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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 prepolymers, with the added advantage of superior hydrolysis resistance.

**Erapol ECP61A** can be cured with different curatives to produce elastomers with a range of hardness between 56A and 65A without the use of reactive or non-reactive plasticizers.

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

### Application

Typical uses for this polymer include forklift and caster wheels, screens, cyclones etc.

### Product Specification

	ECP61A	Eracure 105F	Eracure 106
% NCO	3.75 ± 0.20	-	-
Equivalent Weight	-	113	110
Specific Gravity at 77°F	1.15	1.20	1.16
Viscosity (cps)	1200 – 1800 (176°F)	1500 - 2500 (77°F)	900 - 1500 (77°F)
Appearance	Clear, light amber	Opaque tan liquid	Opaque tan liquid

### Processing Procedure

1. **Erapol ECP61A** should be heated to 176-185°F (80-85°C) and thoroughly degassed at - 95kpa of vacuum until excessive foaming stops. **Eracure 105** and **Eracure 106** will need to be mechanically stirred for a minimum of 20 – 30 minutes before removing material.
2. The curative should be added to **Erapol ECP61A**. **Eracure 105** and **Eracure 106** are used at ambient temperatures and do not require heating. After adding the curative, mix thoroughly being careful not to introduce air into the mixture.
3. Pour mixed **Erapol ECP61A /Curative** into moulds which have been preheated to 230°F (110°C) and pre-coated with release agent.
4. Cure mixed **Erapol ECP61A** at 230°F (110°C) for 16 hours, to produce maximum physical properties.



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.

Version 1

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## Mixing and Curing Conditions

		ECP61A / MOCA	ECP61A / E105	ECP61A / E105F	ECP61A / E106	ECP61A / E106F
Erapol ECP61A	(pph)	100	100	100	100	100
MOCA Level	(pph)	11.3	-	-	-	-
Eracure 105 level	(pph)	-	9.4	9.6	-	-
Eracure 106 level	(pph)	-	-	-	9.4	9.4
DABCO 33LV	(pph)	-	-	0.25	-	0.24
Recommended % Theory		95	95	95	95	95
ECP61A Temperature	°F (°C)	176 - 185 (80 - 85)	176 - 185 (80 - 85)	176 - 185 (80 - 85)	176 - 185 (80 - 85)	176 - 185 (80 - 85)
Curative Temperature	°F (°C)	230 - 248 (110 - 120)	68 - 86 (20 - 30)	68 - 86 (20 - 30)	68 - 86 (20 - 30)	68 - 86 (20 - 30)
Pot Life	(mins)	19	10 - 20	6 - 7	15 - 25	7 - 8
Demould Time at 230°F (110°C)	(mins)	120	50	20 - 30	60	20 - 30
Post Cure Time at 230°F (110°C)	(hrs)	16	16	16	16	16

## Physical Properties

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

		ECP61A / MOCA	ECP61A / E105F	ECP61A / E106
Hardness	(Shore A)	60	60	60
Tensile Strength	psi (MPa)	5076 (35)	3481 (24)	3089 (21)
100% Modulus	psi (MPa)	464 (3.2)	363 (2.5)	261 (1.8)
300% Modulus	psi (MPa)	1160 (8.0)	1175 (8.1)	841 (5.8)
Elongation	(%)	500	430	495
Angle Tear Strength, Die C	pli (kN/m)	211 (37)	180 (31.6)	226 (39.5)
Tear Strength D470	pli (kN/m)	-	36.5 (6.4)	31.4 (5.5)
DIN Resilience	(%)	32	49	53
DIN Abrasion Resistance 10N	(mm <sup>3</sup> )	71	28	29
Compression Set /22 hr at 70°C (%)		-	14	14
Cured Specific Gravity	(g/cm <sup>3</sup> )	1.15	1.14	1.14

## Handling Precautions

**Erapol ECP61A** 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. 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.