A New Era in Polyurethane Elastomers
Era Polymers is an Australian owned and operated company specialising in the field of Polyurethane Chemistry. The company was started in April 1986, in a home office, by George and Tina Papamanuel. Since those humble beginnings it has grown to become the largest Polyurethane Systems House in Australia.

We pride ourselves on our enviable reputation for outstanding product quality. Era Polymers is a broadly based Polyurethane Systems House, exporting products and providing technical service to over 70 countries worldwide.

Era Polymers operates six divisions within the company: Elastomers, Foams, Coatings, Machinery, Trading and Toll Manufacturing. We have four state of the art manufacturing facilities: two are located in the Sydney suburb of St Marys, one in Melbourne and one in Auckland, New Zealand. Our Research and Development Centre is also based in Sydney, NSW. Additional Sales Offices are based in Adelaide, Auckland, Brisbane, Melbourne, and Singapore. Stock is warehoused in all capital cities of Australia, as well as Belgium, Canada, China, Dubai, Malaysia, New Zealand, South Africa and the USA. Our customers worldwide are serviced by our extensive distributor network.

In an increasingly impersonal world, Era Polymers is dedicated to the principle – Business, is people doing business with people.
Superior cost advantage and performance has led to many instances of replacing metal, rubber, wood and plastic with Erapol elastomers. Some applications are shown in the table below.

<table>
<thead>
<tr>
<th>Industry</th>
<th>Applications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Automotive</td>
<td>Grommets, bearings, bushes, flexible couplings.</td>
</tr>
<tr>
<td>Building and Construction</td>
<td>Moulds for concrete, gate seals, concrete pump parts, waterproofing.</td>
</tr>
<tr>
<td>Coated fabrics</td>
<td>Conveyor belts, fuel storage tanks, power transmission belts.</td>
</tr>
<tr>
<td>Electrical</td>
<td>Encapsulation, insulation, potting, cable joining.</td>
</tr>
<tr>
<td>Engineered Components</td>
<td>Gears, sprockets, wire guides, rail draft gear, stripper plates, press brake pads, textile yarn guides, cutting boards, business machine belts, couplings.</td>
</tr>
<tr>
<td>Food</td>
<td>Chute lining, grain buckets.</td>
</tr>
<tr>
<td>Mining</td>
<td>Bucket liners, conveyor rollers, scraper blades, floatation cell impellers, pump linings, grading screens, lined pipes, cross-over pads.</td>
</tr>
<tr>
<td>Oil, Chemical and Marine</td>
<td>Bushings, bearings, hydrocyclones, buoys, pipeline pigs and scrapers, fenders, valve seats.</td>
</tr>
<tr>
<td>Rollers</td>
<td>Board rollers, nip rollers, metal forming, printing, conveyor, can coating, paper mill.</td>
</tr>
<tr>
<td>Seals and Gaskets</td>
<td>Pneumatic and oil seals, diaphragms.</td>
</tr>
<tr>
<td>Footwear</td>
<td>Shoe soles, bottom moulding diaphragms, wear plates, energy absorbing insoles.</td>
</tr>
<tr>
<td>Wheel and Tyres</td>
<td>Fork-lift tyres, heavy duty castor wheels, escalator wheels, roller skate wheels, roller blade wheels.</td>
</tr>
</tbody>
</table>
What are Polyurethanes?

To the Chemist:

They are polymeric materials containing urethane groups

\[
\begin{align*}
\text{H} & \quad \text{O} \\
\text{I} & \quad \text{II} \\
\text{N} & \quad \text{C} \quad \text{O} \\
\end{align*}
\]

produced by the reaction of a polyol with an isocyanate.

To the Engineer:

They are materials offering a number of unique properties which enable products to be manufactured to meet a range of demanding applications.

To the Accountant:

They are materials which can be processed with low energy consumption and relatively low capital outlay for machinery to yield products which show cost saving through improved performance.

Polyurethane Elastomers are unique design and construction materials combining many of the advantages of rigid plastics, metals and ceramics with the extensibility of rubber.

While it is not claimed that polyurethanes are the answer to all problems, they are extremely versatile and this is the key to their widespread and growing use.

The main types of polyurethanes are:

- POLYETHER/TDI
- POLYETHER/MDI
- POLYESTER/TDI
- POLYESTER/MDI
- POLYCAPROLACTONE/TDI
- POLYCAPROLACTONE/MDI
- ALIPHATIC SYSTEMS
- POLYUREA SYSTEMS

These are also known as the “chemical backbones”. Each has its own performance advantages. Please consult the Era Polymers Technical Service Department for specific recommendations.

As a general guide:

Polyethers are recommended for applications where parts undergo dynamic stress, i.e. they incur lower heat build-up. They also have advantages in high resilience, low temperature performance and resistance to water attack (hydrolysis). Polyethers also have lower viscosity and specific gravity.

Polyester based urethanes have superior cut, tear, abrasion, oil and solvent resistance.

MDI based products have lower isocyanate odour than similar TDI types and have superior hydrolysis resistance and often have higher resilience.

TDI based products are less sensitive to moisture, have shorter demould times and lower cure temperature requirements compared to MDI types.

Polycaprolactones exhibit good cut, tear, load bearing and abrasion resistance with the added advantage of better hydrolysis resistance when compared to Polyesters.

Aliphatic Systems have high resistance to weathering, high chemical resistance and durability in aggressive environments.

Polyurea Systems are fast reacting amine terminated systems used typically in spray applications. These systems have very good water and chemical resistance.
Properties of Erapol Elastomers

The most common method of classifying polyurethanes is according to their hardness. The diagram (right) shows how polyurethanes compare in hardness to other materials.

1. Hardness

Erapol elastomers are available in a wide range of hardness, from 10 Shore A, which is softer than an eraser, to over 85 Shore D which is much harder than a golf ball. For those unfamiliar with this method of measuring hardness, the pictures to the right show two typical Durometers.

Hardness measurement is a useful tool, however variation in readings by one or two units can be encountered when measuring most polyurethane and rubbers.

Shore A is the most common hardness scale for use up to 95 – 100 Shore A. Any reading above this hardness level should be measured in Shore D scale. The comparison between the two scales is outlined above in Diagram 1.

2. Abrasion Resistance

In severe wear applications Erapol elastomers offer outstanding durability when compared with rubbers, plastics or even metals.

It should be emphasised that abrasion resistance is a complex property. Selection of an appropriate Erapol elastomer should be based on actual experience or simulated service tests. For comparative abrasion data please see Resistance Charts on pages 32 – 33.
3. Compression Properties

Erapol elastomers exhibit greater load-bearing capacity than conventional elastomers of equal hardness. This leads to successful applications such as wheels and industrial tyres, feed rollers and stripper springs. In addition to high load bearing properties in both tension and compression, Erapol elastomers also have a high load bearing capacity in shear.

4. Mechanical Properties

At low hardness all elastomeric materials, including Erapol elastomers will flex under impact. As conventional elastomers are compounded up to higher hardness they tend to lose elasticity and crack under impact. On the other hand, Erapol elastomers when at their highest hardness levels, have significantly better impact resistance than almost all plastics.

The inherent toughness, combined with the many other outstanding properties associated with the high hardness Erapols, leads to many applications in engineering.

5. Tear Strength

Typically, tear strength is a strong indication of toughness and durability. High tear strength leads to longer service life. Erapol elastomers in this regard have a distinct advantage over other conventional elastomers.

There are two common tests used to measure tear strength:

- **Die C Test**
  - Primarily measures resistance to tear initiation.

- **D 470 Test**
  - Primarily measures tear propagation.

6. Resilience

Resilience in conventional elastomers is generally a function of hardness. This often undesirable relationship does not hold true with Erapol elastomers. Products are available in a wide range of resilience.

In shock-absorbing elastomer applications, low rebound compounds are usually used i.e. resilience range of 10-40%. For high frequency vibrations or where quick recovery is required, compounds of 40-65% resilience are used. In general, toughness is enhanced by high resilience.

7. Low Temperature Properties

Many Erapol elastomers remain flexible at very low temperatures and possess outstanding resistance to thermal shock. The low temperature resistance of Erapol elastomers has led to applications below 0°C.
Properties of Erapol Elastomers

8. Tensile Properties

Erapol elastomers are characterised by high elongation, high tensile strength and high modulus. This provides a combination of toughness and durability, over conventional elastomers.

Tensile tests are performed on a tensometer as shown (see right). In this test we are interested in the shape of the overall stress strain curve (see graphs below). A long plateau followed by a steep rise to break indicates high toughness.

We are also interested in ultimate tensile strength and elongation of the Erapol elastomers.

Tensile Strength
(ASTM Methods D412 and E6)
The maximum tensile stress a material is capable of developing. It is the force per unit of the original cross-sectional area which is applied at the time of rupture of a specimen. It is known variously as breaking load, breaking stress and ultimate tensile strength. A dumbell specimen is used for the test.

Elongation
(ASTM Method D412)
The extension between two points produced by a tensile force applied to a specimen. Measured as a percentage of the original distance between the marks. A dumbell specimen is used for the test. Ultimate elongation is the elongation at the moment of rupture.

9. Flex Properties

Erapol elastomers resist cracking under repeated flexing. The rate of cut growth under flexing may be reduced by decreasing the thickness of the part. Unlike other conventional elastomers, Erapol elastomers can be used in very thin sections because of their strength and toughness.

10. Dry Heat Resistance

Whilst many Erapol elastomers are only suitable for continuous operation up to 90°C, intermittent use up to 120°C is possible. Using specially formulated materials, continuous operation up to 120°C or even higher can be achieved.
11. Water Resistance

Depending on the type, Erapol polyether elastomers are resistant to the effects of water immersion and have excellent long-term stability in water up to 50°C. Continuous use in hot water over 80°C is not recommended for standard systems.

Water absorption is very low, in the range of 0.3-1.0% by weight and volume swell is negligible. This means, for example that Erapol elastomers can operate at close tolerance in water lubricated bearings without fear of seizure.

The moisture vapour transmission rate of Erapol elastomers is relatively high and advantage is taken of this fact in some applications, e.g. poromeric shoe upper materials. However, where this property might be disadvantageous, the advice of our Technical Service Department should be sought on the suitability of Erapol elastomers for any particular application.

12. Electrical Properties

Typically Erapol elastomers have very good insulating properties and are used in potting and encapsulating applications.

13. Oxygen and Ozone Resistance

Products made from Erapol elastomers are highly resistant to degradation by atmospheric oxygen and ozone. Tests on samples, aged over 500 hours in an atmosphere containing 3ppm ozone, show no attack even while under 20% strain. Past experience has shown that materials which resist the concentration for several hundred hours are virtually immune to attack by normal atmospheric concentrations.

This makes Erapol elastomers highly successful when employed around electrical equipment, without the hardening and cracking often experienced with conventional elastomers and indeed many plastics.

14. Oil, Grease and Chemical Resistance

Many rubbers and plastics have excellent resistance to one or more specific solvents, oils or chemicals. Erapol elastomers are resistant to a wide range of chemicals which means they can be used in a multitude of chemical environments with the exception of strong acids, alkalis and certain solvents.

As with all materials being examined for oil and chemical resistance, it is best to place a sample of the material in actual service. If this is not practical, tests should be devised which simulate actual service conditions as closely as possible.

For specific information on chemical resistance, please see the Chemical Resistance Chart on page 35.
15. Radiation Resistance

Erapol elastomers are considered to have better resistance to gamma ray radiation than conventional elastomers. They retain a high proportion of their original flexibility and toughness when exposed to gamma radiation.

16. Flame Resistance

Erapol elastomers can be formulated to meet several self extinguishing or fire resistant specifications.

17. Mould, Mildew, Fungus Resistance

Suitably formulated Erapol elastomers, usually polyether based, do not support fungal growth and are generally resistant to such attack. This makes them particularly suitable for tropical environments.

18. Frictional Properties

Erapol elastomers resemble most plastics and elastomers, in that friction against non-lubricated surfaces generally decrease with increasing hardness. A high coefficient of friction is valuable for such products as solid industrial tyres, feed rollers, drive rollers etc.

High hardness compounds have the lowest coefficient of friction, and formulations having very low values are available. Such formulations are widely used for bushings, bearings and wear strips. Wear of shafts and mating surfaces is minimal, and usually considerably less than with plastic materials.

19. Bonding to other materials

During the initial moulding process and under controlled conditions, Erapol elastomers can be bonded to a wide variety of substrates. High bond strength can be obtained to most metals, wood and many plastics. Bond strength often exceeds the tear strength of the Erapol elastomers. The bond strength of Erapol to metal is usually several times higher than that of rubber to metal.

It is more difficult to bond cured Erapol elastomer sheet or moulding to other materials but special techniques have been developed to satisfy most requirements.

20. Machinability

Erapol elastomers can be machined using conventional equipment but you should consult our Technical Service Department for more information.

21. Low Temperature Testing

Sub zero temperature testing is primarily designed for foam cryogenic applications where products are routinely analysed at temperatures below -165°C. This allows Era the capability of testing elastomers at elevated temperatures to specific test methods including Tensile, Elongation, Compression and Angle tear (Die C). Elevated and sub zero temperature testing has extended Era Polymer’s scope of testing capability, covering most of the elastomer market requirements.
1. Shelf Life and Storage

Most Erapol brand prepolymers have a shelf life of 12 months when stored unopened in their original containers at temperatures less than 25°C. The isocyanate content of all Erapol prepolymers will decrease by reaction with moisture or heat. Partial drums should be blanketed with dry nitrogen.

2. Effects of Heating the Prepolymer

The isocyanate (NCO) content of all prepolymers decreases with time and especially with exposure to heat. The table below shows the accumulated time taken at various temperatures to degrade prepolymers.

<table>
<thead>
<tr>
<th>Temperature/°C</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>60</td>
<td>7 days</td>
</tr>
<tr>
<td>70</td>
<td>3 days</td>
</tr>
<tr>
<td>80</td>
<td>36 hours</td>
</tr>
<tr>
<td>90</td>
<td>12 hours</td>
</tr>
<tr>
<td>100</td>
<td>8 hours</td>
</tr>
</tbody>
</table>

3. Toxicity

Erapol prepolymers contain reactive isocyanate groups and should be handled with care. Avoid inhalation of vapours and skin contact. Appropriate personal protective equipment (PPE) should be worn and adequate ventilation provided. For further information consult the Material Safety Data Sheets.

4. Effects of Curative Level

All physical properties of Erapol elastomers are sensitive to curative level. The curative level is often expressed as % theory. The table below shows how physical properties vary with % theory.

<table>
<thead>
<tr>
<th>Physical Properties</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hardness</td>
<td>Remains unchanged between 85-100 %</td>
</tr>
<tr>
<td>Tensile Strength</td>
<td>Maximum physical properties achieved between 90-95% theory.</td>
</tr>
<tr>
<td>Tear Strength</td>
<td>Maximum properties at 100-105% theory. Significantly lower outside the range.</td>
</tr>
<tr>
<td>Abrasion Resistance</td>
<td>Remains relatively unchanged between 85-105% theory. Slightly better at 100-105% theory.</td>
</tr>
<tr>
<td>Flex Life</td>
<td>Maximum property at 100-105% theory.</td>
</tr>
<tr>
<td>Elongation</td>
<td>Again maximum at 100-105% theory.</td>
</tr>
<tr>
<td>Compression Set and Heat Resistance</td>
<td>Best at 85-95% theory.</td>
</tr>
</tbody>
</table>
## Product Reference Guide

### Era Polymers

### MDI Systems

<table>
<thead>
<tr>
<th>Shore A</th>
<th>Shore D</th>
<th>Polyester / MDI</th>
<th>Caprolactone / MDI</th>
<th>Polyether / MDI</th>
<th>EKQ 3 Component Quasi Ether</th>
<th>EKQ 2 Component Quasi Ether</th>
<th>BKEQ 3 Component Quasi Ether</th>
<th>EKF 2 Component Full Prepolymer Ether</th>
</tr>
</thead>
<tbody>
<tr>
<td>25A</td>
<td></td>
<td>EME165 QUASI</td>
<td>EME165 Full Prepolymer</td>
<td>EMC</td>
<td>EMD135 QUASI</td>
<td>EMD135 Full Prepolymer</td>
<td>EKQ-60A</td>
<td>EKQ-60A</td>
</tr>
<tr>
<td>30A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>35A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>40A</td>
<td></td>
<td>EME165/40A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>45A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>50A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>55A</td>
<td></td>
<td>EME165/55A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>60A</td>
<td></td>
<td>EME165/60A</td>
<td></td>
<td></td>
<td>EMD135/60A</td>
<td>EKQ-60A</td>
<td>EKQ-60A</td>
<td>BKEQ-60A</td>
</tr>
<tr>
<td>65A</td>
<td>20D</td>
<td>EME165/65A</td>
<td></td>
<td></td>
<td>EMD135/65A</td>
<td>EKQ-65A</td>
<td>EKQ-65A</td>
<td></td>
</tr>
<tr>
<td>70A</td>
<td></td>
<td>EME165/70A</td>
<td></td>
<td></td>
<td>EMD135/70A</td>
<td>EKQ-70A</td>
<td>EKQ-70A</td>
<td>BKEQ-70A</td>
</tr>
<tr>
<td>75A</td>
<td></td>
<td>EME165/75A</td>
<td></td>
<td></td>
<td>EMD135/75A</td>
<td>EKQ-75A</td>
<td>EKQ-75A</td>
<td></td>
</tr>
<tr>
<td>80A</td>
<td>30D</td>
<td>EME165/80A</td>
<td>EM E80A</td>
<td>EMD135/80A</td>
<td>EKQ-80A</td>
<td>EKQ-80A</td>
<td>BKEQ-80A</td>
<td>EKF80A</td>
</tr>
<tr>
<td>85A</td>
<td></td>
<td>EME165/85A</td>
<td>EM E85A</td>
<td>EMC 85A</td>
<td>EMD135/85A</td>
<td>EKQ-85A</td>
<td>EKQ-85A</td>
<td>EKF85A</td>
</tr>
<tr>
<td>90A</td>
<td>40D</td>
<td>EME165/90A</td>
<td>EM E90A</td>
<td>EMC 90A</td>
<td>EMD135/90A</td>
<td>EKQ-90A</td>
<td>EKQ-90A</td>
<td>EKF90A</td>
</tr>
<tr>
<td>95A</td>
<td></td>
<td>EME165/95A</td>
<td>EM E95A</td>
<td>EMC 95A</td>
<td>EMD135/95A</td>
<td>EKQ-95A</td>
<td>EKQ-95A</td>
<td>EKF95A</td>
</tr>
<tr>
<td>100A</td>
<td>50D</td>
<td>EME165/100A</td>
<td></td>
<td></td>
<td>EMD52D</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>57D</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>60D</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>EKQ60D</td>
<td></td>
</tr>
<tr>
<td>65D</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>EKQ65D</td>
<td></td>
</tr>
<tr>
<td>70D</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>EKQ70D</td>
<td></td>
</tr>
<tr>
<td>75D</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>80D</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Polyester
- Oil / solvent resistance
- High impact abrasion resistance
- Excellent mechanical properties
- Temperature resistance
- Excellent vibratory dampening

They are not recommended for use in high humidity or exposure to water, as volume swell and reduction of properties may result.

### Caprolactones
- High tear strength
- High tensile strength
- Solvent resistance
- High impact abrasion resistance
- Low heat build up

They exhibit excellent mechanical and solvent resistance properties with the added advantage of superior wear and tear.

### Polyether
- Excellent hydrolytic stability
- Fungus resistance
- Excellent mechanical properties
- Low temperature flexibility
- Excellent sliding abrasion resistance

Due to the inherent advantages in low heat build up, polyether-based urethanes are recommended for applications undergoing high stress.
### Cold Castables / TDI

<table>
<thead>
<tr>
<th>Shore A</th>
<th>Shore D</th>
</tr>
</thead>
<tbody>
<tr>
<td>25A</td>
<td>ECP/EC1</td>
</tr>
<tr>
<td>30A</td>
<td>ECP/EC1</td>
</tr>
<tr>
<td>35A</td>
<td>ECP/EC1</td>
</tr>
<tr>
<td>40A</td>
<td>ECP/EC1</td>
</tr>
<tr>
<td>45A</td>
<td>ECP/EC1</td>
</tr>
<tr>
<td>50A</td>
<td>ECP/EC1</td>
</tr>
<tr>
<td>55A</td>
<td>ECP/EC1</td>
</tr>
<tr>
<td>60A</td>
<td>ECP/EC1</td>
</tr>
<tr>
<td>65A</td>
<td>ECP/EC1</td>
</tr>
<tr>
<td>70A</td>
<td>ECP/EC1</td>
</tr>
<tr>
<td>75A</td>
<td>ECP/EC1</td>
</tr>
<tr>
<td>80A</td>
<td>ECP/EC1</td>
</tr>
<tr>
<td>82A</td>
<td>ECP/EC1</td>
</tr>
<tr>
<td>85A</td>
<td>ECP/EC1</td>
</tr>
<tr>
<td>90A</td>
<td>ECP/EC1</td>
</tr>
<tr>
<td>91A</td>
<td>ECP/EC1</td>
</tr>
<tr>
<td>93A</td>
<td>ECP/EC1</td>
</tr>
<tr>
<td>95A</td>
<td>ECP/EC1</td>
</tr>
<tr>
<td>100A</td>
<td>ECP/EC1</td>
</tr>
</tbody>
</table>

### Polyester / TDI

<table>
<thead>
<tr>
<th>Shore A</th>
<th>Shore D</th>
</tr>
</thead>
<tbody>
<tr>
<td>25A</td>
<td>ECP/EC1</td>
</tr>
<tr>
<td>30A</td>
<td>ECP/EC1</td>
</tr>
<tr>
<td>35A</td>
<td>ECP/EC1</td>
</tr>
<tr>
<td>40A</td>
<td>ECP/EC1</td>
</tr>
<tr>
<td>45A</td>
<td>ECP/EC1</td>
</tr>
<tr>
<td>50A</td>
<td>ECP/EC1</td>
</tr>
<tr>
<td>55A</td>
<td>ECP/EC1</td>
</tr>
<tr>
<td>60A</td>
<td>ECP/EC1</td>
</tr>
<tr>
<td>65A</td>
<td>ECP/EC1</td>
</tr>
<tr>
<td>70A</td>
<td>ECP/EC1</td>
</tr>
<tr>
<td>75A</td>
<td>ECP/EC1</td>
</tr>
<tr>
<td>80A</td>
<td>ECP/EC1</td>
</tr>
<tr>
<td>82A</td>
<td>ECP/EC1</td>
</tr>
<tr>
<td>85A</td>
<td>ECP/EC1</td>
</tr>
<tr>
<td>90A</td>
<td>ECP/EC1</td>
</tr>
<tr>
<td>91A</td>
<td>ECP/EC1</td>
</tr>
<tr>
<td>93A</td>
<td>ECP/EC1</td>
</tr>
<tr>
<td>95A</td>
<td>ECP/EC1</td>
</tr>
<tr>
<td>100A</td>
<td>ECP/EC1</td>
</tr>
</tbody>
</table>

### Caprolactone / TDI

<table>
<thead>
<tr>
<th>Shore A</th>
<th>Shore D</th>
</tr>
</thead>
<tbody>
<tr>
<td>25A</td>
<td>ECP/EC1</td>
</tr>
<tr>
<td>30A</td>
<td>ECP/EC1</td>
</tr>
<tr>
<td>35A</td>
<td>ECP/EC1</td>
</tr>
<tr>
<td>40A</td>
<td>ECP/EC1</td>
</tr>
<tr>
<td>45A</td>
<td>ECP/EC1</td>
</tr>
<tr>
<td>50A</td>
<td>ECP/EC1</td>
</tr>
<tr>
<td>55A</td>
<td>ECP/EC1</td>
</tr>
<tr>
<td>60A</td>
<td>ECP/EC1</td>
</tr>
<tr>
<td>65A</td>
<td>ECP/EC1</td>
</tr>
<tr>
<td>70A</td>
<td>ECP/EC1</td>
</tr>
<tr>
<td>75A</td>
<td>ECP/EC1</td>
</tr>
<tr>
<td>80A</td>
<td>ECP/EC1</td>
</tr>
<tr>
<td>82A</td>
<td>ECP/EC1</td>
</tr>
<tr>
<td>85A</td>
<td>ECP/EC1</td>
</tr>
<tr>
<td>90A</td>
<td>ECP/EC1</td>
</tr>
<tr>
<td>91A</td>
<td>ECP/EC1</td>
</tr>
<tr>
<td>93A</td>
<td>ECP/EC1</td>
</tr>
<tr>
<td>95A</td>
<td>ECP/EC1</td>
</tr>
<tr>
<td>100A</td>
<td>ECP/EC1</td>
</tr>
</tbody>
</table>

### Polyether / TDI

<table>
<thead>
<tr>
<th>Shore A</th>
<th>Shore D</th>
</tr>
</thead>
<tbody>
<tr>
<td>25A</td>
<td>ECP/EC1</td>
</tr>
<tr>
<td>30A</td>
<td>ECP/EC1</td>
</tr>
<tr>
<td>35A</td>
<td>ECP/EC1</td>
</tr>
<tr>
<td>40A</td>
<td>ECP/EC1</td>
</tr>
<tr>
<td>45A</td>
<td>ECP/EC1</td>
</tr>
<tr>
<td>50A</td>
<td>ECP/EC1</td>
</tr>
<tr>
<td>55A</td>
<td>ECP/EC1</td>
</tr>
<tr>
<td>60A</td>
<td>ECP/EC1</td>
</tr>
<tr>
<td>65A</td>
<td>ECP/EC1</td>
</tr>
<tr>
<td>70A</td>
<td>ECP/EC1</td>
</tr>
<tr>
<td>75A</td>
<td>ECP/EC1</td>
</tr>
<tr>
<td>80A</td>
<td>ECP/EC1</td>
</tr>
<tr>
<td>82A</td>
<td>ECP/EC1</td>
</tr>
<tr>
<td>85A</td>
<td>ECP/EC1</td>
</tr>
<tr>
<td>90A</td>
<td>ECP/EC1</td>
</tr>
<tr>
<td>91A</td>
<td>ECP/EC1</td>
</tr>
<tr>
<td>93A</td>
<td>ECP/EC1</td>
</tr>
<tr>
<td>95A</td>
<td>ECP/EC1</td>
</tr>
<tr>
<td>100A</td>
<td>ECP/EC1</td>
</tr>
</tbody>
</table>

### 1K Series

<table>
<thead>
<tr>
<th>Shore A</th>
<th>Shore D</th>
</tr>
</thead>
<tbody>
<tr>
<td>25A</td>
<td>ECP/EC1</td>
</tr>
<tr>
<td>30A</td>
<td>ECP/EC1</td>
</tr>
<tr>
<td>35A</td>
<td>ECP/EC1</td>
</tr>
<tr>
<td>40A</td>
<td>ECP/EC1</td>
</tr>
<tr>
<td>45A</td>
<td>ECP/EC1</td>
</tr>
<tr>
<td>50A</td>
<td>ECP/EC1</td>
</tr>
<tr>
<td>55A</td>
<td>ECP/EC1</td>
</tr>
<tr>
<td>60A</td>
<td>ECP/EC1</td>
</tr>
<tr>
<td>65A</td>
<td>ECP/EC1</td>
</tr>
<tr>
<td>70A</td>
<td>ECP/EC1</td>
</tr>
<tr>
<td>75A</td>
<td>ECP/EC1</td>
</tr>
<tr>
<td>80A</td>
<td>ECP/EC1</td>
</tr>
<tr>
<td>82A</td>
<td>ECP/EC1</td>
</tr>
<tr>
<td>85A</td>
<td>ECP/EC1</td>
</tr>
<tr>
<td>90A</td>
<td>ECP/EC1</td>
</tr>
<tr>
<td>91A</td>
<td>ECP/EC1</td>
</tr>
<tr>
<td>93A</td>
<td>ECP/EC1</td>
</tr>
<tr>
<td>95A</td>
<td>ECP/EC1</td>
</tr>
<tr>
<td>100A</td>
<td>ECP/EC1</td>
</tr>
</tbody>
</table>

### Cold Castables

- Cast at ambient temperature
- High elongation and flexibility
- Low shrinkage
- High Performance (CC)
- Longer Pot Life (CC)

They are not recommended for abrasive resistance applications.

### Polyester

- Oil/solvent resistance
- High impact abrasion resistance
- Excellent mechanical properties
- Temperature resistance
- Excellent vibratory dampening

They are not recommended for use in high humidity or exposure to water, as volume swell and reduction of properties may result.

### Caprolactones

- High tear strength
- High tensile strength
- Solvent resistance
- High impact abrasion resistance
- Low heat build up

They exhibit excellent mechanical and solvent resistance properties with the added advantage of superior wear and tear.

### Polyether

- Excellent hydrolytic stability
- Fungus resistance
- Excellent mechanical properties
- Low temperature flexibility
- Excellent sliding abrasion resistance

Due to the inherent advantages in low heat build up, polyether-based urethanes are recommended for applications undergoing high stress.

---

**Product Reference Guide**

**Era Polymers**

**TDI Systems**

**V 4.1**

**Hardness**

- Shore A
- Shore D

**Cold Castables / TDI**

- CC
- CCM
- RT
- RN
- L-RN
- SDR
- HTIE

**Polyester / TDI**

- L-ECP/EC1
- L-E1/E1
- L-EHP/EHP
- ETX
- ET
- EMP
- ETIL

**Caprolactone / TDI**

- L-ECP/EC1
- L-E1/E1
- L-EHP/EHP
- ETX
- ET
- EMP
- ETIL

**Polyether / TDI**

- L-ECP/EC1
- L-E1/E1
- L-EHP/EHP
- ETX
- ET
- EMP
- ETIL

**1K Series**

- CC
- CCM
- RT
- RN
- L-RN
- SDR
- HTIE
# Erapol Mix Ratios

Tabulated below are commonly used *Erapol* and their mix ratios with the appropriate curatives.

<table>
<thead>
<tr>
<th>Erapol Grade</th>
<th>Erapol Temperature / °C</th>
<th>Moca or AH-41 / pph</th>
<th>Ethacure 300 / pph</th>
<th>% NCO</th>
<th>Moca Pot Life at 80°C / min</th>
</tr>
</thead>
<tbody>
<tr>
<td>E83A</td>
<td>75-85</td>
<td>10.0</td>
<td>8.0</td>
<td>3.10 ± 0.25</td>
<td>15</td>
</tr>
<tr>
<td>E90A</td>
<td>75-85</td>
<td>12.5</td>
<td>10.0</td>
<td>4.20 ± 0.20</td>
<td>10</td>
</tr>
<tr>
<td>E93A</td>
<td>75-85</td>
<td>15.0</td>
<td>12.0</td>
<td>5.00 ± 0.20</td>
<td>8</td>
</tr>
<tr>
<td>E95A</td>
<td>75-85</td>
<td>19.0</td>
<td>15.0</td>
<td>6.25 ± 0.25</td>
<td>6</td>
</tr>
<tr>
<td>EHP85A</td>
<td>70-80</td>
<td>11.1</td>
<td>8.9</td>
<td>3.50 ± 0.20</td>
<td>17</td>
</tr>
<tr>
<td>EHP90A</td>
<td>75-85</td>
<td>14.0</td>
<td>11.1</td>
<td>4.60 ± 0.20</td>
<td>8</td>
</tr>
<tr>
<td>EHP93A</td>
<td>75-85</td>
<td>15.7</td>
<td>12.6</td>
<td>5.20 ± 0.20</td>
<td>8</td>
</tr>
<tr>
<td>EHP95A</td>
<td>75-85</td>
<td>17.5</td>
<td>14.1</td>
<td>5.80 ± 0.20</td>
<td>5</td>
</tr>
<tr>
<td>EHP60D</td>
<td>60-70</td>
<td>22.7</td>
<td>18.2</td>
<td>7.50 ± 0.25</td>
<td>3</td>
</tr>
<tr>
<td>EHP70D</td>
<td>60-70</td>
<td>27.2</td>
<td>22.0</td>
<td>9.00 ± 0.25</td>
<td>2</td>
</tr>
<tr>
<td>ET83A</td>
<td>75-85</td>
<td>10.0</td>
<td>8.0</td>
<td>3.10 ± 0.20</td>
<td>8</td>
</tr>
<tr>
<td>ET90A</td>
<td>75-85</td>
<td>12.5</td>
<td>10.0</td>
<td>4.20 ± 0.20</td>
<td>6</td>
</tr>
<tr>
<td>ET95A</td>
<td>75-85</td>
<td>19.0</td>
<td>15.0</td>
<td>6.25 ± 0.25</td>
<td>4</td>
</tr>
<tr>
<td>ET60D</td>
<td>60-65</td>
<td>21.0</td>
<td>17</td>
<td>7.40 ± 0.20</td>
<td>3</td>
</tr>
<tr>
<td>ET65D</td>
<td>60-65</td>
<td>22.0</td>
<td>17.5</td>
<td>8.00 ± 0.25</td>
<td>2</td>
</tr>
<tr>
<td>ET70D</td>
<td>60-65</td>
<td>25.0</td>
<td>20.0</td>
<td>9.20 ± 0.20</td>
<td>1</td>
</tr>
<tr>
<td>ET75D</td>
<td>60-65</td>
<td>30.5</td>
<td>24.5</td>
<td>11.20 ± 0.25</td>
<td>&lt;1</td>
</tr>
<tr>
<td>ETX65D</td>
<td>60-65</td>
<td>23.0</td>
<td>18.4</td>
<td>8.00 ± 0.20</td>
<td>4</td>
</tr>
<tr>
<td>ETX80D</td>
<td>60-65</td>
<td>26.0</td>
<td>21.0</td>
<td>9.50 ± 0.30</td>
<td>3</td>
</tr>
<tr>
<td>ETX85D</td>
<td>60-65</td>
<td>33.0</td>
<td>27.0</td>
<td>12.00 ± 0.30</td>
<td>3</td>
</tr>
<tr>
<td>EMP83A</td>
<td>75-85</td>
<td>10.0</td>
<td>8.0</td>
<td>3.20 ± 0.20</td>
<td>6</td>
</tr>
<tr>
<td>EMP89A</td>
<td>75-85</td>
<td>14.5</td>
<td>11.5</td>
<td>4.80 ± 0.20</td>
<td>6</td>
</tr>
<tr>
<td>EMP92A</td>
<td>75-85</td>
<td>15.0</td>
<td>12.0</td>
<td>5.00 ± 0.20</td>
<td>5</td>
</tr>
<tr>
<td>ETL85A</td>
<td>75-85</td>
<td>12.5</td>
<td>10.0</td>
<td>4.20 ± 0.20</td>
<td>10</td>
</tr>
<tr>
<td>ETL91A</td>
<td>75-85</td>
<td>15.0</td>
<td>12.0</td>
<td>5.00 ± 0.20</td>
<td>6</td>
</tr>
<tr>
<td>ETL94A</td>
<td>75-85</td>
<td>19.0</td>
<td>15.0</td>
<td>6.25 ± 0.25</td>
<td>5</td>
</tr>
<tr>
<td>ETL69D</td>
<td>55-65</td>
<td>23.0</td>
<td>18.5</td>
<td>8.05 ± 0.25</td>
<td>3</td>
</tr>
<tr>
<td>RN3038</td>
<td>75-85</td>
<td>9.5</td>
<td>7.8</td>
<td>3.20 ± 0.25</td>
<td>3</td>
</tr>
<tr>
<td>RN3039</td>
<td>75-85</td>
<td>12.3</td>
<td>10.0</td>
<td>4.30 ± 0.10</td>
<td>4</td>
</tr>
<tr>
<td>RN3050</td>
<td>75-85</td>
<td>15.5</td>
<td>12.4</td>
<td>5.10 ± 0.25</td>
<td>2</td>
</tr>
<tr>
<td>RN70A</td>
<td>75-85</td>
<td>7.9</td>
<td>6.4</td>
<td>2.50 ± 0.25</td>
<td>12</td>
</tr>
<tr>
<td>RN83A</td>
<td>75-85</td>
<td>9.7</td>
<td>7.8</td>
<td>3.20 ± 0.15</td>
<td>8</td>
</tr>
<tr>
<td>RN90A</td>
<td>75-85</td>
<td>13.7</td>
<td>11.0</td>
<td>4.55 ± 0.15</td>
<td>4</td>
</tr>
<tr>
<td>ECP61A</td>
<td>75-85</td>
<td>11.3</td>
<td>9.0</td>
<td>3.75 ± 0.20</td>
<td>19</td>
</tr>
<tr>
<td>ECP72A</td>
<td>70-80</td>
<td>10.0</td>
<td>8.0</td>
<td>3.30 ± 0.20</td>
<td>15</td>
</tr>
<tr>
<td>ECP83A</td>
<td>75-85</td>
<td>11.5</td>
<td>9.2</td>
<td>3.65 ± 0.25</td>
<td>10</td>
</tr>
<tr>
<td>ECP90A</td>
<td>75-85</td>
<td>14.8</td>
<td>11.9</td>
<td>4.90 ± 0.20</td>
<td>5</td>
</tr>
<tr>
<td>ECP93A</td>
<td>75-85</td>
<td>15.7</td>
<td>12.6</td>
<td>5.20 ± 0.20</td>
<td>7</td>
</tr>
<tr>
<td>ECP95A</td>
<td>75-85</td>
<td>17.5</td>
<td>14.1</td>
<td>5.80 ± 0.20</td>
<td>4</td>
</tr>
<tr>
<td>ECP57D</td>
<td>60-70</td>
<td>21.8</td>
<td>17.4</td>
<td>7.20 ± 0.20</td>
<td>3</td>
</tr>
</tbody>
</table>
## Polyether (PTMEG) TDI Prepolymers – Shore A

### High Performance

<table>
<thead>
<tr>
<th>ERAPOL PREPOLYMER</th>
<th>E77A</th>
<th>E83A</th>
<th>E90A</th>
<th>E93A</th>
<th>E95A</th>
<th>ET83A</th>
<th>ET90A</th>
<th>ET95A</th>
<th>EHP85A</th>
<th>EHP90A</th>
<th>EHP93A</th>
<th>EHP95A</th>
</tr>
</thead>
<tbody>
<tr>
<td>%NCO</td>
<td>2.4 ± 0.2</td>
<td>3.10 ± 0.20</td>
<td>4.20 ± 0.20</td>
<td>5.00 ± 0.20</td>
<td>6.25 ± 0.25</td>
<td>3.10 ± 0.20</td>
<td>4.20 ± 0.20</td>
<td>6.25 ± 0.25</td>
<td>3.50 ± 0.20</td>
<td>4.60 ± 0.20</td>
<td>5.20 ± 0.20</td>
<td>5.80 ± 0.20</td>
</tr>
<tr>
<td>Specific Gravity at 25°C</td>
<td>1.08</td>
<td>1.05</td>
<td>1.06</td>
<td>1.05</td>
<td>1.07</td>
<td>1.05</td>
<td>1.06</td>
<td>1.06</td>
<td>1.06</td>
<td>1.06</td>
<td>1.06</td>
<td>1.05</td>
</tr>
<tr>
<td>Colour</td>
<td>clear, light amber</td>
<td>clear, light amber</td>
<td>clear, light amber</td>
<td>clear, light amber</td>
<td>clear, light amber</td>
<td>clear, light amber</td>
<td>clear, light amber</td>
<td>clear, light amber</td>
<td>clear, light amber</td>
<td>clear, light amber</td>
<td>clear, light amber</td>
<td></td>
</tr>
</tbody>
</table>

### MOCA PROCESSING

| MOCA Level at 110 - 120°C (pph) | 7.3 | 10.0 | 12.5 | 15.0 | 19.0 | 10.0 | 12.5 | 19.0 | 11.1 | 14.0 | 15.7 | 17.5 |
| Recommended % Theory | 95 | 100 | 95 | 95 | 100 | 95 | 95 | 100 | 95 | 95 | 95 | 95 |
| Erapol Temperature (°C) | 80 – 90 | 75 – 85 | 75 – 85 | 75 – 85 | 75 – 85 | 75 – 85 | 75 – 85 | 75 – 85 | 70 – 80 | 75 – 85 | 75 – 85 | 75 – 85 |
| Pot Life / Prepolymer at 80°C (minutes) | 25 | 15 | 10 | 8 | 6 | 8 | 6 | 4 | 17 | 8 | 8 | 5 |
| Demould at 100°C (hours) | 2 | 1 | 1 | 1 | 1 | 1 | <1 | <1 | 2 | 1 | 1 | <1 |
| Post Cure at 100°C (hours) | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 |

### ETHACURE 300 PROCESSING

| Ethacure 300 Level at 20 – 30°C (pph) | 6.1 | 8.0 | 10.2 | 12.0 | 15.0 | 10.0 | 15.0 | 8.9 | 11.1 | 12.6 | 14.1 |
| Recommended % Theory | 100 | 100 | 95 | 95 | 100 | 95 | 95 | 100 | 95 | 95 | 95 |
| Pot Life / Prepolymer at 70°C (minutes) | 11 | 12 | 10 | 8 | 4 | 6 | 3 | 2 | 14 | 7 | 7 | 5 |
| Demould at 100°C (hours) | 2 | 1 | 1 | 1 | 1 | 1 | <1 | <1 | 2 | 2 | 1 | <1 |
| Post Cure at 100°C (hours) | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 |

### PHYSICAL PROPERTIES

| (based on MOCA curative) | Hardness (Shore A) | 79 ± 3 | 83 ± 3 | 90 ± 3 | 93 ± 3 | 95 ± 3 | 83 ± 3 | 90 ± 3 | 95 ± 3 | 83 ± 2 | 90 ± 3 | 93 ± 3 | 95 ± 3 |
| Tensile Strength / MPa (psi) | 30.0 (4351) | 33.0 (4786) | 42.0 (6092) | 43.0 (6237) | 45.0 (6527) | 33.1 (4801) | 42.7 (6193) | 38.0 (5500) | 40.0 (5802) | 43.7 (6338) | 44.1 (6396) |
| 100% Modulus / MPa (psi) | 4.8 (696) | 4.6 (667) | 9.3 (1349) | 11.0 (1595) | 13.1 (1900) | 4.8 (696) | 6.9 (1001) | 6.9 (1001) | 7.3 (1060) | 7.2 (1044) | 9.8 (1421) | 13.8 (2002) |
| 300% Modulus / MPa (psi) | 6.9 (1000) | 8.3 (1204) | 17.8 (2582) | 17.9 (2596) | 18.8 (2727) | 8.3 (1204) | 13.8 (2002) | 12.4 (1798) | 13.1 (1900) | 15.1 (2190) | 18.2 (2640) | 18.2 (2640) |
| Angle Tear Strength, Die C (kN/m) | 59 | 72 | 85 | 100 | 90 | 75 | 85 | 85 | 72 | 104 | 118 | 122 |
| Elongation (%) | 600 | 550 | 420 | 420 | 390 | 500 | 450 | 380 | 565 | 500 | 500 | 410 |
| DIN Abrasion Resistance (mm³) | 42 | 35 | 55 | 60 | 70 | 45 | 55 | 75 | 30 | 37 | 41 | 51 |
| Compression Set / 22 hr at 70°C (%) | 34 | 28 | 30 | 28 | 35 | 30 | 35 | 38 | 26 | 24 | 25 | 27 |
| Cured Specific Gravity (g/cm³) | 1.06 | 1.08 | 1.10 | 1.10 | 1.13 | 1.08 | 1.11 | 1.08 | 1.07 | 1.10 | 1.10 | 1.13 |

*The information presented here is based on laboratory testing.*
## Polyether (PTMEG) Lower Free TDI Prepolymers

<table>
<thead>
<tr>
<th><strong>ERAPOL PREPOLYMER</strong></th>
<th>L-E83A</th>
<th>L-E90A</th>
<th>L-E93A</th>
<th>L-E95A</th>
<th>L-EHP90A</th>
<th>L-E60D</th>
<th>L-E65D</th>
<th>L-ETX75D</th>
<th>L-ETX80D</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PREPOLYMER PROPERTIES</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>%NCO</td>
<td>3.10 ± 0.20</td>
<td>4.20 ± 0.20</td>
<td>5.00 ± 0.20</td>
<td>6.00 ± 0.25</td>
<td>4.60 ± 0.20</td>
<td>7.40 ± 0.20</td>
<td>8.30 ± 0.20</td>
<td>9.20 ± 0.20</td>
<td>9.50 ± 0.30</td>
</tr>
<tr>
<td>Specific Gravity at 25°C</td>
<td>1.05</td>
<td>1.06</td>
<td>1.05</td>
<td>1.07</td>
<td>1.06</td>
<td>1.06</td>
<td>1.11</td>
<td>1.10</td>
<td>1.10</td>
</tr>
<tr>
<td>Viscosity at 80°C</td>
<td>1000 – 1500</td>
<td>800 – 1300</td>
<td>500 – 900</td>
<td>300 – 700</td>
<td>300 – 900</td>
<td>300 – 700</td>
<td>300 – 700</td>
<td>500 – 700</td>
<td>300 – 800</td>
</tr>
<tr>
<td>Colour</td>
<td>light amber</td>
<td>light amber</td>
<td>light amber</td>
<td>light amber</td>
<td>light amber</td>
<td>light amber</td>
<td>light amber</td>
<td>light amber</td>
<td>light amber</td>
</tr>
<tr>
<td><strong>MOCA PROCESSING</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moca Level at 110 - 120°C (pph)</td>
<td>10.0</td>
<td>12.5</td>
<td>15.0</td>
<td>18.0</td>
<td>14.0</td>
<td>21.0</td>
<td>25.4</td>
<td>27.8</td>
<td>26.0</td>
</tr>
<tr>
<td>Recommended % Theory</td>
<td>100</td>
<td>95</td>
<td>95</td>
<td>95</td>
<td>95</td>
<td>90</td>
<td>95</td>
<td>95</td>
<td>85</td>
</tr>
<tr>
<td>Erapol Temperature (°C)</td>
<td>75 – 85</td>
<td>75 – 85</td>
<td>75 – 85</td>
<td>75 – 85</td>
<td>75 – 85</td>
<td>60 – 65</td>
<td>60 – 65</td>
<td>60 – 70</td>
<td>60 – 65</td>
</tr>
<tr>
<td>Pot Life at 75 – 85°C (minutes)</td>
<td>15</td>
<td>10</td>
<td>8</td>
<td>8</td>
<td>12 - 14</td>
<td>5 - 6</td>
<td>4 - 6</td>
<td>3 - 5</td>
<td>5 - 7</td>
</tr>
<tr>
<td>Demould at 100°C (hours)</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>&lt;1</td>
<td>0.5 - 0.75</td>
<td>1</td>
<td>0.5</td>
<td>20 - 25</td>
<td>&lt;1</td>
</tr>
<tr>
<td>Post Cure at 100°C (hours)</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>24</td>
</tr>
<tr>
<td><strong>ETHACURE 300 PROCESSING</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ethacure 300 Level at 20 – 30°C (pph)</td>
<td>8.0</td>
<td>10.2</td>
<td>12.0</td>
<td>14.5</td>
<td>11.1</td>
<td>17</td>
<td>20.4</td>
<td>22.3</td>
<td>21.0</td>
</tr>
<tr>
<td>Recommended % Theory</td>
<td>100</td>
<td>95</td>
<td>95</td>
<td>95</td>
<td>95</td>
<td>90</td>
<td>95</td>
<td>95</td>
<td>85</td>
</tr>
<tr>
<td>Erapol Temperature (°C)</td>
<td>65 – 75</td>
<td>65 – 75</td>
<td>65 – 75</td>
<td>65 – 75</td>
<td>65 – 75</td>
<td>55 – 60</td>
<td>55 – 65</td>
<td>60 – 70</td>
<td>55 – 65</td>
</tr>
<tr>
<td>Pot Life at 65-75°C (minutes)</td>
<td>12</td>
<td>10</td>
<td>8</td>
<td>6</td>
<td>12</td>
<td>4.5</td>
<td>4.5</td>
<td>3.5</td>
<td>5 - 7</td>
</tr>
<tr>
<td>Demould at 100°C (hours)</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>&lt;1</td>
<td>0.5 - 0.75</td>
<td>1</td>
<td>0.5</td>
<td>20 - 25</td>
<td>&lt;1</td>
</tr>
<tr>
<td>Post Cure at 100°C (hours)</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>24</td>
</tr>
<tr>
<td><strong>PHYSICAL PROPERTIES (MOCA CURED)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hardness (Shore A)</td>
<td>83 ± 3</td>
<td>90 ± 3</td>
<td>93 ± 3</td>
<td>95 ± 3</td>
<td>90 ± 3</td>
<td>60D ± 3</td>
<td>65D ± 3</td>
<td>75D ± 3</td>
<td>78D ± 3</td>
</tr>
<tr>
<td>Tensile Strength / MPa (psi)</td>
<td>33.0 (4786)</td>
<td>42.0 (6092)</td>
<td>43.0 (6237)</td>
<td>36.0 (5221)</td>
<td>38.4 (5569)</td>
<td>45 (6527)</td>
<td>54 (7832)</td>
<td>50.1 (7266)</td>
<td>63 (9094)</td>
</tr>
<tr>
<td>100% Modulus / MPa (psi)</td>
<td>4.6 (667)</td>
<td>9.3 (1349)</td>
<td>11.0 (1595)</td>
<td>12.5 (1813)</td>
<td>8.1 (1175)</td>
<td>19.9 (2886)</td>
<td>25 (3626)</td>
<td>42.5 (6164)</td>
<td>47 (6817)</td>
</tr>
<tr>
<td>300% Modulus / MPa (psi)</td>
<td>8.3 (1204)</td>
<td>17.8 (2582)</td>
<td>17.9 (2596)</td>
<td>20.4 (2959)</td>
<td>14.6 (2118)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Angle Tear Strength, Die C (kN/m)</td>
<td>72</td>
<td>85</td>
<td>100</td>
<td>112</td>
<td>88</td>
<td>110</td>
<td>139</td>
<td>140</td>
<td>-</td>
</tr>
<tr>
<td>Trouser Tear Strength (kN/m)</td>
<td>27</td>
<td>37</td>
<td>60</td>
<td>59</td>
<td>35</td>
<td>46</td>
<td>58</td>
<td>52</td>
<td>-</td>
</tr>
<tr>
<td>Elongation (%)</td>
<td>550</td>
<td>420</td>
<td>420</td>
<td>490</td>
<td>615</td>
<td>300</td>
<td>350</td>
<td>195</td>
<td>210</td>
</tr>
<tr>
<td>DIN Resilience (%)</td>
<td>62</td>
<td>55</td>
<td>50</td>
<td>42</td>
<td>47</td>
<td>46</td>
<td>46</td>
<td>40</td>
<td>38</td>
</tr>
<tr>
<td>DIN Abrasion Resistance 1ON (mm³)</td>
<td>35</td>
<td>55</td>
<td>60</td>
<td>54</td>
<td>48</td>
<td>63</td>
<td>69</td>
<td>106</td>
<td>94</td>
</tr>
<tr>
<td>DIN Abrasion Resistance 5N (mm³)</td>
<td>12</td>
<td>18</td>
<td>22</td>
<td>19</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Compression Set / 22hr at 70 °C (%)</td>
<td>28</td>
<td>30</td>
<td>28</td>
<td>37</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

*The information presented here is based on laboratory testing.*
# Polyether (PPG) & Polyester Lower Free TDI Prepolymers

## Prepolymer Properties

<table>
<thead>
<tr>
<th>ERAPOL PREPOLYMER</th>
<th>L-ETL85A</th>
<th>L-ETL91A</th>
<th>L-ETL94A</th>
<th>L-ETL69D</th>
<th>L-RN70A</th>
<th>L-RN71A</th>
<th>L-RN85A</th>
<th>L-RN92A</th>
<th>L-RN50A</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>%NCO</strong></td>
<td>4.20 ± 0.20</td>
<td>5.00 ± 0.20</td>
<td>6.25 ± 0.25</td>
<td>8.00 ± 0.20</td>
<td>2.55 ± 0.20</td>
<td>2.55 ± 0.20</td>
<td>3.50 ± 0.20</td>
<td>4.50 ± 0.20</td>
<td>5.10 ± 0.20</td>
</tr>
<tr>
<td><strong>Specific Gravity at 25°C</strong></td>
<td>1.02</td>
<td>1.03</td>
<td>1.02</td>
<td>1.10</td>
<td>1.20</td>
<td>1.20</td>
<td>1.20</td>
<td>1.20</td>
<td>1.20</td>
</tr>
<tr>
<td><strong>Colour</strong></td>
<td>amber</td>
<td>amber</td>
<td>amber</td>
<td>amber</td>
<td>light amber</td>
<td>light amber</td>
<td>light amber</td>
<td>light amber</td>
<td>light amber</td>
</tr>
</tbody>
</table>

## MOCA Processing

| MOCA Level at 110 - 120°C (pph) | 12.5 | 15.0 | 19 | 22.9 | 7.9 | 8.3 | 10.6 | 13.6 | 15.4 |
| Recommended % Theory | 95 | 95 | 95 | 90 | 95 | 102 | 95 | 95 | 95 |
| Erapolor Temperature (°C) | 75 – 85 | 75 – 85 | 75 – 85 | 55 – 65 | 75 – 85 | 75 – 85 | 75 – 85 | 75 – 85 | 75 – 85 |
| Pot Life at 75 – 85°C (minutes) | 10 | 6 | 4 – 6 | 3 – 6 | 12 | 4 – 6 | 6 – 10 | 3 – 5 | 4.5 – 6 |
| Demould at 100°C (hours) | 2 | 1 | 1 | 1 | 1 | 0.75 | 0.5 | 0.5 | 1 |
| Post Cure at 100°C (hours) | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 |

## ETHACURE 300 Processing

| ETHACURE 300 Level at 20 – 30°C (pph) | 10.0 | 12.0 | 15 | 18.4 | 6.4 | 6.6 | 8.5 | 10.9 | 12.4 |
| Recommended % Theory | 95 | 95 | 95 | 90 | 95 | 102 | 95 | 95 | 95 |
| Erapolor Temperature (°C) | 60 – 70 | 60 – 70 | 60 – 70 | 55 – 65 | 65 | 65 | 65 | 65 | 65 |
| Pot Life at 65-75°C (minutes) | 8 | 5 | 4 – 6 | 3 – 6 | 9 | 4 – 6 | 6 – 8 | 3 – 5 | 4.5 – 6 |
| Demould at 100°C (hours) | 2 | 1 | 1 | 1 | 1 | 0.75 | 0.5 | 0.5 | 1 |
| Post Cure at 100°C (hours) | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 |

## Physical Properties (MOCA Cured)

| Hardness (Shore A) | 85 ± 3 | 90 ± 3 | 95 ± 3 | 700 ± 3 | 70 ± 3 | 70 ± 3 | 85 ± 3 | 90 ± 3 | 500 ± 3 |
| Tensile Strength / MPa (psi) | 28.0 (4061) | 25.5 (3698) | 34 (4931) | 43 (6237) | 40 (5801) | 32 (4641) | 42 (6150) | 52 (7542) | 57.7 (8369) |
| 100% Modulus / MPa (psi) | 5.3 (769) | 6.2 (899) | 11.2 (1624) | 29 (4206) | 2.8 (406) | 2.2 (319) | 5.9 (856) | 7.2 (1044) | 10.5 (1523) |
| 300% Modulus / MPa (psi) | 11.0 (1595) | 11.7 (1697) | 21.8 (3162) | - | 3.9 (565) | 3.1 (450) | 11.0 (1595) | 17.4 (2524) | 20.7 (3002) |
| Angle Tear Strength, Die C (kN/m) | 70 | 80 | 89 | 145 | 70 | 68 | 88 | 97 | 121 |
| Trouser Tear Strength (kN/m) | 30 | 30 | 39 | - | 35 | 33 | 41 | 47 | 57 |
| Elongation (%) | 525 | 430 | 460 | 275 | 675 | 560 | 750 | 575 | 620 |
| DIN Resilience (%) | - | - | 32 | 46 | 42 | 42 | 26 | 27 | 27 |
| DIN Abrasion Resistance 10N (mm³) | 140 | 140 | 119 | 182 | 70 | 75 | 57 | 57 | 60 |
| DIN Abrasion Resistance 5N (mm³) | 49 | 45 | 43 | - | 33 | 35 | - | 27 | - |
| Compression Set / 22hr at 70 °C (%) | 45 | 45 | - | - | 28 | - | - | - | - |

*The information presented here is based on laboratory testing.*
## Polyether (PTMEG) TDI Prepolymers – Shore D

**Prepolymer Properties**

<table>
<thead>
<tr>
<th>ERAPOL PREPOLYMER</th>
<th>ETX65D</th>
<th>ETX70D</th>
<th>ETX764D</th>
<th>ETX80D</th>
<th>ETX85D</th>
<th>ET60D</th>
<th>ET65D</th>
<th>ET70D</th>
<th>ET75D</th>
<th>EHP60D</th>
<th>EHP70D</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>%NCO</strong></td>
<td>8.00 ± 0.20</td>
<td>8.75 ± 0.25</td>
<td>8.75 ± 0.25</td>
<td>9.50 ± 0.30</td>
<td>12.00 ± 0.30</td>
<td>7.40 ± 0.20</td>
<td>8.00 ± 0.25</td>
<td>9.20 ± 0.20</td>
<td>11.20 ± 0.25</td>
<td>7.50 ± 0.25</td>
<td>9.00 ± 0.25</td>
</tr>
<tr>
<td>Specific Gravity at 25°C</td>
<td>1.10</td>
<td>1.10</td>
<td>1.10</td>
<td>1.10</td>
<td>1.15</td>
<td>1.06</td>
<td>1.11</td>
<td>1.13</td>
<td>1.11</td>
<td>1.10</td>
<td>1.11</td>
</tr>
<tr>
<td>Viscosity at 80°C</td>
<td>400 – 800</td>
<td>200 – 500</td>
<td>400 – 800</td>
<td>300 – 800</td>
<td>300 – 700</td>
<td>300 – 700</td>
<td>300 – 700</td>
<td>300 – 700</td>
<td>400 – 800</td>
<td>400 – 800</td>
<td>400 – 800</td>
</tr>
<tr>
<td>Colour</td>
<td>clear, light amber</td>
<td>clear, light amber</td>
<td>clear, light amber</td>
<td>clear, light amber</td>
<td>clear, light amber</td>
<td>clear, light amber</td>
<td>clear, light amber</td>
<td>clear, light amber</td>
<td>clear, light amber</td>
<td>clear, light amber</td>
<td>clear, light amber</td>
</tr>
</tbody>
</table>

**MOCA Processing**

<table>
<thead>
<tr>
<th></th>
<th>ETX65D</th>
<th>ETX70D</th>
<th>ETX764D</th>
<th>ETX80D</th>
<th>ETX85D</th>
<th>ET60D</th>
<th>ET65D</th>
<th>ET70D</th>
<th>ET75D</th>
<th>EHP60D</th>
<th>EHP70D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moca Level at 110-120°C (pph)</td>
<td>23.0</td>
<td>25.0</td>
<td>25.0</td>
<td>33.0</td>
<td>21.0</td>
<td>22.0</td>
<td>25.0</td>
<td>30.5</td>
<td>22.7</td>
<td>27.2</td>
<td></td>
</tr>
<tr>
<td>Recommended % Theory</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>95</td>
<td>95</td>
</tr>
<tr>
<td>Erapol Temperature (°C)</td>
<td>60 – 65</td>
<td>60 – 65</td>
<td>60 – 65</td>
<td>60 – 65</td>
<td>60 – 65</td>
<td>60 – 65</td>
<td>60 – 65</td>
<td>60 – 65</td>
<td>60 – 65</td>
<td>60 – 65</td>
<td>60 – 65</td>
</tr>
<tr>
<td>Pot Life / Prepolymer at 65°C (minutes)</td>
<td>4</td>
<td>3</td>
<td>2.5</td>
<td>2.5</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Demould at 110°C (hours)</td>
<td>&lt;1</td>
<td>&lt;1</td>
<td>&lt;1</td>
<td>&lt;1</td>
<td>&lt;1</td>
<td>&lt;1</td>
<td>&lt;1</td>
<td>&lt;1</td>
<td>&lt;1</td>
<td>&lt;1</td>
<td>&lt;1</td>
</tr>
<tr>
<td>Post Cure at 110°C (hours)</td>
<td>24</td>
<td>36</td>
<td>36</td>
<td>36</td>
<td>36</td>
<td>36</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>16</td>
</tr>
</tbody>
</table>

**Ethacure 300 Processing**

<table>
<thead>
<tr>
<th></th>
<th>ETX65D</th>
<th>ETX70D</th>
<th>ETX764D</th>
<th>ETX80D</th>
<th>ETX85D</th>
<th>ET60D</th>
<th>ET65D</th>
<th>ET70D</th>
<th>ET75D</th>
<th>EHP60D</th>
<th>EHP70D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethacure 300 Level at 20 – 30°C (pph)</td>
<td>18.4</td>
<td>20.0</td>
<td>20.0</td>
<td>21.0</td>
<td>27.0</td>
<td>17.0</td>
<td>17.5</td>
<td>20.0</td>
<td>24.5</td>
<td>18.2</td>
<td>22.0</td>
</tr>
<tr>
<td>Recommended % Theory</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>95</td>
<td>95</td>
</tr>
<tr>
<td>Pot Life / Prepolymer at 80°C (minutes)</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>&lt;1</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Demould at 110°C (hours)</td>
<td>1</td>
<td>&lt;1</td>
<td>&lt;1</td>
<td>&lt;1</td>
<td>&lt;1</td>
<td>&lt;1</td>
<td>&lt;1</td>
<td>&lt;1</td>
<td>&lt;1</td>
<td>&lt;1</td>
<td>&lt;1</td>
</tr>
<tr>
<td>Post Cure at 110°C (hours)</td>
<td>24</td>
<td>36</td>
<td>36</td>
<td>36</td>
<td>36</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>16</td>
</tr>
</tbody>
</table>

**Physical Properties**

<table>
<thead>
<tr>
<th></th>
<th>ETX65D</th>
<th>ETX70D</th>
<th>ETX764D</th>
<th>ETX80D</th>
<th>ETX85D</th>
<th>ET60D</th>
<th>ET65D</th>
<th>ET70D</th>
<th>ET75D</th>
<th>EHP60D</th>
<th>EHP70D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hardness (Shore D)</td>
<td>65 ± 5</td>
<td>70 ± 5</td>
<td>75 ± 5</td>
<td>78 ± 5</td>
<td>84 ± 5</td>
<td>60 ± 3</td>
<td>65 ± 3</td>
<td>73 ± 3</td>
<td>75 ± 3</td>
<td>60 ± 3</td>
<td>70 ± 3</td>
</tr>
<tr>
<td>Tensile Strength / MPa (psi)</td>
<td>48.0 (6962)</td>
<td>50.0 (7251)</td>
<td>52.0 (7542)</td>
<td>55.0 (7977)</td>
<td>58.0 (8412)</td>
<td>43.0 (6240)</td>
<td>48.0 (6962)</td>
<td>52.0 (7542)</td>
<td>54.0 (7832)</td>
<td>49.2 (7140)</td>
<td>50.0 (7252)</td>
</tr>
<tr>
<td>100% Modulus / MPa (psi)</td>
<td>27.0 (3916)</td>
<td>32.0 (4641)</td>
<td>33.0 (4786)</td>
<td>38.0 (5511)</td>
<td>42.0 (6092)</td>
<td>19.3 (2799)</td>
<td>29.0 (4206)</td>
<td>34.5 (5004)</td>
<td>31.0 (4496)</td>
<td>24.1 (3500)</td>
<td>25.0 (3626)</td>
</tr>
<tr>
<td>300% Modulus / MPa (psi)</td>
<td>37.0 (5366)</td>
<td>38.0 (5511)</td>
<td>40.0 (5802)</td>
<td>45.0 (6527)</td>
<td>49.0 (7107)</td>
<td>42.7 (6193)</td>
<td>38.0 (5511)</td>
<td>45.0 (6527)</td>
<td>41.0 (5947)</td>
<td>45.5 (6600)</td>
<td>44.6 (6469)</td>
</tr>
<tr>
<td>Angle Tear Strength, Die C (kN/m)</td>
<td>310</td>
<td>235</td>
<td>200</td>
<td>170</td>
<td>265</td>
<td>120</td>
<td>115</td>
<td>193</td>
<td>110</td>
<td>168</td>
<td>192</td>
</tr>
<tr>
<td>Elongation (%)</td>
<td>300</td>
<td>225</td>
<td>160</td>
<td>220</td>
<td>220</td>
<td>330</td>
<td>280</td>
<td>210</td>
<td>200</td>
<td>400</td>
<td>245</td>
</tr>
<tr>
<td>DIN Abrasion Resistance (mm³)</td>
<td>80</td>
<td>85</td>
<td>87</td>
<td>125</td>
<td>123</td>
<td>62</td>
<td>110</td>
<td>105</td>
<td>115</td>
<td>68</td>
<td>68</td>
</tr>
<tr>
<td>Cured Specific Gravity (g/cm³)</td>
<td>1.13</td>
<td>1.13</td>
<td>1.19</td>
<td>1.13</td>
<td>1.13</td>
<td>1.16</td>
<td>1.13</td>
<td>1.13</td>
<td>1.20</td>
<td>1.16</td>
<td>1.15</td>
</tr>
</tbody>
</table>

*The information presented here is based on laboratory testing.*
<table>
<thead>
<tr>
<th>ERAPOL PREPOLYMER</th>
<th>ETL65A</th>
<th>ETL85A</th>
<th>ETL91A</th>
<th>ETL94A</th>
<th>ETL69D</th>
<th>EMP83A</th>
<th>EMP89A</th>
<th>EMP92A</th>
<th>EMP95A</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PREPOLYMER PROPERTIES</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>%NCO</td>
<td>2.85 ± 0.25</td>
<td>4.20 ± 0.20</td>
<td>5.00 ± 0.20</td>
<td>6.25 ± 0.25</td>
<td>8.05 ± 0.25</td>
<td>3.2 ± 0.20</td>
<td>4.8 ± 0.20</td>
<td>5.0 ± 0.20</td>
<td>6.3 ± 0.20</td>
</tr>
<tr>
<td>Specific Gravity at 25°C</td>
<td>1.10</td>
<td>1.02</td>
<td>1.03</td>
<td>1.02</td>
<td>1.10</td>
<td>1.02</td>
<td>1.02</td>
<td>1.02</td>
<td>1.02</td>
</tr>
<tr>
<td>Viscosity at 80°C</td>
<td>100 – 500</td>
<td>300 – 700</td>
<td>100 – 500</td>
<td>150 – 500</td>
<td>300 – 800</td>
<td>300 – 800</td>
<td>300 – 800</td>
<td>300 – 700</td>
<td>300 – 700</td>
</tr>
<tr>
<td>Colour</td>
<td>amber</td>
<td>amber</td>
<td>amber</td>
<td>amber</td>
<td>amber</td>
<td>amber</td>
<td>amber</td>
<td>amber</td>
<td>amber</td>
</tr>
<tr>
<td><strong>MOCA PROCESSING</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moca Level at 110-120°C (pph)</td>
<td>8.6</td>
<td>12.5</td>
<td>15.0</td>
<td>19.0</td>
<td>23.0</td>
<td>10.0</td>
<td>14.5</td>
<td>15.0</td>
<td>19.0</td>
</tr>
<tr>
<td>Recommended % Theory</td>
<td>95</td>
<td>95</td>
<td>95</td>
<td>95</td>
<td>95</td>
<td>95</td>
<td>95</td>
<td>95</td>
<td>95</td>
</tr>
<tr>
<td>Erapot Temperature (°C)</td>
<td>75 – 85</td>
<td>75 – 85</td>
<td>75 – 85</td>
<td>75 – 85</td>
<td>55 – 65</td>
<td>75 – 85</td>
<td>75 – 85</td>
<td>75 – 85</td>
<td>75 – 85</td>
</tr>
<tr>
<td>Pot Life / Prepolymer at 80°C (minutes)</td>
<td>25</td>
<td>10</td>
<td>6</td>
<td>5</td>
<td>3</td>
<td>6</td>
<td>6</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Demould at 100°C (hours)</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Post Cure at 100°C (hours)</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>16</td>
</tr>
<tr>
<td><strong>ETHACURE 300 PROCESSING</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ethacure 300 Level at 20 – 30°C (pph)</td>
<td>6.9</td>
<td>10.0</td>
<td>12.0</td>
<td>15.0</td>
<td>18.5</td>
<td>8.0</td>
<td>11.5</td>
<td>12.0</td>
<td>15.3</td>
</tr>
<tr>
<td>Recommended % Theory</td>
<td>95</td>
<td>95</td>
<td>95</td>
<td>95</td>
<td>90</td>
<td>100</td>
<td>95</td>
<td>95</td>
<td>95</td>
</tr>
<tr>
<td>Erapot Temperature (°C)</td>
<td>60 – 70</td>
<td>60 – 70</td>
<td>60 – 70</td>
<td>60 – 70</td>
<td>55 – 65</td>
<td>65 – 75</td>
<td>65 – 75</td>
<td>65 – 75</td>
<td>65 – 75</td>
</tr>
<tr>
<td>Pot Life / Prepolymer at 80°C (minutes)</td>
<td>20</td>
<td>8</td>
<td>5</td>
<td>4</td>
<td>2</td>
<td>6</td>
<td>5</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Demould at 100°C (hours)</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Post Cure at 100°C (hours)</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>16</td>
</tr>
<tr>
<td><strong>PHYSICAL PROPERTIES</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(based on MOCA curative)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hardness (Shore A)</td>
<td>65 ± 3</td>
<td>85 ± 3</td>
<td>90 ± 3</td>
<td>95 ± 3</td>
<td>70D ± 3</td>
<td>83 ± 3</td>
<td>90 ± 3</td>
<td>93 ± 3</td>
<td>95 ± 3</td>
</tr>
<tr>
<td>Tensile Strength / MPa (psi)</td>
<td>8.0 (1160)</td>
<td>28 (4061)</td>
<td>25.5 (3698)</td>
<td>28.0 (4061)</td>
<td>37.0 (5366)</td>
<td>25.0 (3626)</td>
<td>27.0 (3916)</td>
<td>31.0 (4496)</td>
<td>37.9 (5497)</td>
</tr>
<tr>
<td>100% Modulus / MPa (psi)</td>
<td>2.1 (305)</td>
<td>5.3 (769)</td>
<td>6.2 (899)</td>
<td>6.2 (899)</td>
<td>13.8 (2002)</td>
<td>5.0 (725)</td>
<td>6.9 (1001)</td>
<td>9.0 (1305)</td>
<td>9.7 (1407)</td>
</tr>
<tr>
<td>300% Modulus / MPa (psi)</td>
<td>4.4 (638)</td>
<td>11.0 (1595)</td>
<td>11.7 (1697)</td>
<td>17.2 (2495)</td>
<td>-</td>
<td>9.0 (1305)</td>
<td>12.4 (1798)</td>
<td>17.2 (2495)</td>
<td>17.9 (2596)</td>
</tr>
<tr>
<td>Angle Tear Strength, Die C (kN/m)</td>
<td>30</td>
<td>70</td>
<td>80</td>
<td>89</td>
<td>110</td>
<td>75</td>
<td>80</td>
<td>90</td>
<td>95</td>
</tr>
<tr>
<td>Elongation (%)</td>
<td>1100</td>
<td>525</td>
<td>430</td>
<td>350</td>
<td>300</td>
<td>450</td>
<td>400</td>
<td>540</td>
<td>400</td>
</tr>
<tr>
<td>DIN Abrasion Resistance (mm³)</td>
<td>165</td>
<td>140</td>
<td>140</td>
<td>145</td>
<td>160</td>
<td>80</td>
<td>80</td>
<td>85</td>
<td>97</td>
</tr>
<tr>
<td>Compression Set / 22 hr at 70°C (%)</td>
<td>45</td>
<td>45</td>
<td>45</td>
<td>50</td>
<td>50</td>
<td>30</td>
<td>45</td>
<td>45</td>
<td>42</td>
</tr>
<tr>
<td>Cured Specific Gravity (g/cm³)</td>
<td>1.10</td>
<td>1.10</td>
<td>1.10</td>
<td>1.10</td>
<td>1.10</td>
<td>1.10</td>
<td>1.10</td>
<td>1.10</td>
<td>1.10</td>
</tr>
</tbody>
</table>

*The information presented here is based on laboratory testing.*
# Polyester TDI Prepolymers

<table>
<thead>
<tr>
<th>PREPOLYMER PROPERTIES</th>
<th>RN70A</th>
<th>RN83A</th>
<th>RN90A</th>
<th>RN50D</th>
<th>RN3038</th>
<th>RN3039</th>
<th>RN3050</th>
</tr>
</thead>
<tbody>
<tr>
<td>%NCO</td>
<td>2.50 ± 0.25</td>
<td>3.20 ± 0.15</td>
<td>4.55 ± 0.15</td>
<td>5.10 ± 0.20</td>
<td>3.20 ± 0.25</td>
<td>4.30 ± 0.10</td>
<td>5.10 ± 0.25</td>
</tr>
<tr>
<td>Specific Gravity at 25°C</td>
<td>1.20</td>
<td>1.20</td>
<td>1.20</td>
<td>1.20</td>
<td>1.20</td>
<td>1.20</td>
<td>1.20</td>
</tr>
<tr>
<td>Colour</td>
<td>clear, light amber</td>
<td>clear, light amber</td>
<td>clear, light amber</td>
<td>clear, light amber</td>
<td>clear, light amber</td>
<td>clear, light amber</td>
<td>clear, light amber</td>
</tr>
</tbody>
</table>

### MOCA PROCESSING

| MOCA Level at 110 – 120°C (pph)        | 7.9           | 9.7           | 13.7          | 15.4          | 9.5           | 12.3          | 15.5          |
| Recommended % Theory                  | 95            | 95            | 95            | 95            | 95            | 90            | 95            |
| Erapol Temperature (°C)               | 75 – 85       | 75 – 85       | 75 – 85       | 75 – 85       | 75 – 85       | 75 – 85       | 75 – 85       |
| Pot Life / Prepolymer at 80°C (minutes)| 12            | 8             | 4             | 2             | 3             | 4             | 2             |
| Demould at 100°C (hours)              | 1             | 1             | 1             | < 1           | 1             | 1             | < 1           |
| Post Cure at 100°C (hours)             | 16            | 16            | 16            | 16            | 16            | 16            | 16            |

### ETHACURE 300 PROCESSING

| Ethacure 300 Level at 20 – 30°C (pph)  | 6.4           | 7.8           | 11.0          | 12.4          | 7.8           | 10.0          | 12.4          |
| Recommended % Theory                  | 95            | 95            | 95            | 95            | 95            | 90            | 95            |
| Erapol Temperature (°C)               | 65            | 65            | 65            | 65            | 65            | 65            | 65            |
| Pot Life / Prepolymer at 80°C (minutes)| 9             | 6             | 4             | 2             | 3             | 4             | 2             |
| Demould at 100°C (hours)              | 1             | 1             | 1             | > 1           | 1             | 1             | > 1           |
| Post Cure at 100°C (hours)             | 16            | 16            | 16            | 16            | 16            | 16            | 16            |

### PHYSICAL PROPERTIES

| (based on MOCA curative)               |              |               |               |               |               |               |               |
| Hardness (Shore A)                     | 70 ± 5       | 83 ± 3        | 90 ± 3        | 50 ± 3 Shore D| 85 ± 3        | 90 ± 5        | 50 ± 5 Shore D|
| Tensile Strength / MPa (psi)           | 40.0 (5802)  | 47.0 (6817)   | 53.0 (7687)   | 54.1 (7847)   | 45.0 (6527)   | 50.0 (7252)   | 51.0 (7397)   |
| 100% Modulus / MPa (psi)               | 2.8 (406)    | 4.9 (711)     | 5.2 (754)     | 9.2 (1334)    | 5.0 (725)     | 9.5 (1378)    | 12.4 (1798)   |
| 300% Modulus / MPa (psi)               | 3.9 (566)    | 8.3 (1204)    | 10.3 (1494)   | 17.4 (2524)   | 11.0 (1595)   | 17.9 (2596)   | 20.7 (3002)   |
| Angle Tear Strength, Die C (kN/m)      | 70            | 75            | 100           | 124           | 92            | 105           | 131           |
| Elongation (%)                         | 675           | 725           | 650           | 550           | 720           | 650           | 550           |
| DIN Abrasion Resistance (mm²)          | 70            | 65            | 60            | 70            | 68            | 45            | 80            |
| Compression Set / 22 hr at 70°C (%)     | 28            | 25            | 30            | 30            | 22            | 31            | 27            |
| Cured Specific Gravity (g/cm³)         | 1.25          | 1.26          | 1.26          | 1.28          | 1.25          | 1.27          | 1.28          |

*The information presented here is based on laboratory testing.*
<table>
<thead>
<tr>
<th>Polyester TDI Prepolymers</th>
<th>Polyacaprolactone</th>
<th>High Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Prepolymer Properties</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>%NCO</td>
<td>3.75 ± 0.20</td>
<td>3.30 ± 0.20</td>
</tr>
<tr>
<td>SpecGravity at 25°C</td>
<td>1.15</td>
<td>1.10</td>
</tr>
<tr>
<td>Viscosity at 80°C</td>
<td>20 ± 2.0</td>
<td>20 ± 2.0</td>
</tr>
<tr>
<td>Colour</td>
<td>clear light amber</td>
<td>clear light amber</td>
</tr>
<tr>
<td><strong>MOCA PROCESSING</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moca Level at 110-120°C (pph)</td>
<td>11.3</td>
<td>11.0</td>
</tr>
<tr>
<td>Recommended % Theory</td>
<td>95</td>
<td>95</td>
</tr>
<tr>
<td>Erapol Temperature (°C)</td>
<td>75 – 85</td>
<td>75 – 85</td>
</tr>
<tr>
<td>Pot Life / Prepolymer at 80°C (minutes)</td>
<td>19</td>
<td>10</td>
</tr>
<tr>
<td>Demould at 100°C (hours)</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Post Cure at 100°C (hours)</td>
<td>16</td>
<td>16</td>
</tr>
<tr>
<td><strong>ETHACURE 300 PROCESSING</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ethacure 300 Level at 20 – 30°C (pph)</td>
<td>9.0</td>
<td>8.0</td>
</tr>
<tr>
<td>Recommended % Theory</td>
<td>95</td>
<td>95</td>
</tr>
<tr>
<td>Erapol Temperature (°C)</td>
<td>75 – 85</td>
<td>75 – 85</td>
</tr>
<tr>
<td>Pot Life / Prepolymer at 80°C (minutes)</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>Demould at 100°C (hours)</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Post Cure at 100°C (hours)</td>
<td>16</td>
<td>16</td>
</tr>
<tr>
<td><strong>PHYSICAL PROPERTIES</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hardness (Shore A)</td>
<td>60 ± 5</td>
<td>60 ± 5</td>
</tr>
<tr>
<td>Tensile Strength / MPa (psi)</td>
<td>35.0 (5076)</td>
<td>35.0 (5076)</td>
</tr>
<tr>
<td>100% Modulus / MPa (psi)</td>
<td>3.2 (464)</td>
<td>3.2 (464)</td>
</tr>
<tr>
<td>300% Modulus / MPa (psi)</td>
<td>8.0 (1160)</td>
<td>8.0 (1160)</td>
</tr>
<tr>
<td>Elongation (%)</td>
<td>70 ± 5</td>
<td>70 ± 5</td>
</tr>
<tr>
<td>DIN Abrasion Resistance (mm)</td>
<td>37</td>
<td>37</td>
</tr>
<tr>
<td>Compressed Set (22 hr at 70°C (％)</td>
<td>37</td>
<td>37</td>
</tr>
<tr>
<td>Cured Specific Gravity (g/cm³)</td>
<td>1.15</td>
<td>1.15</td>
</tr>
</tbody>
</table>

*The information presented here is based on laboratory testing.*
## Solvent & Acid Resistant Prepolymers

<table>
<thead>
<tr>
<th>ERAPOL PREPOLYMER</th>
<th>SDR32A</th>
<th>SDR50A</th>
<th>SDR55A</th>
<th>RN3038</th>
<th>RN3039</th>
<th>CRE70A</th>
<th>CRE90A</th>
<th>CRE95A</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PREPOLYMER PROPERTIES</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>%NCO</td>
<td>2.55 ± 0.20</td>
<td>3.90 – 0.20</td>
<td>4.80 ± 0.20</td>
<td>3.20 ± 0.20</td>
<td>4.30 ± 0.10</td>
<td>10.0 ± 0.2</td>
<td>10.0 ± 0.2</td>
<td>12.0 ± 0.2</td>
</tr>
<tr>
<td>Specific Gravity at 25°C</td>
<td>1.20</td>
<td>1.02</td>
<td>1.20</td>
<td>1.20</td>
<td>1.20</td>
<td>1.05</td>
<td>1.05</td>
<td>1.05</td>
</tr>
<tr>
<td>Viscosity at 80°C</td>
<td>300 – 800</td>
<td>1500 – 2600</td>
<td>1000 – 1700</td>
<td>1800 – 2400</td>
<td>1600 – 2500</td>
<td>700 – 1300</td>
<td>700 – 1300</td>
<td>700 – 1300</td>
</tr>
<tr>
<td>Colour</td>
<td>clear, light amber</td>
<td>clear, light amber</td>
<td>clear, light amber</td>
<td>clear, light amber</td>
<td>clear, light amber</td>
<td>water clear</td>
<td>water clear</td>
<td>water clear</td>
</tr>
<tr>
<td><strong>PROCESSING INFORMATION</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Curative Level (pph)</td>
<td>ISONOL 93</td>
<td>ISONOL 93</td>
<td>ISONOL 93</td>
<td>ISONOL 93</td>
<td>ISONOL 93</td>
<td>PART B</td>
<td>PART B</td>
<td>1,4 BUTANE DIOL</td>
</tr>
<tr>
<td>Demould at 100°C (hours)</td>
<td>8</td>
<td>–</td>
<td>8</td>
<td>5</td>
<td>5</td>
<td>8</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Post Cure at 100°C (hours)</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>16</td>
</tr>
<tr>
<td><strong>PHYSICAL PROPERTIES</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hardness (Shore A)</td>
<td>ISONOL 93</td>
<td>ISONOL 93</td>
<td>ISONOL 93</td>
<td>ISONOL 93</td>
<td>ISONOL 93</td>
<td>PART B</td>
<td>PART B</td>
<td>1,4 BUTANE DIOL</td>
</tr>
<tr>
<td>Tensile Strength / MPa (psi)</td>
<td>1.6 (232)</td>
<td>3.0 (435)</td>
<td>5.0 (725)</td>
<td>25.0 (3626)</td>
<td>41.4 (6005)</td>
<td>15.0 (2176)</td>
<td>18.0 (2611)</td>
<td>17 (2466)</td>
</tr>
<tr>
<td>100% Modulus / MPa (psi)</td>
<td>0.7 (102)</td>
<td>–</td>
<td>1.9 (276)</td>
<td>1.0 (145)</td>
<td>2.1 (305)</td>
<td>2.9 (421)</td>
<td>10.9 (1581)</td>
<td>10.6 (1537)</td>
</tr>
<tr>
<td>300% Modulus / MPa (psi)</td>
<td>1.0 (145)</td>
<td>–</td>
<td>3.4 (493)</td>
<td>2.0 (290)</td>
<td>4.8 (696)</td>
<td>6.3 (914)</td>
<td>-</td>
<td>12.1 (1755)</td>
</tr>
<tr>
<td>AngleTear Strength, Die C (kN/m)</td>
<td>17</td>
<td>26</td>
<td>14</td>
<td>25</td>
<td>31</td>
<td>31</td>
<td>60</td>
<td>65</td>
</tr>
<tr>
<td>Elongation (%)</td>
<td>420</td>
<td>185</td>
<td>340</td>
<td>540</td>
<td>475</td>
<td>490</td>
<td>290</td>
<td>370</td>
</tr>
<tr>
<td>Cured Specific Gravity (g/cm³)</td>
<td>1.20</td>
<td>1.25</td>
<td>1.15</td>
<td>1.23</td>
<td>1.24</td>
<td>1.00</td>
<td>1.01</td>
<td>1.01</td>
</tr>
</tbody>
</table>

*The information presented here is based on laboratory testing.*
# Cold Castable TDI Systems

<table>
<thead>
<tr>
<th>ERAPOL PREPOLYMER</th>
<th>CC50A</th>
<th>CC5/65A</th>
<th>CC80A</th>
<th>CC90A</th>
<th>CC95A</th>
<th>CC60D</th>
<th>CCM40A</th>
<th>CCM55A</th>
<th>CCM75A</th>
<th>CCM80A</th>
<th>CCM90A</th>
<th>CCM95A</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PART A – PROPERTIES</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specific Gravity at 25°C</td>
<td>1.07</td>
<td>1.07</td>
<td>1.08</td>
<td>1.07</td>
<td>1.06</td>
<td>1.07</td>
<td>1.02</td>
<td>1.02</td>
<td>1.02</td>
<td>1.08</td>
<td>1.02</td>
<td>1.02</td>
</tr>
<tr>
<td>Colour</td>
<td>clear</td>
<td>clear</td>
<td>clear, light amber</td>
<td>clear, light amber</td>
<td>clear, light amber</td>
<td>clear, light amber</td>
<td>clear, light amber</td>
<td>clear, light amber</td>
<td>clear, light amber</td>
<td>clear, light amber</td>
<td>clear, light amber</td>
<td>clear, light amber</td>
</tr>
<tr>
<td><strong>PART B – PROPERTIES</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specific Gravity at 25°C</td>
<td>1.15</td>
<td>1.04</td>
<td>1.01</td>
<td>1.26</td>
<td>1.20</td>
<td>1.20</td>
<td>1.20</td>
<td>1.04</td>
<td>1.01</td>
<td>1.20</td>
<td>1.20</td>
<td>1.20</td>
</tr>
<tr>
<td>Colour</td>
<td>amber</td>
<td>amber</td>
<td>amber</td>
<td>amber</td>
<td>amber</td>
<td>amber</td>
<td>amber</td>
<td>amber</td>
<td>amber</td>
<td>amber</td>
<td>amber</td>
<td>amber</td>
</tr>
<tr>
<td><strong>PROCESSING INFORMATION</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mix Ratio by Weight (A/B)</td>
<td>100 / 100</td>
<td>100 / 100</td>
<td>100 / 45</td>
<td>100 / 50</td>
<td>100 / 15</td>
<td>100 / 16.5</td>
<td>100 / 80</td>
<td>100 / 56</td>
<td>100 / 45</td>
<td>100 / 35</td>
<td>100 / 20</td>
<td>100 / 15</td>
</tr>
<tr>
<td>Pot Life at 25°C (minutes)</td>
<td>10</td>
<td>12</td>
<td>15 – 18</td>
<td>15</td>
<td>6 – 10</td>
<td>6</td>
<td>15</td>
<td>30</td>
<td>15</td>
<td>12 – 15</td>
<td>8 – 10</td>
<td>7 – 8</td>
</tr>
<tr>
<td>Demould at 25°C (hours)</td>
<td>24</td>
<td>24</td>
<td>24</td>
<td>16</td>
<td>16</td>
<td>6 – 8</td>
<td>24</td>
<td>24</td>
<td>24</td>
<td>24</td>
<td>16</td>
<td>16</td>
</tr>
<tr>
<td>Accelerated Cure at 70°C (hours)</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Complete Cure at 25°C (days)</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td><strong>PHYSICAL PROPERTIES</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hardness (Shore A)</td>
<td>50 ± 5</td>
<td>60 ± 5</td>
<td>80 ± 3</td>
<td>90 ± 5</td>
<td>95 ± 3</td>
<td>60 ± 3 Sh D</td>
<td>40 ± 5</td>
<td>55 ± 5</td>
<td>73 ± 3</td>
<td>80 ± 3</td>
<td>90 ± 5</td>
<td>95 ± 5</td>
</tr>
<tr>
<td>Tensile Strength / MPa (psi)</td>
<td>15.0 (2176)</td>
<td>16.0 (2321)</td>
<td>28.0 (4061)</td>
<td>26.0 (3771)</td>
<td>44.0 (6382)</td>
<td>50.2 (7281)</td>
<td>18.0 (2611)</td>
<td>15.0 (2176)</td>
<td>20.0 (2901)</td>
<td>24.0 (3481)</td>
<td>20.3 (2944)</td>
<td>23.1 (3350)</td>
</tr>
<tr>
<td>Elongation (%)</td>
<td>650</td>
<td>600</td>
<td>510</td>
<td>500</td>
<td>380</td>
<td>250</td>
<td>580</td>
<td>550</td>
<td>450</td>
<td>500</td>
<td>370</td>
<td>320</td>
</tr>
<tr>
<td>DIN Abrasion Resistance (mm³)</td>
<td>120</td>
<td>135</td>
<td>110</td>
<td>200</td>
<td>85</td>
<td>96</td>
<td>205</td>
<td>185</td>
<td>195</td>
<td>175</td>
<td>260</td>
<td>145</td>
</tr>
<tr>
<td>Linear Shrinkage at 23°C (%)</td>
<td>0.2</td>
<td>0.2</td>
<td>0.2</td>
<td>0.2</td>
<td>0.2</td>
<td>0.2</td>
<td>0.4</td>
<td>0.2</td>
<td>0.1</td>
<td>0.2</td>
<td>0.2</td>
<td>0.2</td>
</tr>
<tr>
<td>Cured Specific Gravity (g/cm³)</td>
<td>1.10</td>
<td>1.10</td>
<td>1.10</td>
<td>1.10</td>
<td>1.12</td>
<td>1.10</td>
<td>1.10</td>
<td>1.10</td>
<td>1.10</td>
<td>1.10</td>
<td>1.10</td>
<td>1.10</td>
</tr>
</tbody>
</table>

*The information presented here is based on laboratory testing.*
## Polyether MDI Prepolymers

### PREPOLYMER PROPERTIES

<table>
<thead>
<tr>
<th>Erapol Prepolymer</th>
<th>EMD85A</th>
<th>EMD90A</th>
<th>EMD93A</th>
<th>EMD96A</th>
<th>EMD52D</th>
</tr>
</thead>
<tbody>
<tr>
<td>%NCO</td>
<td>6.50 ± 0.25</td>
<td>7.80 ± 0.25</td>
<td>8.80 ± 0.25</td>
<td>9.60 ± 0.25</td>
<td>10.60 ± 0.20</td>
</tr>
<tr>
<td>Specific Gravity at 25°C</td>
<td>1.05</td>
<td>1.05</td>
<td>1.05</td>
<td>1.05</td>
<td>1.05</td>
</tr>
<tr>
<td>Colour</td>
<td>white translucent</td>
<td>white translucent</td>
<td>white translucent</td>
<td>white translucent</td>
<td>white translucent</td>
</tr>
</tbody>
</table>

### PROCESSING INFORMATION

<table>
<thead>
<tr>
<th>1, 4 BDO</th>
<th>Enacure 210</th>
<th>1, 4 BDO</th>
<th>Enacure 210</th>
<th>1, 4 BDO</th>
<th>Enacure 210</th>
<th>1, 4 BDO</th>
<th>Enacure 210</th>
<th>1, 4 BDO</th>
<th>Enacure 210</th>
</tr>
</thead>
<tbody>
<tr>
<td>Curative Level (pph)</td>
<td>6.6</td>
<td>6.6</td>
<td>7.9</td>
<td>7.9</td>
<td>8.9</td>
<td>8.9</td>
<td>9.8</td>
<td>9.8</td>
<td>10.8</td>
</tr>
<tr>
<td>Recommended % Theory</td>
<td>95</td>
<td>95</td>
<td>95</td>
<td>95</td>
<td>95</td>
<td>95</td>
<td>95</td>
<td>95</td>
<td>95</td>
</tr>
<tr>
<td>Pot Life at 25°C (minutes)</td>
<td>9 – 12</td>
<td>11 – 12</td>
<td>4 – 6</td>
<td>9 – 10</td>
<td>3 – 4</td>
<td>6 – 7</td>
<td>3 – 4</td>
<td>4 – 5</td>
<td>2 – 3</td>
</tr>
<tr>
<td>Demould at 90 – 110°C (minutes)</td>
<td>60</td>
<td>180</td>
<td>60</td>
<td>180</td>
<td>50</td>
<td>120</td>
<td>45</td>
<td>120</td>
<td>45</td>
</tr>
<tr>
<td>Post Cure at 90 – 110°C (hours)</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>16</td>
</tr>
</tbody>
</table>

### PHYSICAL PROPERTIES

<table>
<thead>
<tr>
<th>1, 4 BDO</th>
<th>Enacure 210</th>
<th>1, 4 BDO</th>
<th>Enacure 210</th>
<th>1, 4 BDO</th>
<th>Enacure 210</th>
<th>1, 4 BDO</th>
<th>Enacure 210</th>
<th>1, 4 BDO</th>
<th>Enacure 210</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hardness (Shore A)</td>
<td>85 ± 3</td>
<td>82 ± 3</td>
<td>90 ± 3</td>
<td>88 ± 3</td>
<td>93 ± 3</td>
<td>93 ± 3</td>
<td>96 ± 3</td>
<td>95 ± 3</td>
<td>52D ± 3</td>
</tr>
<tr>
<td>Tensile Strength / MPa (psi)</td>
<td>32 (4641)</td>
<td>26 (3771)</td>
<td>35 (5076)</td>
<td>27 (3916)</td>
<td>35.0 (5076)</td>
<td>30 (4351)</td>
<td>36 (5221)</td>
<td>25 (3626)</td>
<td>36 (5221)</td>
</tr>
<tr>
<td>Angle Tear Strength, Die C (kN/m)</td>
<td>103</td>
<td>56</td>
<td>106</td>
<td>60</td>
<td>120</td>
<td>87</td>
<td>130</td>
<td>59</td>
<td>145</td>
</tr>
<tr>
<td>Trouser Tear Strength (kN/m)</td>
<td>30</td>
<td>11</td>
<td>30</td>
<td>11</td>
<td>37</td>
<td>19</td>
<td>40</td>
<td>20</td>
<td>45</td>
</tr>
<tr>
<td>Elongation (%)</td>
<td>700</td>
<td>430</td>
<td>520</td>
<td>425</td>
<td>510</td>
<td>450</td>
<td>490</td>
<td>350</td>
<td>450</td>
</tr>
<tr>
<td>DIN Resilience (%)</td>
<td>67</td>
<td>65</td>
<td>63</td>
<td>67</td>
<td>60</td>
<td>61</td>
<td>56</td>
<td>55</td>
<td>49</td>
</tr>
<tr>
<td>DIN Abrasion Resistance (mm³)</td>
<td>45</td>
<td>48</td>
<td>48</td>
<td>65</td>
<td>51</td>
<td>62</td>
<td>40</td>
<td>61</td>
<td>45</td>
</tr>
<tr>
<td>Cured Specific Gravity (g/cm³)</td>
<td>1.1</td>
<td>1.1</td>
<td>1.1</td>
<td>1.1</td>
<td>1.1</td>
<td>1.1</td>
<td>1.1</td>
<td>1.1</td>
<td>1.1</td>
</tr>
</tbody>
</table>

*The information presented here is based on laboratory testing.*
**Cold Castable MDI Systems**

<table>
<thead>
<tr>
<th>ERAPOL PREPOLYMER</th>
<th>Flexible</th>
<th>Quick Cure</th>
<th>High Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>EMD25ACC</td>
<td>EMD35ACC</td>
<td>EMD45ACC</td>
</tr>
<tr>
<td><strong>PART A – PROPERTIES</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specific Gravity at 25°C</td>
<td>1.13</td>
<td>1.13</td>
<td>1.13</td>
</tr>
<tr>
<td>Colour</td>
<td>pale amber</td>
<td>pale amber</td>
<td>pale amber</td>
</tr>
<tr>
<td><strong>PART B – PROPERTIES</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specific Gravity at 25°C</td>
<td>1.03</td>
<td>1.03</td>
<td>1.03</td>
</tr>
<tr>
<td>Colour</td>
<td>clear</td>
<td>clear</td>
<td>clear</td>
</tr>
<tr>
<td><strong>PROCESSING INFORMATION</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mix Ratio by Weight (A/B)</td>
<td>100 / 230</td>
<td>100 / 210</td>
<td>100 / 120</td>
</tr>
<tr>
<td>Pot Life (minutes)</td>
<td>15</td>
<td>15</td>
<td>23</td>
</tr>
<tr>
<td>Demould at 25°C (hours)</td>
<td>3 – 4</td>
<td>3 – 4</td>
<td>3 – 4</td>
</tr>
<tr>
<td>Accelerated Cure at 60°C (hours)</td>
<td>16</td>
<td>16</td>
<td>16</td>
</tr>
<tr>
<td>Complete Cure at 25°C (days)</td>
<td>7</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td><strong>PHYSICAL PROPERTIES</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hardness (Shore A)</td>
<td>25 ± 5</td>
<td>35 ± 5</td>
<td>45 ± 5</td>
</tr>
<tr>
<td>Tensile Strength / MPa (psi)</td>
<td>1.0 (145)</td>
<td>5.0 (725)</td>
<td>4.0 (580)</td>
</tr>
<tr>
<td>Angle Tear Strength, Die C (kN/m)</td>
<td>5.0</td>
<td>7.0</td>
<td>7.0</td>
</tr>
<tr>
<td>Elongation (%)</td>
<td>1200</td>
<td>700</td>
<td>670</td>
</tr>
<tr>
<td>DIN Abrasion Resistance (mm³)</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

*The information presented here is based on laboratory testing.*
## Polyether MDI – 4 Component (Quasi) Systems

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>EMD 135N – ISOCYANATE PREPOLYMER</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specific Gravity at 25°C</td>
<td>1.08</td>
<td>1.08</td>
<td>1.08</td>
<td>1.08</td>
<td>1.08</td>
<td>1.08</td>
<td>1.08</td>
<td>1.08</td>
</tr>
<tr>
<td>Colour</td>
<td>clear</td>
<td>clear</td>
<td>clear</td>
<td>clear</td>
<td>clear</td>
<td>clear</td>
<td>clear</td>
<td>clear</td>
</tr>
<tr>
<td><strong>EMD135N – POLYOL CURATIVE</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specific Gravity at 25°C</td>
<td>1.09</td>
<td>1.09</td>
<td>1.09</td>
<td>1.09</td>
<td>1.09</td>
<td>1.09</td>
<td>1.09</td>
<td>1.09</td>
</tr>
<tr>
<td>Colour</td>
<td>clear</td>
<td>clear</td>
<td>clear</td>
<td>clear</td>
<td>clear</td>
<td>clear</td>
<td>clear</td>
<td>clear</td>
</tr>
<tr>
<td><strong>1, 4 BUTANE DIOL (1, 4 BDO)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specific Gravity at 25°C</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Colour</td>
<td>clear</td>
<td>clear</td>
<td>clear</td>
<td>clear</td>
<td>clear</td>
<td>clear</td>
<td>clear</td>
<td>clear</td>
</tr>
<tr>
<td><strong>PROCESSING INFORMATION</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EMD 35N – Isocyanate Level</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>EMD 35N – Polyl / 1, 4 BDO Level</td>
<td>180 / 5.6</td>
<td>150 / 7.0</td>
<td>120 / 8.4</td>
<td>105 / 9.1</td>
<td>90 / 9.8</td>
<td>60 / 11.2</td>
<td>45 / 11.9</td>
<td>30 / 12.6</td>
</tr>
<tr>
<td>Eracat MF -Catalyst by weight (ppw)</td>
<td>1.3</td>
<td>1.2</td>
<td>0.7</td>
<td>0.6</td>
<td>0.4</td>
<td>0.3</td>
<td>0.3</td>
<td>0.2</td>
</tr>
<tr>
<td>Recommended % Theory</td>
<td>95</td>
<td>95</td>
<td>95</td>
<td>95</td>
<td>95</td>
<td>95</td>
<td>95</td>
<td>95</td>
</tr>
<tr>
<td>EMD 35N – Isocyanate Temp (°C)</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
</tr>
<tr>
<td>EMD 35N – Polyl Temp (°C)</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
</tr>
<tr>
<td>1, 4 Butane Diol Temp (°C)</td>
<td>25</td>
<td>25</td>
<td>25</td>
<td>25</td>
<td>25</td>
<td>25</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td>Mould Temp (°C)</td>
<td>90 – 100</td>
<td>90 – 100</td>
<td>90 – 100</td>
<td>90 – 100</td>
<td>90 – 100</td>
<td>90 – 100</td>
<td>90 – 100</td>
<td>90 – 100</td>
</tr>
<tr>
<td>Oven Temp (°C)</td>
<td>90 – 100</td>
<td>90 – 100</td>
<td>90 – 100</td>
<td>90 – 100</td>
<td>90 – 100</td>
<td>90 – 100</td>
<td>90 – 100</td>
<td>90 – 100</td>
</tr>
<tr>
<td>Pot Life (minutes)</td>
<td>5 – 8</td>
<td>5 – 8</td>
<td>5 – 8</td>
<td>5 – 8</td>
<td>5 – 8</td>
<td>5 – 8</td>
<td>5 – 8</td>
<td>5 – 8</td>
</tr>
<tr>
<td>Demould at 90 – 100°C (minutes)</td>
<td>60</td>
<td>45</td>
<td>45</td>
<td>45</td>
<td>30</td>
<td>30</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>Post Cure at 90 – 100°C (hours)</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>16</td>
</tr>
<tr>
<td><strong>PHYSICAL PROPERTIES</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hardness (Shore A)</td>
<td>60 ± 3</td>
<td>65 ± 3</td>
<td>70 ± 3</td>
<td>75 ± 3</td>
<td>80 ± 3</td>
<td>85 ± 3</td>
<td>90 ± 3</td>
<td>95 ± 3</td>
</tr>
<tr>
<td>Tensile Strength / MPa (psi)</td>
<td>21.0 (3046)</td>
<td>26 (3770)</td>
<td>28.0 (4061)</td>
<td>31.0 (4496)</td>
<td>32.0 (4641)</td>
<td>34.0 (4931)</td>
<td>36.0 (5221)</td>
<td>36.0 (5221)</td>
</tr>
<tr>
<td>100 % Modulus / MPa (psi)</td>
<td>1.5 (218)</td>
<td>2.3 (334)</td>
<td>3.0 (435)</td>
<td>4.0 (580)</td>
<td>5.3 (769)</td>
<td>7.2 (1044)</td>
<td>8.8 (1276)</td>
<td>11.0 (1595)</td>
</tr>
<tr>
<td>300 % Modulus / MPa (psi)</td>
<td>3.8 (551)</td>
<td>6.1 (885)</td>
<td>8.0 (1160)</td>
<td>9.8 (1421)</td>
<td>11.0 (1595)</td>
<td>13.8 (2002)</td>
<td>16.3 (2364)</td>
<td>18.3 (2654)</td>
</tr>
<tr>
<td>Angle Tear Strength, Die C (kN/m)</td>
<td>30</td>
<td>48</td>
<td>52</td>
<td>68</td>
<td>80</td>
<td>85</td>
<td>91</td>
<td>102</td>
</tr>
<tr>
<td>Trouser Tear Strength (kN/m)</td>
<td>16</td>
<td>19</td>
<td>24</td>
<td>25</td>
<td>45</td>
<td>47</td>
<td>57</td>
<td>69</td>
</tr>
<tr>
<td>Elongation (%)</td>
<td>620</td>
<td>615</td>
<td>585</td>
<td>578</td>
<td>590</td>
<td>608</td>
<td>587</td>
<td>550</td>
</tr>
<tr>
<td>DIN Resilience (%)</td>
<td>70</td>
<td>67</td>
<td>66</td>
<td>65</td>
<td>64</td>
<td>66</td>
<td>62</td>
<td>60</td>
</tr>
<tr>
<td>DIN Abrasion Resistance (mm³)</td>
<td>30</td>
<td>21</td>
<td>23</td>
<td>21</td>
<td>30</td>
<td>34</td>
<td>36</td>
<td>44</td>
</tr>
<tr>
<td>Cured Specific Gravity (g/cm³)</td>
<td>1.05</td>
<td>1.06</td>
<td>1.06</td>
<td>1.07</td>
<td>1.07</td>
<td>1.10</td>
<td>1.11</td>
<td>1.13</td>
</tr>
</tbody>
</table>

*The information presented here is based on laboratory testing.*
**Polyester MDI – 4 Component (Quasi) Systems**

<table>
<thead>
<tr>
<th>ERAPOL PREPOLYMER</th>
<th>EME165N-55A</th>
<th>EME165N-60A</th>
<th>EME165N-65A</th>
<th>EME165N-70A</th>
<th>EME165N-75A</th>
<th>EME165N-80A</th>
<th>EME165N-85A</th>
<th>EME165N-90A</th>
<th>EME165N-95A</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>EME16SN – ISOCYANATE PREPOLYMER</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specific Gravity at 25°C</td>
<td>1.20</td>
<td>1.20</td>
<td>1.20</td>
<td>1.20</td>
<td>1.20</td>
<td>1.20</td>
<td>1.20</td>
<td>1.20</td>
<td>1.20</td>
</tr>
<tr>
<td>Colour</td>
<td>clear/amber</td>
<td>clear/amber</td>
<td>clear/amber</td>
<td>clear/amber</td>
<td>clear/amber</td>
<td>clear/amber</td>
<td>clear/amber</td>
<td>clear/amber</td>
<td>clear/amber</td>
</tr>
<tr>
<td><strong>EME16SN – POLYOL CURATIVE</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specific Gravity at 25°C</td>
<td>1.16</td>
<td>1.16</td>
<td>1.16</td>
<td>1.16</td>
<td>1.16</td>
<td>1.16</td>
<td>1.16</td>
<td>1.16</td>
<td>1.16</td>
</tr>
<tr>
<td>Colour</td>
<td>white</td>
<td>white</td>
<td>white</td>
<td>white</td>
<td>white</td>
<td>white</td>
<td>white</td>
<td>white</td>
<td>white</td>
</tr>
<tr>
<td><strong>1, 4 BUTANE DIOL (1, 4 BDO)</strong>*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specific Gravity at 25°C</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Colour</td>
<td>clear</td>
<td>clear</td>
<td>clear</td>
<td>clear</td>
<td>clear</td>
<td>clear</td>
<td>clear</td>
<td>clear</td>
<td>clear</td>
</tr>
<tr>
<td><strong>PROCESSING INFORMATION</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EME215N – Isocyanate Level</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>EME215N – Polyol / 1, 4 BDO Level</td>
<td>232 / 0</td>
<td>188.5 / 3.1</td>
<td>164.5 / 4.9</td>
<td>133.5 / 7.2</td>
<td>110.5 / 8.8</td>
<td>89 / 10.4</td>
<td>70 / 11.7</td>
<td>58.5 / 12.6</td>
<td>37.5 / 14.1</td>
</tr>
<tr>
<td>Eracat MF – Catalyst by Weight (ppw)</td>
<td>1.50</td>
<td>0.67</td>
<td>0.80</td>
<td>0.50</td>
<td>0.50</td>
<td>0.33</td>
<td>0.26</td>
<td>0.21</td>
<td>0.15</td>
</tr>
<tr>
<td>Recommended % Theory</td>
<td>95</td>
<td>95</td>
<td>95</td>
<td>95</td>
<td>95</td>
<td>95</td>
<td>95</td>
<td>95</td>
<td>95</td>
</tr>
<tr>
<td>Mould Temp (°C)</td>
<td>80 – 100</td>
<td>80 – 100</td>
<td>80 – 100</td>
<td>80 – 100</td>
<td>80 – 100</td>
<td>80 – 100</td>
<td>80 – 100</td>
<td>80 – 100</td>
<td>80 – 100</td>
</tr>
<tr>
<td>Oven Temp (°C)</td>
<td>80 – 100</td>
<td>80 – 100</td>
<td>80 – 100</td>
<td>80 – 100</td>
<td>80 – 100</td>
<td>80 – 100</td>
<td>80 – 100</td>
<td>80 – 100</td>
<td>80 – 100</td>
</tr>
<tr>
<td>Pot Life (minutes)</td>
<td>5 – 8</td>
<td>5 – 8</td>
<td>5 – 8</td>
<td>5 – 8</td>
<td>5 – 8</td>
<td>4 – 7</td>
<td>4 – 7</td>
<td>3 – 5</td>
<td>3 – 5</td>
</tr>
<tr>
<td>Post Cure at 90-100°C (hours)</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>16</td>
</tr>
</tbody>
</table>

**PHYSICAL PROPERTIES**

| Hardness (Shore A) | 55 ± 3 | 60 ± 3 | 65 ± 3 | 70 ± 3 | 75 ± 3 | 80 ± 3 | 85 ± 3 | 90 ± 3 | 95 ± 3 |
| Tensile Strength / MPa (psi) | 37 (5366) | 37 (5366) | 38 (5511) | 44 (6322) | 50 (7252) | 41 (5946) | 41 (5946) | 36 (5221) | 34 (4931) |
| 100% Modulus / MPa (psi) | 1.9 (276) | 2.6 (377) | 3.2 (464) | 3.8 (551) | 5.0 (725) | 7.0 (1015) | 9.0 (1305) | 11.0 (1595) | 14.8 (2147) |
| 200% Modulus / MPa (psi) | 3.9 (566) | 6.4 (928) | 7.5 (1088) | 9.5 (1378) | 11.8 (1711) | 17.5 (2538) | 20.5 (2973) | 22.5 (3263) | 25.9 (3756) |
| Angle Tear Strength, Die C (kN/m) | 36.4 | 48.5 | 56.5 | 57.3 | 72.7 | 85.5 | 94.6 | 95.3 | 105.7 |
| Trousse Tear Strength (kN/m) | 13.5 | 13.6 | 19.2 | 18.1 | 30.5 | 31.5 | 28.9 | 35.2 | 42.4 |
| Elongation (%) | 690 | 650 | 630 | 500 | 580 | 500 | 500 | 450 | 400 |
| DIN Resilience (%) | 62 | 61 | 59 | 49 | 45 | 43 | 37 | 37 | 37 |
| DIN Abrasion Resistance (mm³) | 44 | 36 | 36 | 34 | 34 | 41 | 39 | 53 | 69 |
| Cured Density | 1.19 | 1.20 | 1.20 | 1.21 | 1.21 | 1.22 | 1.23 | 1.23 | 1.23 |

*The information presented here is based on laboratory testing.*
# 1K Blocked Series

## High Performance

<table>
<thead>
<tr>
<th>ERAPOL PREPOLYMER</th>
<th>1K20A</th>
<th>1K30A</th>
<th>1K40A</th>
<th>1K50A</th>
<th>1K55A</th>
<th>1K60A</th>
<th>1K70A</th>
<th>1K80A</th>
<th>1K90A</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1K - PRODUCT SPECIFICATION</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Colour</td>
<td>Amber</td>
<td>Amber</td>
<td>Amber</td>
<td>Amber</td>
<td>Amber</td>
<td>Amber</td>
<td>Amber</td>
<td>Amber</td>
<td>Amber</td>
</tr>
<tr>
<td>Specific Gravity at 25°C</td>
<td>1.20</td>
<td>1.20</td>
<td>1.20</td>
<td>1.20</td>
<td>1.20</td>
<td>1.20</td>
<td>1.20</td>
<td>1.20</td>
<td>1.20</td>
</tr>
<tr>
<td><strong>PROCESSING INFORMATION</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1K – Melting / Processing Temp (°C)</td>
<td>50 – 75</td>
<td>50 – 75</td>
<td>50 – 75</td>
<td>50 – 75</td>
<td>50 – 75</td>
<td>50 – 75</td>
<td>50 – 75</td>
<td>50 – 75</td>
<td>50 – 75</td>
</tr>
<tr>
<td>1K – Mould Temp (°C)</td>
<td>130 – 140</td>
<td>130 – 140</td>
<td>130 – 140</td>
<td>130 – 140</td>
<td>130 – 140</td>
<td>130 – 140</td>
<td>130 – 140</td>
<td>130 – 140</td>
<td>130 – 140</td>
</tr>
<tr>
<td>Cure Time at 135 – 140 (°C) (hours)</td>
<td>16 – 18</td>
<td>16 – 18</td>
<td>16 – 18</td>
<td>16 – 18</td>
<td>16 – 18</td>
<td>16 – 18</td>
<td>16 – 18</td>
<td>16 – 18</td>
<td>16 – 18</td>
</tr>
<tr>
<td>Demould at 90 – 100°C (hours)</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>16</td>
</tr>
<tr>
<td><strong>PHYSICAL PROPERTIES</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hardness (Shore A)</td>
<td>20 ± 5</td>
<td>32 ± 3</td>
<td>38 ± 3</td>
<td>50 ± 3</td>
<td>55 ± 3</td>
<td>60 ± 3</td>
<td>71 ± 3</td>
<td>80 ± 5</td>
<td>90 ± 3</td>
</tr>
<tr>
<td>Tensile Strength / MPa (psi)</td>
<td>2.6 (377)</td>
<td>2.0 (290)</td>
<td>7.6 (1102)</td>
<td>6.5 (943)</td>
<td>10 (1450)</td>
<td>14 (2031)</td>
<td>21 (3046)</td>
<td>18 (2611)</td>
<td>9 (1310)</td>
</tr>
<tr>
<td>100% Modulus / MPa (psi)</td>
<td>0.6 (87)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>3.8</td>
</tr>
<tr>
<td>300% Modulus / MPa (psi)</td>
<td>1.4 (203)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>5.1</td>
</tr>
<tr>
<td>Angle Tear Strength, Die C (kN/m)</td>
<td>13.9</td>
<td>7.8</td>
<td>12.6</td>
<td>18.3</td>
<td>21.2</td>
<td>32</td>
<td>48</td>
<td>53</td>
<td>44</td>
</tr>
<tr>
<td>Trouser Tear Strength (kN/m)</td>
<td>2</td>
<td>0.5</td>
<td>1</td>
<td>5.5</td>
<td>5.4</td>
<td>12</td>
<td>21</td>
<td>16</td>
<td>19</td>
</tr>
<tr>
<td>Elongation (%)</td>
<td>540</td>
<td>435</td>
<td>605</td>
<td>600</td>
<td>790</td>
<td>725</td>
<td>730</td>
<td>575</td>
<td>550</td>
</tr>
<tr>
<td>DIN Resilience (%)</td>
<td>23</td>
<td>34</td>
<td>29</td>
<td>33</td>
<td>32</td>
<td>29</td>
<td>42</td>
<td>40</td>
<td>23</td>
</tr>
<tr>
<td>Cured Specific Gravity</td>
<td>1.22</td>
<td>1.21</td>
<td>1.21</td>
<td>1.21</td>
<td>1.21</td>
<td>1.21</td>
<td>1.13</td>
<td>1.21</td>
<td>1.18</td>
</tr>
<tr>
<td><strong>SOLVENT SWELL TEST (% WEIGHT INCREASE)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Xylene</td>
<td>11.1</td>
<td>25</td>
<td>33</td>
<td>7.4</td>
<td>51</td>
<td>44</td>
<td>51</td>
<td>61</td>
<td>61</td>
</tr>
<tr>
<td>Cyclohexane</td>
<td>0.21</td>
<td>37</td>
<td>41</td>
<td>0.01</td>
<td>54</td>
<td>62</td>
<td>68</td>
<td>80</td>
<td>80</td>
</tr>
<tr>
<td>Toluene</td>
<td>29.7</td>
<td>28</td>
<td>17.5</td>
<td>42</td>
<td>37</td>
<td>42</td>
<td>54</td>
<td>54</td>
<td>54</td>
</tr>
<tr>
<td>IPA</td>
<td>1.8</td>
<td>34</td>
<td>41</td>
<td>1.3</td>
<td>53</td>
<td>60</td>
<td>65</td>
<td>79</td>
<td>79</td>
</tr>
<tr>
<td>Dibasic</td>
<td>77.2</td>
<td>18</td>
<td>25</td>
<td>40.3</td>
<td>34</td>
<td>47</td>
<td>57</td>
<td>72</td>
<td>72</td>
</tr>
<tr>
<td>MEK</td>
<td>100.6</td>
<td>223</td>
<td>24</td>
<td>57.4</td>
<td>27</td>
<td>41</td>
<td>49</td>
<td>57</td>
<td>68</td>
</tr>
</tbody>
</table>

*The information presented here is based on laboratory testing.*
# Spray Systems

<table>
<thead>
<tr>
<th>ERAPOL PREPOLYMER</th>
<th>General Purpose MDI</th>
<th>High Performance MDI</th>
<th>High Performance TDI</th>
<th>Polyurea</th>
<th>Aliphatic</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Eraspray ESM700</td>
<td>Eraspray ESM800</td>
<td>Eraspray ESM900</td>
<td>Eraspray ESM955</td>
<td>Eraspray ESM900PW •</td>
</tr>
<tr>
<td>PART A – PROPERTIES</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specific Gravity at 25°C</td>
<td>1.15</td>
<td>1.15</td>
<td>1.10</td>
<td>1.10</td>
<td>1.10</td>
</tr>
<tr>
<td>Colour</td>
<td>amber</td>
<td>amber</td>
<td>amber</td>
<td>clear, pale yellow</td>
<td>clear, pale yellow</td>
</tr>
<tr>
<td>PART B – PROPERTIES</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specific Gravity at 25°C</td>
<td>1.01</td>
<td>1.04</td>
<td>1.02</td>
<td>1.02</td>
<td>1.02</td>
</tr>
<tr>
<td>Colour</td>
<td>amber brown</td>
<td>amber brown</td>
<td>amber brown</td>
<td>light amber brown</td>
<td>amber brown</td>
</tr>
<tr>
<td>PROCESSING INFORMATION</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mix Ratio by Weight (A/B/C)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Mix Ratio by Volume (A/B)</td>
<td>100/100</td>
<td>100/100</td>
<td>100/100</td>
<td>100/100</td>
<td>100/100</td>
</tr>
<tr>
<td>Temperature of Part A (°C)</td>
<td>40 – 50</td>
<td>50 – 60</td>
<td>50 – 60</td>
<td>50 – 60</td>
<td>50 – 60</td>
</tr>
<tr>
<td>Temperature of Part B (°C)</td>
<td>40 – 50</td>
<td>50 – 60</td>
<td>50 – 60</td>
<td>50 – 60</td>
<td>50 – 60</td>
</tr>
<tr>
<td>Pot Life at 25°C (minutes)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Pot Life at 40°C (seconds)</td>
<td>15</td>
<td>12</td>
<td>12</td>
<td>8</td>
<td>8 - 15</td>
</tr>
<tr>
<td>Complete Cure at 25°C (days)</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>PHYSICAL PROPERTIES</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hardness (Shore A)</td>
<td>70</td>
<td>80</td>
<td>90</td>
<td>90</td>
<td>90</td>
</tr>
<tr>
<td>Tensile Strength / MPa</td>
<td>7.2</td>
<td>7.0</td>
<td>14.0</td>
<td>16.5</td>
<td>13.9</td>
</tr>
<tr>
<td>Angle Tear Strength, Die C (kN/m)</td>
<td>33</td>
<td>25</td>
<td>42</td>
<td>61.4</td>
<td>42</td>
</tr>
<tr>
<td>Elongation (%)</td>
<td>260</td>
<td>260</td>
<td>190</td>
<td>185</td>
<td>190</td>
</tr>
<tr>
<td>DIN Abrasion Resistance (mm³)</td>
<td>180</td>
<td>170</td>
<td>120</td>
<td>188</td>
<td>120</td>
</tr>
<tr>
<td>Cured Specific Gravity (g/cm³)</td>
<td>1.02</td>
<td>0.9</td>
<td>1.02</td>
<td>1.057</td>
<td>1.02</td>
</tr>
</tbody>
</table>

*The information presented here is based on laboratory testing. • AS/NZS potable water approved. •• Colour of polyol will depend if pigment addition has been requested.
Era Polymers Specialty Products

Era Divisions

Era Polymers has grown to offer more than 700 Polyurethane systems. We have diversified to include a number of divisions within the company. These six include:

<table>
<thead>
<tr>
<th>Era Coatings</th>
<th>Era Elastomers</th>
<th>Era Foams</th>
<th>Era Machinery</th>
<th>Era Tolling</th>
<th>Era Trading</th>
</tr>
</thead>
</table>

**Cast Elastomers**

**2KE Blocked Series**
Used for coating fibres impregnated with coarse carbide grains to produce tough flexible abrasive discs used for cleaning metal surfaces.

**CRE Series**
A range of high performance acid resistant elastomers.

**ERatrowel Series**
Two and three component cold cast trowellable systems.

**GL Series**
A water clear laminating polyurethane system used in security glass applications.

**HTE Series**
High performance systems with excellent mechanical properties at high temperatures.

**OC Series**
Two component, optically clear systems. Cures at ambient or elevated temperatures.

**QCM Series**
MDI based elastomers with rapid demould times at room temperature.

**SQH Series**
MDI based systems with excellent solvent resistance, used for squeegee applications.

**Erakote Systems**
Erakote is a rapid reacting elastomer available in both two or three component systems. It has been designed to be applied as a poured material onto a rotating core to produce a tough elastomeric roller covering, suitable for material handling rollers.

**SDR Series**
High performance elastomer with outstanding oil and solvent resistance.

*See product brochure for more details*
**Standard Curatives:**
These are common curatives used by processors all around the world. They include:

- MOCA
- Ethacure 300
- Isonol 93
- 1, 4 Butane Diol

**Blended Curatives:**
These are specialty curatives only available from Era Polymers. They have been developed in our laboratories for use with specific grades to achieve properties not available with the Standard Curatives.

- Eracure 105
- Eracure 110
- Eracure C32
- Eracure 112
- Eracure C31
- Eracure 210

---

**Floor Coatings:**
A range of Polyurethane Floor Coatings that are hard wearing, easy to maintain and will enhance the natural appearance of interior timber floors.

**Ancillary**
Our polyurethane systems are complemented with a diverse range of ancillary products, they include release agents, adhesives, primers, pigments, solvents and additives.

---

**Rubber Binders**
A range of single component, moisture cured polyurethane. Designed to bind reconstituted rubber for surfacing solutions.

**Foam Systems**
Our broad range of Rigid and Flexible polyurethane foam systems can be found in our [Foam Brochure.](#)

---

* See product brochure for more details
Spray Elastomers*

Eraspray ESM
General purpose MDI systems.

Eraspray ES900PW
MDI potable water system.

Eraspray ESP
High performance MDI systems.

Eraspray ES81A-HB / ES321
High performance TDI systems.

Eraspray AL950
Aliphatic coating, 95 Shore A hardness with exceptional abrasion, UV and chemical resistance.

Agency Products

Whilst the range of Polyurethane Systems we manufacture is extensive, we expertly source a complimentary range of products from around the world to strengthen our product range. We also sell and service a range of equipment for the processing of Polyurethane Elastomers, Foams and Sprays, as well as equipment for Foam cutting and Elastomer Roll Grinding.

* See product brochure for more details
### Troubleshooting

The table below lists commonly experienced problems and their causes.

#### Approximate Viscosities of Common Materials

<table>
<thead>
<tr>
<th>Material</th>
<th>Viscosity in Centipoise</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>1 cps</td>
</tr>
<tr>
<td>SAE 20 Motor Oil</td>
<td>140 – 420 cps</td>
</tr>
<tr>
<td>Castor Oil</td>
<td>1,000 cps</td>
</tr>
<tr>
<td>Chocolate Syrup</td>
<td>25,000 cps</td>
</tr>
<tr>
<td>Sour Cream</td>
<td>100,000 cps</td>
</tr>
<tr>
<td>Milk</td>
<td>3 cps</td>
</tr>
<tr>
<td>SAE 30 Motor Oil</td>
<td>420 – 650 cps</td>
</tr>
<tr>
<td>Karo Syrup</td>
<td>5,000 cps</td>
</tr>
<tr>
<td>Ketchup</td>
<td>50,000 cps</td>
</tr>
<tr>
<td>Peanut Butter</td>
<td>250,000 cps</td>
</tr>
<tr>
<td>SAE 10 Motor Oil</td>
<td>85 – 140 cps</td>
</tr>
<tr>
<td>SAE 40 Motor Oil</td>
<td>650 – 900 cps</td>
</tr>
<tr>
<td>Honey</td>
<td>10,000 cps</td>
</tr>
<tr>
<td>Mustard</td>
<td>70,000 cps</td>
</tr>
</tbody>
</table>

#### Possible Cause

<table>
<thead>
<tr>
<th>Problem</th>
<th>Off Ratio</th>
<th>Poor Mix</th>
<th>High Exotherm</th>
<th>Incorrect Processing Temperature</th>
<th>Poor Vacuum</th>
<th>Nitrogen or Solvent</th>
<th>Leaks in Mixing Head</th>
<th>Dirty Moulds</th>
<th>Casting Technique</th>
<th>Loss of Prepolymer NCO</th>
<th>Insufficient Cure</th>
<th>Curative Contamination</th>
<th>Low Green Strength</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Hardness</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wet Spots</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poor Tear</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cheesy Appearance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High Shrinkage</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Air Bubbles</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Snow Flake Effect</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White Skin</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Voids in Part</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Short Pot Life</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cracking</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foaming</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Striations</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low Tensile Strength</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Taber Abrasion Resistance Charts

Taber Abrasion Resistance – High Performance TDI Polyethers

Taber Abrasion Resistance – High Performance TDI Polyesters / CAPA
DIN Abrasion Resistance Charts

DIN Abrasion Resistance – High Performance TDI Polyethers

DIN Abrasion Resistance – High Performance TDI Polyesters

BAM Natural Rubber
DIN Abrasion Resistance Charts

DIN Abrasion Resistance – High Performance MDI Polyethers

Abbreviations: HDPE – High Density Polyethylene, PVC – Polyvinyl Chloride, SBR – Styrene Butadiene Rubber, CS – Carbon Steel, TPO – Thermoplastic Olefin, AR Steel – Abrasion Resistant, UHMWPE – Ultra High Molecular Weight Polyethylene, COPE – Copolyester/ether, Erapol – Polyurethane
**Erapols** are chemically resistant to the following solvents, oils and chemicals. This is obviously only an abbreviated table. For more detailed information please contact our Technical Service Department.

The following ratings are used to describe the general performance of **Erapols** when immersed at ambient temperatures;

A. Recommended – little or no effect.
B. Minor to moderate effect.
C. Moderate to severe effect.
X. Not recommended.

<p>| | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetic acid</td>
<td>C</td>
<td>Cyclohexane</td>
<td>B</td>
<td>Oleic acid</td>
<td>B</td>
</tr>
<tr>
<td>Acetone</td>
<td>X</td>
<td>Ferric chloride</td>
<td>A</td>
<td>Olive oil</td>
<td>A</td>
</tr>
<tr>
<td>Ammonia hydroxide</td>
<td>A</td>
<td>FREON-12 (54°C)</td>
<td>A</td>
<td>Oxygen-cold</td>
<td>A</td>
</tr>
<tr>
<td>Ammonium nitrate</td>
<td>X</td>
<td>FREON-113</td>
<td>B</td>
<td>Ozone</td>
<td>A</td>
</tr>
<tr>
<td>Ammonium persulfate</td>
<td>X</td>
<td>Gasoline</td>
<td>A</td>
<td>Palmitic acid</td>
<td>A</td>
</tr>
<tr>
<td>Animal fats</td>
<td>A</td>
<td>Gelatin</td>
<td>A</td>
<td>Phosphoric acid (20%)</td>
<td>A</td>
</tr>
<tr>
<td>ASTM oil #1 (70°C)</td>
<td>A</td>
<td>Glucose</td>
<td>A</td>
<td>Phosphoric acid (45%)</td>
<td>A</td>
</tr>
<tr>
<td>ASTM reference fuel</td>
<td>A</td>
<td>Glue</td>
<td>A</td>
<td>Potassium chloride</td>
<td>A</td>
</tr>
<tr>
<td>Barium chloride</td>
<td>A</td>
<td>Glycerin</td>
<td>A</td>
<td>Potassium cupro cyanide</td>
<td>A</td>
</tr>
<tr>
<td>Barium hydroxide</td>
<td>A</td>
<td>Hydrochloric acid (cold) 37%</td>
<td>X</td>
<td>Potassium cyanide</td>
<td>A</td>
</tr>
<tr>
<td>Barium sulfate</td>
<td>A</td>
<td>Hydrochloric acid (hot) 37%</td>
<td>X</td>
<td>Potassium dichromate</td>
<td>A</td>
</tr>
<tr>
<td>Barium sulfide</td>
<td>A</td>
<td>Hydrofluoric acid conc. (cold)</td>
<td>X</td>
<td>Potassium nitrate</td>
<td>A</td>
</tr>
<tr>
<td>Borax</td>
<td>A</td>
<td>Hydrofluoric acid conc. (hot)</td>
<td>X</td>
<td>Potassium sulfate</td>
<td>A</td>
</tr>
<tr>
<td>Boric acid</td>
<td>A</td>
<td>Hydrogen gas</td>
<td>A</td>
<td>Producer gas</td>
<td>A</td>
</tr>
<tr>
<td>Butane</td>
<td>A</td>
<td>Isopropyl acetate</td>
<td>A</td>
<td>Radiation</td>
<td>A</td>
</tr>
<tr>
<td>Calcium bisulphite</td>
<td>A</td>
<td>Kerosene</td>
<td>B</td>
<td>Soap Solutions</td>
<td>A</td>
</tr>
<tr>
<td>Calcium chloride</td>
<td>A</td>
<td>Liquefied petroleum gas</td>
<td>A</td>
<td>Sodium chloride</td>
<td>A</td>
</tr>
<tr>
<td>Calcium hydroxide</td>
<td>A</td>
<td>Magnesium chloride</td>
<td>A</td>
<td>Sodium hydroxide (20%)</td>
<td>B</td>
</tr>
<tr>
<td>Calcium nitrate</td>
<td>A</td>
<td>Magnesium hydroxide</td>
<td>A</td>
<td>Sodium phosphate</td>
<td>A</td>
</tr>
<tr>
<td>Calcium sulfide</td>
<td>A</td>
<td>Mercury</td>
<td>A</td>
<td>Sodium sulfate</td>
<td>A</td>
</tr>
<tr>
<td>Carbon dioxide</td>
<td>A</td>
<td>Mineral oil</td>
<td>A</td>
<td>Sodium thiosulfate</td>
<td>A</td>
</tr>
<tr>
<td>Carbon monoxide</td>
<td>A</td>
<td>Natural gas</td>
<td>B</td>
<td>Stearic acid</td>
<td>A</td>
</tr>
<tr>
<td>Castor oil</td>
<td>A</td>
<td>Nickel sulfate</td>
<td>A</td>
<td>Sulphuric acid (dilute)</td>
<td>B</td>
</tr>
<tr>
<td>Citric acid</td>
<td>A</td>
<td>Nitric acid conc.</td>
<td>X</td>
<td>Sulphuric acid (conc)</td>
<td>X</td>
</tr>
<tr>
<td>Copper chloride</td>
<td>A</td>
<td>Nitric acid dilute</td>
<td>C</td>
<td>Sulphuric acid (20% oleum)</td>
<td>X</td>
</tr>
<tr>
<td>Copper cyanide</td>
<td>A</td>
<td>Nitric acid red fuming</td>
<td>X</td>
<td>Tannic acid (10%)</td>
<td>A</td>
</tr>
<tr>
<td>Copper sulphate</td>
<td>A</td>
<td>Nitrogen</td>
<td>A</td>
<td>Tartaric acid</td>
<td>A</td>
</tr>
<tr>
<td>Cottonseed oil</td>
<td>A</td>
<td>Octadecane</td>
<td>A</td>
<td>Toluene</td>
<td>C</td>
</tr>
</tbody>
</table>
Additive – A material which does not take part in the chemical reaction but is included to alter the final product eg. fillers, pigments, flame retardants etc.

Casting – The filling of essentially open moulds with liquid polyurethane.

Catalyst – An ingredient in polyurethane systems which initiates a chemical reaction or increases the rate of chemical reaction.

Chain Reaction – Lengthening of the main chain or backbone of polymer molecules by end to end attachment.

Component – A separately metered stream of liquid which will be directly introduced into the mixing head.

Cross Linking – The formation of chemical links between the molecular chains.

Cure – A term which refers to the completeness of the chemical reaction.

Curing Agent – A component that results in chemical activity between the components, with an increase in the rate of cure.

Cycle Time – A term most commonly used in situations where many items are being manufactured on an automatic or semi-automatic production line. It includes the time required for mould preparation, including release agent application, dispensing of components, reaction, cure and demould.

Degradation – The deterioration of a substance caused by contact with its environment.

Demould Time – The time between dispensing the liquid components into the mould and removing the article being produced.

Dew Point – The temperature at which a vapour begins to condense.

Elastomer – A flexible or semi-rigid rubber-like material not necessarily made from what is conventionally thought of as a rubber.

Elongation – The increase in length of a specimen at the instant before rupture occurs. Expressed as a percent of original length.

Exotherm – Heat generated by a chemical reaction.

Flame Retardant – A substance which is added to a polymer formulation to reduce or retard its tendency to burn.

Hardness – The surface property relating to the resistance of indentation.

Hydroxyl Group – The combined oxygen and hydrogen radical (–OH) which forms the reactive group in polyols.

Impact Resistance – Ability to withstand mechanical or physical blows without the loss of protective properties.

Isocyanate – The family name of chemical compounds having one or more NCO groups attached to the main chain.

MDI – An abbreviation for diphenylMethane Di Isocyanate.

Microcellular – An elastomer of cellular or foam structure.

Mil – One thousandth of an inch, 0.001 inch. A unit used to measure coating thickness.

Moulding – The process of producing a finished article from a closed mould.

NDI – Naphthalene Di Isocyanate.

NCO – Nitrogen, Carbon, Oxygen. The chemical formula for an isocyanate group.

Polyester – Polymeric compound, with the reactive hydroxyl groups containing ester linkages.

Polyether – Polymeric compounds with reactive hydroxyl group containing ether linkages.

Polymer – A high molecular weight compound, natural or synthetic, whose chemical structure can be represented by a repeated small unit.

Polyol – A chemical compound with more than one reactive hydroxyl group attached to the molecule.

Post Cure – The period of cure after the product has been removed from the mould. In some cases, accelerated curing at elevated temperatures is used.

Pot Life – The length of time after mixing together of the two components during which the polymer remains sufficiently liquid to be processed.

Prepolymer – A chemical intermediate manufactured by reacting all the isocyanate with part or all of the polyol.

PTMEG – Poly Tetr Methylene Glycol.

PU – Abbreviation for Polyurethane.

RIM – Reaction Injection Moulding. A process of injecting a reacting mixture of polyurethane into a mould.

System – A rather ambiguous term used to describe almost any combination of mechanical parts or chemicals which have some relationship to each other. Often used to describe the supply of all chemical components needed to produce a polyurethane.

TDI – An abbreviation for Toluene Di Isocyanate.

Thermoset – A polymer that irreversibly cures from a liquid state to a solid state.

Thermoplastic – A polymer that turns to a liquid when heated and freezes to a solid state when cooled.

Thixotropic – Having the property of decreasing viscosity with increasing shear stress. A coating is thixotropic if it thins with stirring or pumping but thickens back up when movement decreases.

Viscosity – A measure of the thickness of a liquid. The lower the number the thinner the liquid.

Volatile Organic Components (VOC) – Organic materials which evaporate at normal temperatures and pressures, organic materials which have vapour pressure greater than 0.1 mm Hg at one atmosphere.
Era Polymers Pty. Ltd. has a policy of continual improvement so please ensure you are in possession of the latest issue of the Product Information sheet for the products you are planning to use. Although every effort has been made to ensure the accuracy of the information contained herein, Era Polymers Pty. Ltd. gives no warranty that the information is accurate and shall under no circumstances be liable to any person if it is not. The customer must satisfy themselves as to the suitability of any of Era Polymers Pty. Ltd. products for their requirements.

Goddess Hera

(H)Era in Greek religion, wife of Zeus, Queen of the Olympian Gods and patron Goddess of the Isle of Samos. A father's passionate love of the island prompted his son to commemorate its history in the naming of our company.