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Erapol ETL94A

POLYETHER (PPG) TDI PREPOLYMER

TECHNICAL DATASHEET

Erapol ETL94A is a liquid isocyanate terminated pre-polymer based on PPG polyol.

Having a PPG backbone means that this pre-polymer is considerably cheaper than polymers made from PTMEG.

Additionally **Erapol ETL94A** can be blended with premium grade compounds to produce formulations of intermediate performance/cost.

Applications

Generally used in applications where the outstanding properties of PTMEG based materials are not needed.

Product Specification

% NCO	6.25 ± 0.2
Specific Gravity at 25°C	1.08
Viscosity at 80°C (cps)	150 - 500
Colour	Amber

Mixing and Curing Conditions

		ETL94A / MOCA	ETL94A / Ethacure 300	ETL94A / Eracure 110
Erapol ETL94A	(pph)	100	100	100
MOCA Level	(pph)	19.0	-	-
Ethacure 300 Level	(pph)	-	15.0	-
Eracure 110 Level	(pph)	-	-	16.2
Recommended % Theory		95	95	95
Erapol Temperature	(°C)	75 - 85	60 - 70	60 - 70
Curative Temperature	(°C)	100 - 110	20 - 30	20 - 30
Pot Life	(mins)	4 - 6	4	4
Demould Time at 100°C	(hrs)	1	1	1
Post Cure Time at 100°C	(hrs)	16	16	16



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

		ETL94A/MOCA	ETL94A/E300*	ETL94A/E110**	TEST METHOD
Hardness	(Shore A)	95 ± 3	95 ± 3	95 ± 3	AS1683.15
Tensile Strength	MPa (psi)	28.0 (4061)	23.1 (3350)	30.0 (4351)	AS1683.11
100% Modulus	MPa (psi)	6.2 (899)	5.2 (754)	12.6 (1827)	AS1683.11
200% Modulus	MPa (psi)	-	-	15.5 (2248)	AS1683.11
300% Modulus	MPa (psi)	17.2 (2495)	14.5 (2103)	20.4 (2959)	AS1683.11
Angle Tear Strength, Die C	(kN/m)	89	75	69	AS1683.12
Trouser Tear Strength	(kN/m)	-	-	34	AS1683.12
Elongation	(%)	350	330	480	AS1683.11
DIN Resilience	(%)	-	-	40	DIN53512
DIN Abrasion Resistance 10N	(mm ³)	145	-	65	AS1683.21
DIN Abrasion Resistance 5N	(mm ³)	49	48	33	AS1683.21
Compression Set / 22 hr @ 70°C	(%)	50	60	60	AS1683.13
Cured Specific Gravity	(g/cm ³)	1.14	1.14	1.14	AS1683.4

Please note * Ethacure 300

** Eracure 110

Processing Procedure

1. **Erapol ETL94A** should be heated to the recommended processing temperature and thoroughly degassed at -95 kpa of vacuum until excessive foaming stops.
2. The curative should then be added to the **ETL94A**. MOCA must first be melted at 110 - 120°C prior to mixing and Ethacure 300/Eracure 110 processed at room temperature. After adding the curative, mix thoroughly, being careful not to introduce air into the mixture.

When the temperature of MOCA is between 110 - 120°C, the casting will appear to have MOCA flakes throughout. If a clear MOCA casting is required, then process **ETL94A** at 70°C and MOCA at 90°C.

3. Pour mixed materials into moulds that have been pre-heated to 80 - 100°C and pre-coated with release agent.



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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

Erapol ETL94A contains a small amount of free TDI. Therefore the product should 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. Call a physician.

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