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AUSTRALIA
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Erapol ECP61A

HIGH PERFORMANCE POLYCAPROLACTONE BASED
POLYURETHANE ELASTOMER

TECHNICAL DATASHEET

This innovative product is based on a high molecular weight **POLYCAPROLACTONE** polyol. This polyol gives excellent mechanical properties, similar to that of polyester pre-polymers, with the added advantage of superior hydrolysis resistance.

When cured with **MOCA**, **Erapol ECP61A** produces a **60 Shore A** elastomer without the use of reactive or non-reactive plasticisers.

Polymers made from **Erapol ECP61A** exhibit outstanding abrasion resistance, high load bearing capability, low heat build-up and excellent low temperature flexibility.

Product Specification

% NCO	3.75 ± 0.2
Specific Gravity at 25°C	1.15
Viscosity at 80°C (cps)	1000 - 1600
Colour	Clear, light amber

Mixing and Curing Conditions

		ECP61A / MOCA	ECP61A / Ethacure 300
Erapol ECP61A	(pph)	100	100
MOCA Level	(pph)	11.3	-
Ethacure 300 level	(pph)	-	9.1
Recommended % Theory		95	95
Erapol Temperature	(°C)	75 – 85	75 – 85
Curative Temperature	(°C)	110 - 120	20 - 30
Pot Life	(mins)	19	15
Demould Time at 100°C	(hrs)	2	2
Post Cure Time at 100°C	(hrs)	16	16

All results are based on 200 grams of **Erapol ECP61A** at 80°C.



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.

		ECP61A/MOCA	ECP61A/E300	TEST METHOD
Hardness	(Shore A)	60 ± 5	75 ± 5	AS1683.15
Tensile Strength	MPa (psi)	35.0 (5076)	32.0 (4641)	AS1683.11
100% Modulus	MPa (psi)	3.2 (464)	3.5 (508)	AS1683.11
200% Modulus	MPa (psi)	5.8 (841)	5.2 (754)	AS1683.11
300% Modulus	MPa (psi)	8.0 (1160)	7.6 (1102)	AS1683.11
Angle Tear Strength, Die C	(kN/m)	37	57	AS1683.12
Trouser Tear Strength	(kN/m)	10	18	AS1683.12
Elongation	(%)	500	475	AS1683.11
DIN Resilience	(%)	32	33	DIN 53512
DIN Abrasion Resistance 10N	(mm ³)	71	71	AS1683.21
DIN Abrasion Resistance 5N	(mm ³)	36	36	AS1683.21
Compression Set / 22 hr at 70°C	(%)	10	11	AS1683.13
Cured Specific Gravity	(g/cm ³)	1.15	1.15	AS1683.4

Processing Procedure

1. **Erapol ECP61A** should be heated to 80-85°C and thoroughly degassed at -95kpa of vacuum until excessive foaming stops.
2. The Curative should be added to **Erapol ECP61A**. The MOCA must first be melted at 110 - 120°C prior to mixing. Ethacure 300 LC is used at ambient temperatures and does not require heating. After adding the curative, mix thoroughly, being careful not to introduce air into the mixture.
3. Pour mixed **Erapol ECP61A** /MOCA into moulds which have been preheated to 100-110°C and pre-coated with release agent.
4. Cure mixed **Erapol ECP61A** between 100-110°C for 16 hours, to produce maximum physical properties.

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.

The following primers are recommended for the various substrates.

AD-6	Two component metal primer, room temperature cures.
AD-1147	Single component metal primer, ambient to 100°C cure.
PR-1167	Single component primer for rubber and polyurethanes.

NOTE: It is important that all dirt, rust, and grease be removed from surfaces prior to applying the primers.

Handling Precautions

Erapol ECP61A contains small amounts of free TDI. The product should still 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.

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