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## Erapol L-E93A

POLYETHER (PTMEG) TDI PREPOLYMER

### TECHNICAL DATASHEET

**Erapol L-E93A** is a liquid isocyanate terminated pre-polymer based on PTMEG polyol.

Polymers made from **Erapol L-E93A** exhibit outstanding abrasion resistance, high load bearing capability, low heat build-up and excellent low temperature flexibility.

Moreover, **Erapol L-E93A** has a lower free TDI content compared to conventional grades.

### Application

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

### Product Specification

|                                 |                    |
|---------------------------------|--------------------|
| % NCO                           | 5.00 ± 0.20        |
| Specific Gravity at 77°F (25°C) | 1.05               |
| Viscosity at 176°F (80°C) (cps) | 500 - 900          |
| Colour                          | Clear, light amber |

### Mixing and Curing Conditions

|                                 |         | L-E93A / MOCA     | L-E93A / Eracure 300 | L-E93A / Eracure 110 |
|---------------------------------|---------|-------------------|----------------------|----------------------|
| Erapol L-E93A                   | (pph)   | 100               | 100                  | 100                  |
| MOCA Level                      | (pph)   | 15.0              | -                    | -                    |
| Eracure 300 Level               | (pph)   | -                 | 12.0                 | -                    |
| Eracure 110 Level               | (pph)   | -                 | -                    | 12.9                 |
| Recommended % Theory            |         | 95                | 95                   | 95                   |
| Erapol Temperature              | °F (°C) | 167-185 (75-85)   | 149 -167 (65 – 75)   | 149 -167 (65 – 75)   |
| Curative Temperature            | °F (°C) | 230-248 (110-120) | 68 – 86 (20 – 30)    | 68 – 86 (20 – 30)    |
| Pot Life                        | (mins)  | 8                 | 8                    | 8                    |
| Demould Time at 212°F (100°C)   | (hrs)   | 1                 | 1                    | 1                    |
| Post Cure Time at 212°F (100°C) | (hrs)   | 16                | 16                   | 16                   |



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## Physical Properties

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

|   |                      | L-E93A /<br>MOCA | L-E93A /<br>E300* | L-E93A /<br>E110** |
|---|----------------------|------------------|-------------------|--------------------|
| <b>Hardness</b>                         | (Shore A)            | 93               | 93                | 89                 |
| <b>Tensile Strength</b>                 | psi (MPa)            | 6381 (44)        | 5802 (40)         | 5076 (35)          |
| <b>100% Modulus</b>                     | psi (MPa)            | 1595 (11)        | 1102 (7.6)        | 1595 (11)          |
| <b>200% Modulus</b>                     | psi (MPa)            | 1813 (12.5)      | 1653 (11.4)       | 2219 (15.3)        |
| <b>300% Modulus</b>                     | psi (MPa)            | 2784 (19.2)      | 2248 (15.5)       | 2756 (19)          |
| <b>Angle Tear Strength, Die C</b>       | pli (kN/m)           | 628 (110)        | 508 (89)          | 559.5 (98)         |
| <b>Split Tear Strength</b>              | pli (kN/m)           | 325 (57)         | 337 (59)          | 297 (52)           |
| <b>Elongation</b>                       | (%)                  | 450              | 420               | 390                |
| <b>DIN Resilience</b>                   | (%)                  | 50               | 50                | 55                 |
| <b>DIN Abrasion Resistance 10N</b>      | (mm <sup>3</sup> )   | 61               | 62                | 27                 |
| <b>Compression Set / 22hrs at 158°F</b> | (%)                  | 29               | 38                | 33                 |
| <b>Cured Specific Gravity</b>           | (g/cm <sup>3</sup> ) | 1.10             | 1.10              | 1.10               |

Please note \* Eracure 300; \*\* Eracure 110

## Processing Procedure

1. **Erapol L-E93A** should be heated to 167-185°F (80 ± 5°C) and thoroughly degassed at -95kpa of vacuum until excessive foaming stops.
2. The curative should be added to **L-E93A**, the MOCA must first be melted at 230-248°F (110 - 120°C) prior to mixing and Eracure 300/Eracure 110 processed at room temperature. After adding the curative, mix thoroughly, being careful not to introduce air into the mixture.
3. Pour mixed materials into moulds that have been preheated to 176-230°F (80 - 100°C) and pre-coated with release agent.

**NOTE:** If a longer pot life is required, then **L-E93A** should be used at 158-167°F (70 - 75°C), MOCA at 230-248°F (110 - 120°C) or Eracure 300/Eracure 110 at room temperature. Post cure temperature should be increased to 212-230°F (100 - 110°C) to avoid glassiness in the final polymer. Shrinkage will also be minimised if the above conditions are used.

## 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 L-E93A** contains small amounts 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.