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Erapol ECP72A

HIGH PERFORMANCE POLYURETHANE
ELASTOMER SYSTEM

TECHNICAL DATASHEET

Erapol ECP72A is based on a high molecular weight polycaprolactone polyol. It produces an elastomer with excellent mechanical properties, similar to that of polyester pre-polymers, with the added advantage of superior hydrolysis resistance.

When cured with MOCA, **Erapol ECP72A** produces a 72 Shore A elastomer. Polymers made from **Erapol ECP72A** exhibit outstanding abrasion resistance, high load bearing capability, low heat build-up and excellent low temperature flexibility.

Product Specification

% NCO	3.30 ± 0.20
Specific Gravity at 77°F	1.1
Viscosity at 176°F (cPs)	1200 - 2000
Colour	Clear to pale yellow

Mixing and Curing Conditions

		ECP72A / MOCA	ECP72A / Eracure 300	ECP72A / Eracure 110
Erapol ECP72A	(pph)	100	100	100
MOCA Level	(pph)	10.0	-	-
Ethacure 300 Level	(pph)	-	8.0	-
Eracure 110 Level	(pph)	-	-	8.5
Recommended % Theory		95	95	95
Erapol ECP72A Temperature	°F (°C)	167 - 185 (75 - 85)	158 - 176 (70 - 80)	158 - 176 (70 - 80)
Curative Temperature	°F (°C)	230 - 248 (110 - 120)	77 - 86 (25 - 30)	77 - 86 (25 - 30)
Pot Life at 176°F	(mins)	15	15 - 20	15 - 20
Demould Time at 212°F	(hrs)	2	2	2
Post Cure Time at 212°F	(hrs)	16	16	16



This information is of general nature and is supplied without recommendation or 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.

		ECP72A/MOCA	ECP72A/E300*	ECP72A/E110**	TEST METHOD
Hardness	(Shore A)	71 ± 3	79 ± 3	79 ± 3	ASTM D2240
Tensile Strength	psi (MPa)	4786 (33)	5946 (41)	5656 (39)	ASTM D412
100% Modulus	psi (MPa)	333 (2.3)	826 (5.7)	754 (5.2)	ASTM D412
200% Modulus	psi (MPa)	449 (3.1)	1218 (8.4)	1102 (7.6)	ASTM D412
300% Modulus	psi (MPa)	565 (3.9)	1856 (12.8)	1624 (11.2)	ASTM D412
Elongation	(%)	620	540	600	ASTM D412
Angle Tear Strength, Die C	pli (kN/m)	400 (70)	457 (80)	411 (72)	ASTM D624
DIN Resilience	(%)	60	57	58	DIN 53512
DIN Abrasion Resistance 10N	(mm ³)	50	53	33	ASTM D5963
DIN Abrasion Resistance 5N	(mm ³)	25	26	16	ASTM D5963
Compression Set / 22 hr at 70°C	(%)	26	25	23	ASTM D395 - B
Cured Specific Gravity	(g/cm ³)	1.15	1.15	1.15	ASTM D1817

*Eracure 300 **Eracure 110

Processing Procedure

1. **Erapol ECP72A** should be heated to 158 – 176°F (70 - 80°C) and thoroughly degassed at - 95kPa of vacuum until excessive foaming stops.
2. MOCA must be melted at 230 – 248°F (110 - 120°C) prior to mixing; after adding the curative, mix thoroughly being careful not to entrap air in the mixture. The mixed material can be degassed after mixing if bubble-free cast parts are required.
3. Pour mixed **Erapol ECP72A** / MOCA into moulds that have been preheated to 212°F (100°C) and pre-coated with release agent.
4. Allow the cast part to cure before demoulding, and ensure the part is post-cured as described above to ensure maximum physical properties are achieved.

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

Read and understand the product material safety data sheet (MSDS) before using this product.

Erapol ECP72A contains small amounts of free TDI. It should be used in well-ventilated areas. Avoid inhaling vapours and protect skin and eyes from contact.

In case of skin contact, immediately remove excess, wash with soap and water. In case of eye contact, flush with water for at least 15 minutes.

If nose, throat or lungs become irritated from inhaling vapours, remove exposed person to fresh air. Call a physician.