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Erapol XLS85A

POLYESTER TDI PREPOLYMER –
LOW FREE TDI CONTENT

TECHNICAL DATASHEET

Erapol XLS85A is a new generation of isocyanate-terminated polyester based polyurethane prepolymer with the added benefit of extremely low monomer content. It is formulated for use with MOCA curative and gives a final hardness of 85 Shore A.

Additionally, **Erapol XLS85A** has a very low free TDI content (less than 0.1%). The low viscosity and long pot-life allow for greater processing flexibility.

Application

Typical uses of this polymer include forklift truck tyres, roles and gears, die pads etc.

Product Specification

% NCO	3.50 ± 0.20
Specific Gravity at 77°F (25°C)	1.19
Viscosity at 176°F (80°C) (cps)	1500 - 1700
Color	Clear, light amber

Mixing and Curing Conditions

		XLS85A / MOCA	XLS85A / Ethacure 300
Erapol XLS85A	(pph)	100	100
MOCA Level	(pph)	10.6	-
Ethacure 300 Level	(pph)	-	8.5
Recommended % Theory		95	95
Erapol Temperature	°F (°C)	167 – 185 (75 – 85)	167 – 176 (75 – 80)
Curative Temperature	°F (°C)	230 – 248 (110 – 120)	68 – 86 (20 – 30)
Pot Life	(mins)	14	10
Demould Time at 212°F (100°C)	(mins)	35	20
Post Cure Time at 212°F (100°C)	(hrs)	16	16

Note: pph MOCA and Ethacure 300 are 95% theory based on midpoint NCO.



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Physical Properties

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

		XLS85A / MOCA	XLS85A / E300*	TEST METHOD
Hardness	(Shore A)	85	85	ASTM D2240
Tensile Strength	psi (MPa)	5801 (40)	6324 (43.6)	ASTM D412
100% Modulus	psi (MPa)	769 (5.3)	783 (5.4)	ASTM D412
200% Modulus	psi (MPa)	1247 (8.6)	1146 (7.9)	ASTM D412
300% Modulus	psi (MPa)	2016 (13.9)	1798 (12.4)	ASTM D412
Elongation	(%)	535	615	ASTM D412
Angle Tear, Die C	pli (kN/m)	455 (79.6)	501 (87.8)	ASTM D624
Split Tear	pli (kN/m)	124 (21.8)	123 (21.5)	ASTM D470-05
Bashore Rebound	(%)	35	36	ASTM D2632
DIN Abrasion Resistance 10N	(mm ³)	59	67	ASTM D5963
Compression Set / 22 hr at 70°C	(%)	36	31	ASTM D395, B
Cured Specific Gravity	(g/cm ³)	1.26	1.24	ASTM D1817

*Ethacure 300

Processing Procedure

1. **Erapol XLS85A** 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 **XLS85A**, the MOCA must first be melted at 230 – 248°F (110 – 120°C) 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 molds, which have been preheated to 212°F (100°C) and pre-coated with release agent.

Handling Precautions

Erapol XLS85A 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.



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