°C)**	(hrs)	1	1	2 - 4
Post Cure Time at 212°F (100°C)	(hrs)	16	16	16

* Pot life based on a 200g sample, prepolymer at 176°F (80°C), MOCA at 230°F (110°C).
** Demold time based on a 200g rectangular slab. Demold time will depend on the size and shape of the cast part, the mold temperature and the curing temperature.

Physical Properties

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

		E83A / MOCA	E83A / E300*	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 / 22hrs at 158°F	(%)	28	40	-	ASTM D395, B
Cured Specific Gravity	(g/cm^3)	1.08	1.08	1.10	ASTM D1817

Please note * Ethacure 300 ** Eracure 110

Processing Procedure

1. Heat pre-weighed amounts of **Erapol E83A** to 167-185°F (80 ± 5°C) and degas at -95kPa of vacuum until excessive bubbling stops. Containers should be unlined metal, plastic or glass and should be large enough to allow for foaming during degassing.
2. The curative should be added to **E83A**, the MOCA must 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 and degas at -95kPa for 1 to 2 minutes.
3. Pour mixed system into molds that have been preheated to 176-212°F (80-100°C) and pre-coated with release agent.
4. Cure in accordance with above recommendations.

Handling Precautions

Erapol 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.

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