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AUSTRALIA
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Eracure 105

POLYURETHANE CURATIVE

TECHNICAL DATASHEET

Eracure 105 is a blended liquid aromatic diamine polyurethane curative. It is free of mercury catalyst, MOCA and flammable solvents.

Eracure 105 is a liquid at room temperature and can be processed at ambient or elevated temperatures.

Application

Eracure 105 has been formulated for use in applications where excellent abrasion and wear characteristics are required. It has been designed such that catalyst may be added to the curative to decrease demould time.

Product Specification

	ERACURE 105
Appearance	Opaque tan liquid
Moisture Content (%)	<0.05
Specific Gravity at 20°C	1.2
Viscosity at 25°C (cps)	1500-2500
Prepolymer Temp (°C)	80
Curative Temp (°C)	20 – 30
Pot life (min)	10 - 20

Processing

Eracure 105 is a low viscosity blended curative. Eracure 105 must be mechanically mixed before processing or decanting. Loading can be accomplished with simple hand pumps or gravity feed. Dry nitrogen should be used to blanket curative tanks.

% Theory

Selection of 95% theory is generally recommended. Lowering it to 85% theory will improve compression set and raise 300% modulus (tensile). Increasing to 105% theory will enhance tear strength and elongation.

Physical Properties

The following physical properties were obtained by curing Erapol ECP61A with Eracure 105. Physical properties will depend on the prepolymer used.

		ERAPOL ECP61A / ERACURE 105	TEST METHOD
Hardness	(Shore A)	63 ± 3	AS1683.15
Tensile Strength	(MPa)	21.3	AS1683.11
Angle Tear Strength, Die C	(kN/m)	36	AS1683.12
Elongation	(%)	425	AS1683.11
DIN Resilience	(%)	49	DIN 53512
DIN Abrasion Resistance 10N	(mm^3)	37	AS1683.21
DIN Abrasion Resistance 5N	(mm^3)	18	AS1683.21

Mix Ratio

Mix ratio with ECP61A is 9.4 parts of Eracure 105.
To calculate the amount of **Eracure 105** required to cure any elastomer, the following can be used.

Pbw of Eracure 105 required to cure 100 pbw of prepolymer = %NCO x 2.64 x %Theory

For further details contact Era Polymers Technical Department.

Mould temperature and Post Cure

Mould temperature is generally higher than mix temperature. Moulds should be preheated between 80 - 100°C and maintained at that temperature during cure. Demould time will vary with prepolymer and part size. Small parts (2 kg) can usually be demoulded after 20 minutes, while larger parts will require more time.

TDI polyether and polyester prepolymers cured with **Eracure 105** should be cured for 16 hours at 100°C to attain maximum physical properties.

Reducing Demould Time

Eracure 105 can be combined with a catalyst such as Oleic acid to reduce the gel time and demould time. The following table was generated from mixing Erapol ECP61A(300g, 80°C)/Eracure 105 (28.2g, 25°C)/oleic acid (see table, 25°C)

Oleic acid	Gel Time	Demould Time
0 pph	20 min	80 min
0.17 pph	12.5 min	70 min
0.33 pph	9 min	50 min
0.50 pph	8 min	50 min

Storage, Handling and Safety

Eracure 105 should be stored in sealed containers and protected from moisture and oxidation by dry nitrogen. Although the product is not particularly hygroscopic, containers should not be left open to the atmosphere. Chemical stability is excellent under normal conditions, but storage in areas of excess heat and/or high humidity should be avoided. Flush an opened container with dry nitrogen before resealing.

In the event of a spill, contain with dykes or absorbents to prevent entry into sewers or streams. Small spills can be taken up with dry chemical absorbent. Refer to MSDS for further information.

Personnel handling this product should use safety goggles when there is a possibility of eye contact. In case of eye contact, immediately flush with water for 15 minutes and get medical attention. In case of skin contact, wash the exposed area with soap and water. If ingested, give two glasses of water.