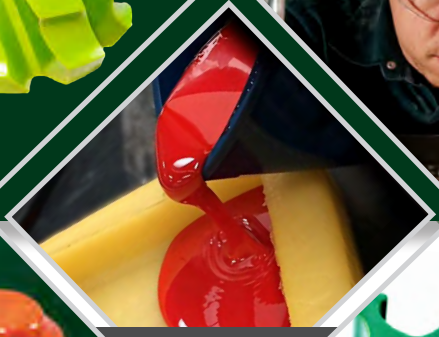
Era
Elastomers



A New Era in Polyurethane
Elastomers

VERSION 8.0

Contents

Excellence in Polyurethane Chemistry

Era Polymers is an Australian owned and operated Polyurethane Systems House. The company was founded in April 1986, in a home office, by George and Tina Papamanuel.

Since those modest beginnings the company has grown to become the largest Polyurethane Systems House in Australia and South Asia.

Operated by Industrial Chemists, **Era Polymers** has built an enviable reputation for outstanding product quality customer and technical service. **Era Polymers** currently exports products and provides technical service to over 75 countries worldwide.

Era Polymers is headquartered in Sydney, Australia as is **Era Polymers' R&D Centre** which supports a team of development chemists, the NATA* accredited laboratories as well as an extensive array of testing equipment.

Also located in Sydney are two world class manufacturing sites - **Samos Ena** and **Samos Dio.** At these sites, **Era Polymers** manufactures polyurethane systems for foams, elastomers, spray systems, binders,membranes and coatings.

Located in Melbourne, **Era Polymers** operates a third Australian manufacturing operation – **Applied Polymers**. This production site is responsible for the development and production of high performance foam insulation systems, in particular for the LNG (Liquefied Natural Gas) Industry.

Era Polymers Corporation, located in North Carolina USA, supplies products manufactured at **Samos Exi,** a world class, purpose built polyurethane prepolymer production facility. This site manufactures a full range of prepolymers, curatives and polyurethane systems, servicing the North American, South American and European markets.

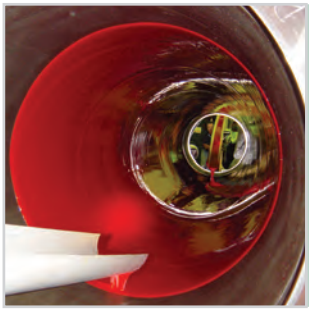
Era Polymers NZ Limited manufactures and distributes polyurethane systems to the New Zealand market from a production site centrally located in Auckland.

Era Polymers Africa, a modern production facility in Johannesburg, developing and manufacturing polyurethane elastomers, binders, foams and spray systems for supply to South Africa and the African continent.

Era Polymers' focus on export markets has resulted in more than 75 countries being serviced and supplied with high quality polyurethane systems. Partnerships in Europe, USA and Asia have enabled **Era Polymers** to bring the manufacturing of products into these markets; decreasing response times, shortening delivery lead times, while ensuring product quality is never compromised. The range of polyurethane foam systems, complemented with a complete range of ancillary products such as pigments and release agents, has raised the industry standard to a new level.

** National Association of Testing Authorities*

Applications



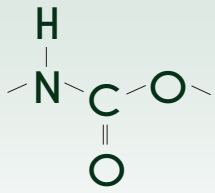
Superior cost advantage and performance has led to many instances of replacing metal, rubber, wood and plastic with Erapol elastomers. Some applications are shown in the table below.

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

What are Polyurethanes?

To the Chemist:

They are polymeric materials containing urethane groups



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.

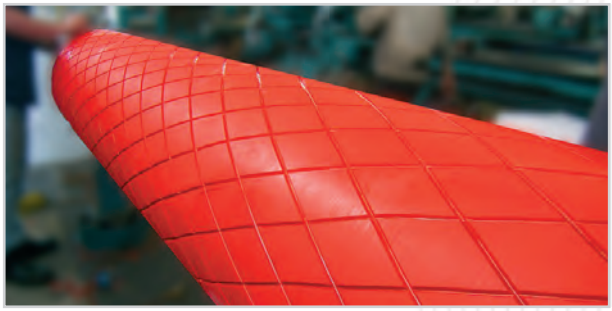
TDI based products are less sensitive to moisture, have shorter demould times and are more user friendly than MDI product.

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.

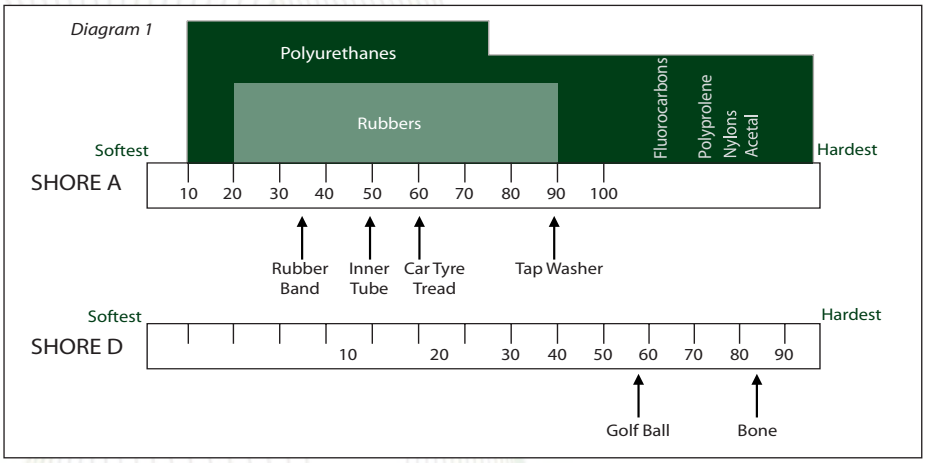
Polyurea Systems are fast reacting amine terminated systems used typically in spray applications. These systems have very good water and chemical resistance.

Properties of Erapol Elastomers



Polyurethanes compete against many other materials including rubber, plastic and metals.

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 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 used up to 95 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*.

Analog Hardness Tester

Digital Hardness Tester

DIN Abrasion Testing Machine

Taber Abrasion Testing Machine

2. Abrasion Resistance

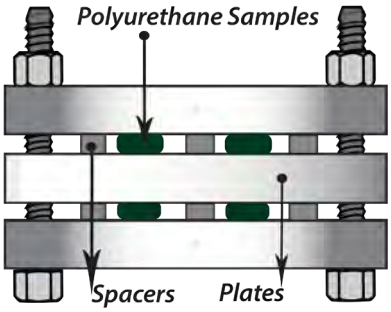
In severe wear applications ***Erapol*** elastomers offer outstanding durability when compared with rubbers, plastics or even metals.

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 34 – 35.

Properties of Erapol Elastomers

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.



1. Compression Set

(ASTM D-395 Method B)

Measures the amount of permanent deformation a part will undergo when loaded for a period of time. In ASTM D-395 Method B (see above) a load is generated by imposing a 25% compression on the sample.

2. Compression Deflection

(ASTM D-575)

This is defined as a compression test in which the force required to cause a specified deflection is determined. Commonly used strain values for this test are 5%, 10% and 25%.

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.

6. Resilience

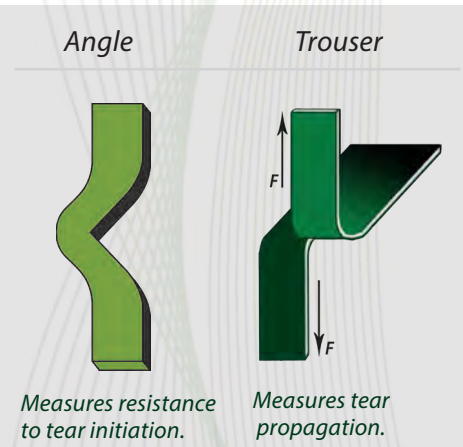
Resilience in conventional elastomers is generally a function of hardness. This often undesirable relationship does not hold true with ***Erapol*** elastomers. Products are available in a wide range of resilience.

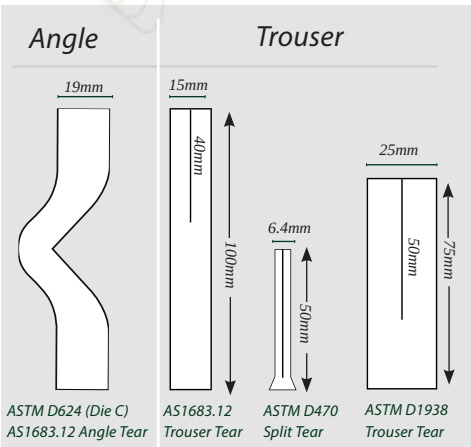
In shock-absorbing elastomer applications, low rebound compounds are usually used i.e. resilience range of 10-40%. For high frequency vibrations or where quick recovery is required, compounds of 40-65% resilience are used. In general, toughness is enhanced by high resilience.

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 -50°C.

There are two common test types used to measure tear strength:





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). The more area there is under the stress-strain curve the higher the toughness of the material.

We are also interested in various points along the curve including the 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.

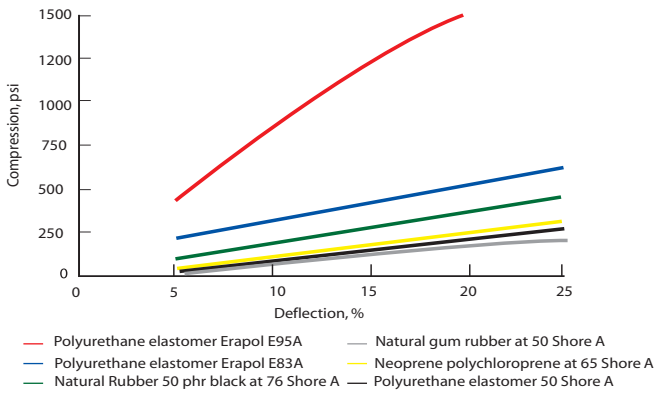
Tensometer

Elongation

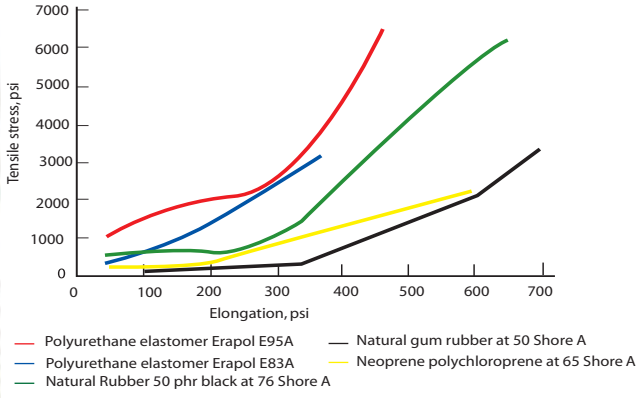
(ASTM Method D412)

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.

Stress Strain in Compression



Stress Strain in Tension

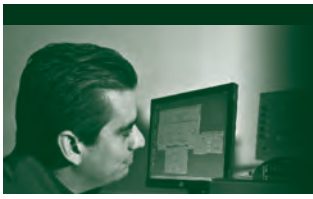


9. Flex Properties

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.



Properties of Erapol Elastomers

11. Water Resistance

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.

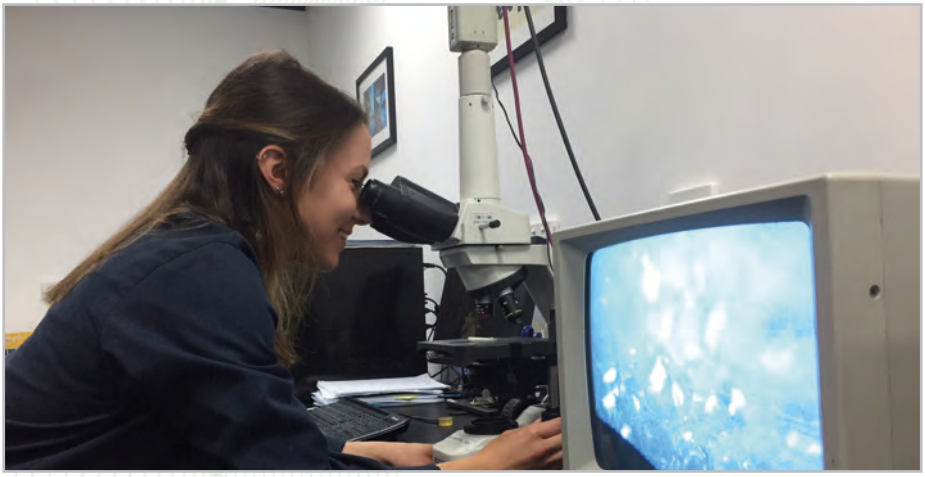
This makes ***Erapol*** elastomers highly successful when employed around electrical equipment, without the hardening and cracking often experienced with conventional elastomers and indeed many plastics.

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 36.



Properties of Erapol Elastomers

15. Radiation Resistance

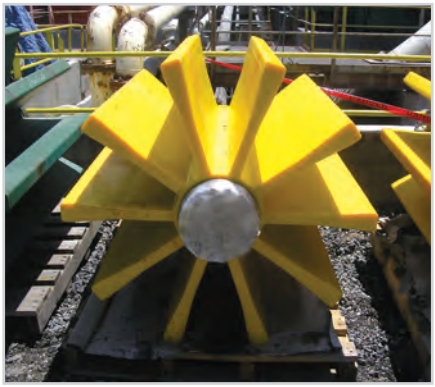
Erapol elastomers are considered to have better resistance to gamma ray radiation than conventional elastomers. They retain a high proportion of their original flexibility and toughness when exposed to gamma radiation.

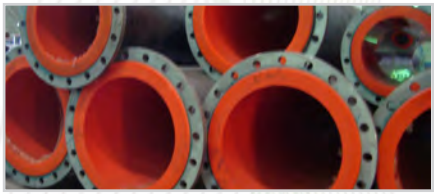
16. Fire Resistance

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.

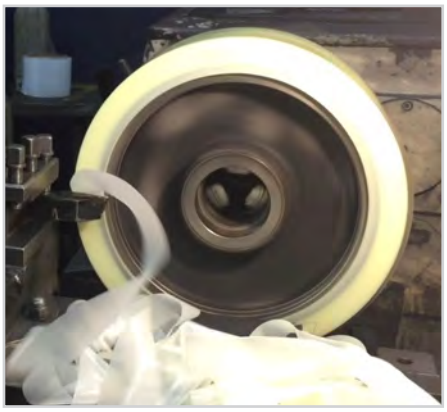
19. Bonding to other materials

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. Variable Temperature Testing

Sub zero temperature testing is primarily designed for foam cryogenic applications where products are routinely analysed at temperatures below -165°C. This equipment also allows **Era Polymer's** 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** testing capabilities.

1. Shelf Life and Storage

Most ***Erapol*** brand prepolymers have a shelf life of at least 12 months when stored unopened in their original containers at temperatures less than 30°C. The isocyanate content of all ***Erapol*** prepolymers will decrease by reaction with moisture or heat. Partial drums should be blanketed with dry nitrogen.

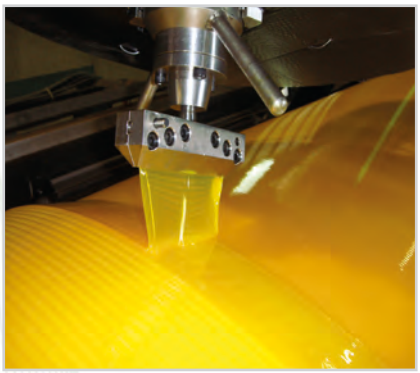
2. Effects of Heating the Prepolymer

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.

Temperature/°C	Time
60	7 days
70	3 days
80	36 hours
90	12 hours
100	8 hours

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.

Physical Properties	Change
Hardness	Remains unchanged between 85-100 %
Tensile Strength	Maximum physical properties achieved between 90-95% theory.
Tear Strength	Maximum properties at 100-105% theory. Significantly lower outside the range.
Abrasion Resistance	Remains relatively unchanged between 85-105% theory. Slightly better at 100-105% theory.
Flex Life	Maximum property at 100-105% theory.
Elongation	Maximum at 100-105% theory.
Compression Set	Best at 85-95% theory.

Product Reference Guide

Era Polymers

TDI Systems

V 6

Hardness	Cold Castables			Polyether							Polyester				Capa
Shore	CC	CCM	RT	E	EHP	XLE	ETX	ET	EMP	ETL	RN	XLS	SDR	HTE	ECP
30A		MM30A	RT301A										SDR32A		
45A		MM45A	RT45A												
50A	CC50A		RT50A										SDR50A		ECP50A
55A		CCM55A								ETL55A			SDR55A		
60A	CC5/65A	MM60A													L-ECP / ECP61A
65A / 20D										ETL65A					
70A					EHP70A						RN70A / L-RN701A				ECP72A
75A		CCM75A		E77A						ETL75A	L-RN71A				
80A / 30D	CC80A	CCM80A						ET80A		ETL80A				HTE80A	
83A				L-E83A / E83A				ET83A	EMP83A		RN83A				ECP83A
85A		MM85A			EHP85A					L-ETL / ETL85A	L-RN85A / RN3038	XLS85A			
90A / 40D	CC90A	CCM90A		L-E90A / E90A	L-EHP90A / EHP90A	XLE90A		ET90A	EMP89A		RN90A/ RN3039	XLS90A		HTE90A	
91A										L-ETL / ETL91A	L-RN92A				
93A				L-E93A / E93A	EHP93A	XLE93A			EMP92A						ECP93A
95A	CC95A	CCM95A		L-E95A / E95A	EHP95A	XLE95A / XLE951A		ET95A	EMP95A	L-ETL / ETL94A		XLS95A		HTE95A	ECP95A
97A / 50D											L-RN501D / RN52D				
57D											RN560D				ECP57D
60D	CC60D			L-E60D	EHP60D			ET60D							
65D				L-E65D			ETX65D	ET65D		ETL65D					
70D					EHP70D	XLE70D	ETX70D	ET70D		ETL69D					
75D						XLE75D	L-ETX75D / ETX764D	ET75D		ETL75D					
80D							L-ETX801D / ETX80D								
85D							ETX85D								

Cold Castable	Polyether	Polyester	Caprolactones
• **Cast at ambient temperature** • High elongation and flexibility • Low shrinkage • Higher Performance (CC) • Longer Pot Life (CC)	• **Excellent hydrolytic stability** • Fungus resistance • Excellent mechanical properties • Low temperature flexibility • Excellent sliding abrasion resistance	• **Oil/Solvent resistance** • High impact abrasion resistance • Excellent mechanical properties • Temperature resistance • Excellent vibratory dampening	• **High tear strength** • High tensile strength • Oil/Solvent resistance • High impact abrasion resistance • Low heat build up
NOT recommended for abrasive resistance applications	Due to the inherent advantages in low heat build up, RECOMMENDED for applications undergoing high stress.	NOT recommended for use in high humidity or exposure to water, as volume swell & reduction of properties may result.	Exhibit excellent mechanical & solvent resistance properties with the added advantage of superior wear & tear.

Era Polymers

MDI Systems

Hardness	Polyether / MDI		Polyester / MDI		Caprolactone	Erakote / Polyether	
Shore	EMD Full Prepolymer	EMD135 Quasi	EME Full Prepolymer	EME167 Quasi	EMC Full Prepolymer	EKF 2K Full Prepolymer	EKQ 3K Quasi
40A				EME167/40A			
45A							
50A							
55A				EME167/55A			
60A		EMD135/60A		EME167/60A			EKQ601A
65A / 20D		EMD135/65A		EME167/65A			EKQ65A
70A		EMD135/70A		EME167/70A	EMC700A		EKQ70A
75A	EMD75A	EMD135/75A		EME167/75A			EKQ75A
80A / 30D		EMD135/80A	EME80A	EME167/80A		EKF80A	EKQ80A
85A	EMD86A	EMD135/85A	EME85A	EME167/85A	EMC850A	EKF85A	EKQ85A
90A / 40D	EMD901A	EMD135/90A	EME90A	EME167/90A	EMC90A	EKF90A	EKQ90A
93A	EMD93A						
95A	EMD950A	EMD135/95A	EME95A	EME167/95A	EMC95A	EKF95A	EKQ95AF
100A / 50D	EMD52D						
57D	EMD57D						
60D							EKQ60D
65D							EKQ65D
70D							EKQ70D
80D							

Polyether	Polyester	Caprolactones
• Excellent hydrolytic stability • Fungus resistance • Excellent mechanical properties • Low temperature flexibility • Excellent sliding abrasion resistance	• **Oil/Solvent resistance** • High impact abrasion resistance • Excellent mechanical properties • Temperature resistance • Excellent vibratory dampening	• **High tear strength** • High tensile strength • Oil/Solvent resistance • High impact abrasion resistance • Low heat build up
Due to the inherent advantages in low heat build up, polyether-based urethanes are recommended for applications undergoing high stress.	They are not recommended for use in high humidity or exposure to water, as volume swell and reduction of properties may result.	They exhibit excellent mechanical and solvent resistance properties with the added advantage of superior wear and tear.

Erapol Mix Ratios

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

Erapol Grade	% NCO	Erapol Temp / °C	Moca / pph	Ethacure 300 / pph	Eracure 110 / pph	Moca Pot Life / min
E83A	3.10	75-85	9.9	7.9	8.4	15
E90A	4.20	75-85	12.7	10.2	10.9	10
E93A	5.00	75-85	15.1	12.1	12.9	8
E95A	6.25	75-85	18.9	15.1	16.2	6
EHP70A	2.50	75-85	7.6	6.1	6.5	37
EHP85A	3.50	70-80	11.1	8.9	9.5	17
EHP90A	4.60	75-85	13.9	11.1	11.9	8
EHP93A	5.20	75-85	15.7	12.6	13.4	8
EHP95A	5.80	75-85	17.5	14.1	15.0	5
EHP60D	7.50	60-70	22.7	18.2	19.4	3
EHP70D	9.00	60-70	27.2	21.8	23.3	2
XLE90A	4.50	75-85	13.6	10.9	11.6	14
XLE93A	5.20	75-85	15.7	12.6	13.4	12
XLE95A	6.00	75-85	18.1	14.5	15.5	8
XLE70D	9.00	60-70	27.2	21.8	23.3	3
XLE75D	9.30	60-70	28.1	22.5	24.0	2
ET83A	3.10	75-85	9.9	7.9	8.4	8
ET90A	4.20	75-85	12.7	10.2	10.9	6
ET95A	6.25	75-85	18.9	15.1	16.2	4
ET60D	7.40	60-70	21.2	17.0	18.1	3
ET65D	8.00	60-70	21.6	17.3	18.5	2
ET70D	9.20	60-70	24.9	19.9	21.3	1
ET75D	11.20	60-70	30.3	24.3	25.9	<1
ETX65D	8.00	60-70	22.9	18.4	19.6	4
ETX80D	9.50	60-70	25.7	20.6	22.0	3
ETX85D	12.00	60-70	32.4	26.0	27.7	3
ETL85A	4.20	75-85	12.7	10.2	10.9	10
ETL91A	5.00	75-85	15.1	12.1	12.9	6
ETL94A	6.25	75-85	18.9	15.1	16.2	5
ETL69D	8.05	55-65	21.8	17.4	18.6	3
RN70A	2.50	75-85	7.6	6.1	6.5	12
RN83A	3.20	75-85	9.7	7.8	8.3	8
RN90A	4.55	75-85	13.7	11.0	11.8	4
RN50D	5.10	75-85	15.4	12.4	13.2	4
XLS85A	3.50	75-85	10.6	8.5	9.0	14
XLS90A	3.90	75-85	11.8	9.4	10.1	13
XLS95A	5.40	75-85	16.3	13.1	14.0	8
ECP61A	3.75	75-85	11.3	9.1	9.7	19
ECP72A	3.30	75-85	10.0	8.0	8.5	15
ECP83A	3.65	75-85	11.0	8.8	9.4	10
ECP93A	5.20	75-85	15.7	12.6	13.4	7
ECP95A	5.80	75-85	17.5	14.1	15.0	4
ECP57D	7.20	60-70	21.8	17.4	18.6	3

Polyether (PTMEG) TDI Prepolymers

	High Performance								Ultra High Performance				
ERAPOL PREPOLYMER	**E77A**	**E83A**	**E90A**	**E93A**	**E95A**	**ET83A**	**ET90A**	**ET95A**	**EHP70A**	**EHP85A**	**EHP90A**	**EHP93A**	**EHP95A**
PREPOLYMER PROPERTIES													
%NCO	2.40 ± 0.20	3.10 ± 0.20	4.20 ± 0.20	5.00 ± 0.20	6.25 ± 0.25	3.10 ± 0.20	4.20 ± 0.20	6.25 ± 0.25	2.50 ± 0.20	3.50 ± 0.20	4.60 ± 0.20	5.20 ± 0.20	5.80 ± 0.20
Specific Gravity at 25°C	1.08	1.05	1.06	1.05	1.07	1.05	1.06	1.06	1.08	1.06	1.06	1.05	1.10
Viscosity at 80°C	1800–3200	1000 –1500	800 – 1300	500 – 900	300 – 700	1300 –1800	900 – 1300	300 – 700	1200 - 1600	900 – 1600	300 – 900	500 – 900	400 – 800
Colour	clear, light amber	clear, light amber	clear, light amber	clear, light amber	clear, light amber	clear, light amber	clear, light amber	clear, light amber	clear, light amber	clear, light amber	clear, light amber	clear, light amber	clear, light amber
MOCA PROCESSING													
Moca Level at 110 -120°C (pph)	7.3	9.9	12.7	15.1	18.9	9.9	12.7	18.9	7.6	11.1	13.9	15.7	17.5
Recommended % Theory	95	100	95	95	95	100	95	95	95	100	95	95	95
Erapol Temperature (°C)	80 – 90	75 – 85	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	35	17	8	8	5
Demould at 100°C (hours)	2	1	1	1	1	1	<1	<1	2	2	1	1	<1
Post Cure at 100°C (hours)	16	16	16	16	16	16	16	16	16	16	16	16	16
ETHACURE 300 PROCESSING													
Ethacure 300 Level at 20 – 30°C (pph)	5.8	7.9	10.2	12.1	15.1	7.9	10.2	15.1	6.1	8.9	11.1	12.6	14.1
Recommended % Theory	100	100	95	95	95	100	95	95	95	100	95	95	95
Erapol Temperature (°C)	80 – 90	65 – 75	65 – 75	65 – 75	65 – 75	65 – 75	65 – 75	65 – 75	75 - 85	70 – 80	65 – 75	65 – 75	65 – 75
Pot Life / Prepolymer at 70°C (minutes)	11	12	10	8	4	6	3	2	20	14	7	7	5
Demould at 100°C (hours)	2	1	1	1	1	1	<1	<1	2	2	2	1	<1
Post Cure at 100°C (hours)	16	16	16	16	16	16	16	16	16	16	16	16	16
PHYSICAL PROPERTIES (MOCA)													
Hardness (Shore A)	79 ± 3	83 ± 3	90 ± 3	93 ± 3	95 ± 3	83 ± 3	90 ± 3	95 ± 3	70 ± 3	83 ± 2	90 ± 3	93 ± 3	95 ± 3
Tensile Strength / MPa (psi)	30 (4351)	33 (4786)	42 (6092)	43 (6237)	45 (6527)	33 (4801)	33 (4786)	43 (6193)	31 (4525)	38 (5500)	40 (5802)	44 (6338)	44 (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)	2.3 (334)	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)	5.5 (798)	13.1 (1900)	15.1 (2190)	18.2 (2640)	18.2 (2640)
Elongation (%)	600	550	420	420	390	500	450	380	635	565	500	500	410
Angle Tear Strength, Die C (kN/m)	59	72	85	86	90	75	85	85	46	72	104	118	122
DIN Abrasion Resistance (mm^3)	42	35	55	60	70	45	55	75	52	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/cm^3)	1.06	1.08	1.10	1.10	1.13	1.08	1.11	1.08	1.04	1.07	1.10	1.10	1.13

*The information presented here is based on laboratory testing.

Polyether (PTMEG) Lower Free TDI Prepolymers

	High Performance								
ERAPOL PREPOLYMER	**L-E83A**	**L-E90A**	**L-E93A**	**L-E95A**	**L-EHP90A**	**L-E60D**	**L-E65D**	**L-ETX75D**	**L-ETX801D**
PREPOLYMER PROPERTIES									
%NCO	3.10 ± 0.20	4.20± 0.20	5.00 ± 0.20	6.00 ± 0.25	4.60 ± 0.20	7.40 ± 0.20	8.30 ± 0.20	9.20 ± 0.20	9.50 ± 0.30
Specific Gravity at 25°C	1.05	1.06	1.05	1.07	1.06	1.06	1.11	1.10	1.10
Viscosity at 80°C	1000 – 1500	800 – 1300	500 – 900	300 – 700	300 – 900	300 – 700	300 – 700	500 – 700	300 – 800
Colour	light amber	light amber	light amber	light amber	light amber	light amber	light amber	light amber	light amber
MOCA PROCESSING									
Moca Level at 110 -120°C (pph)	9.9	12.7	15.1	18.1	13.9	21.2	23.8	26.3	25.7
Recommended % Theory	100	95	95	95	95	90	90	90	85
Erapol Temperature (°C)	75 – 85	75 – 85	75 – 85	75 – 85	75 – 85	60 – 65	60 – 65	60 - 70	60 – 65
Pot Life at 75 – 85°C (minutes)	15	10	8	8	12 - 14	5 - 6	4 - 6	3 - 5	5 - 7
Demould at 100°C (hours)	1	1	1	<1	0.5 - 0.75	1	0.5	20 - 25	15 - 25
Post Cure at 100°C (hours)	16	16	16	16	16	16	16	16	24
ETHACURE 300 PROCESSING									
Ethacure 300 Level at 20 – 30°C (pph)	7.9	10.2	12.1	14.5	11.1	17.0	19.0	21.1	20.6
Recommended % Theory	100	95	95	95	95	90	90	90	85
Erapol Temperature (°C)	65 – 75	65 – 75	65 – 75	65 – 75	65 - 75	55 – 60	55 – 65	60 - 70	60 – 65
Pot Life at 65-75°C (minutes)	12	10	8	6	12	4 - 5	5-7	3 - 5	4 - 6
Demould at 100°C (hours)	1	1	1	<1	0.5 - 0.75	1	0.5	20 - 25	15 - 25
Post Cure at 100°C (hours)	16	16	16	16	16	16	16	16	24
PHYSICAL PROPERTIES (MOCA)									
Hardness (Shore A)	83 ± 3	90 ± 3	93 ± 3	95 ± 3	90 ± 3	60D ± 3	65D ± 3	75D ± 3	78D ± 3
Tensile Strength / MPa (psi)	33 (4786)	42 (6092)	43 (6237)	36 (5221)	38 (5569)	45 (6527)	54 (7832)	50 (7266)	52 (7542)
100% Modulus / MPa (psi)	4.6 (667)	9.3 (1349)	11.0 (1595)	12.5(1813)	8.1 (1175)	19.9 (2886)	25.0 (3626)	42.5 (6164)	40.0 (5801)
300% Modulus / MPa (psi)	8.3 (1204)	17.8 (2582)	17.9 (2596)	20.4 (2959)	14.6 (2118)	45.0 (6527)	-	-	-
Elongation (%)	550	420	420	490	615	300	350	195	220
Angle Tear Strength, Die C (kN/m)	72	85	86	112	88	110	139	140	-
Trouser Tear Strength (kN/m)	27	37	60	59	35	46	58	52	-
DIN Resilience (%)	62	55	50	42	47	46	46	40	49
DIN Abrasion Resistance 10N (mm^3)	35	55	60	54	48	63	69	106	146
DIN Abrasion Resistance 5N (mm^3)	12	18	22	19	-	-	-	-	-
Compression Set / 22hr at 70 °C (%)	28	30	28	37	-	-	-	-	-

*The information presented here is based on laboratory testing.

Polyether (PPG) & Polyester Lower Free TDI Prepolymers

	Polyether			Polyester				
ERAPOL PREPOLYMER	**L-ETL85A**	**L-ETL91A**	**L-ETL94A**	**L-RN701A**	**L-RN71A**	**L-RN85A**	**L-RN92A**	**L-RN501D**
PREPOLYMER PROPERTIES								
%NCO	4.20 ± 0.20	5.00 ± 0.20	6.25 ± 0.25	2.65 ± 0.25	2.55 ± 0.20	3.50 ± 0.20	4.50 ± 0.20	5.70 ± 0.20
Specific Gravity at 25°C	1.07	1.08	1.08	1.20	1.20	1.20	1.20	1.20
Viscosity at 80°C	300 – 700	100 – 500	150 – 500	1800 – 2200	1700 – 2500	2600 – 2800	1600 – 2100	1200 – 1800
Colour	amber	amber	amber	clear, light amber	light amber	light amber	light amber	light amber
MOCA PROCESSING								
Moca Level at 110 -120°C (pph)	12.7	15.1	18.9	8.0	7.6	10.6	13.6	17.2
Recommended % Theory	95	95	95	95	95	95	95	95
Erapol Temperature (°C)	75 – 85	75 – 85	75 – 85	75 – 85	75 – 85	75 – 85	75 – 85	75 – 85
Pot Life at 75 – 85°C (minutes)	10	6	5	12	5	8	4	5
Demould at 100°C (hours)	2	1	1	1	0.75	0.5	0.5	0.5
Post Cure at 100°C (hours)	16	16	16	16	16	16	16	16
ETHACURE 300 PROCESSING								
Ethacure 300 Level at 20 – 30°C (pph)	10.2	12.1	15.1	6.1	6.1	8.5	10.9	13.8
Recommended % Theory	95	95	95	95	95	95	95	95
Erapol Temperature (°C)	60 – 70	60 – 70	60 – 70	65	65	65	65	65
Pot Life at 65-75°C (minutes)	8	5	5	9	5	7	4	5
Demould at 100°C (hours)	2	1	1	1	0.75	0.5	0.5	0.5
Post Cure at 100°C (hours)	16	16	16	16	16	16	16	16
PHYSICAL PROPERTIES (MOCA)								
Hardness (Shore A)	85 ± 3	90 ± 3	95 ± 3	70 ± 3	70 ± 3	85 ± 3	90 ± 3	50D ± 3
Tensile Strength / MPa (psi)	28 (4061)	26 (3698)	34 (4931)	32 (4685)	32 (4641)	42 (6150)	52 (7542)	54.5 (7905)
100% Modulus / MPa (psi)	5.3 (769)	6.2 (899)	11.2 (1624)	2.8 (406)	2.2 (319)	5.9 (856)	7.2 (1044)	13.5 (1958)
300% Modulus / MPa (psi)	11.0 (1595)	11.7 (1697)	21.8 (3162)	6.3 (914)	3.1 (450)	11.0 (1595)	17.4 (2524)	27.5 (3988)
Elongation (%)	525	430	460	725	560	750	575	540
Angle Tear Strength, Die C (kN/m)	70	80	89	62	68	88	97	151
Trouser Tear Strength (kN/m)	30	-	39	27	33	41	47	57
DIN Resilience (%)	-	-	32	44	42	26	27	31
DIN Abrasion Resistance 10N (mm^3)	140	140	119	82	75	57	57	57
DIN Abrasion Resistance 5N (mm^3)	49	45	43	37	35	-	27	-
Compression Set / 22hr at 70 °C (%)	45	45	-	-	-	-	-	-

*The information presented here is based on laboratory testing.

Polyether (PTMEG) & Polyester Extra Low Free TDI Prepolymers

	Polyether (PTMEG)						Polyester		
ERAPOL PREPOLYMER	**XLE90A**	**XLE93A**	**XLE95A**	**XLE951A**	**XLE70D**	**XLE75D**	**XLS85A**	**XLS90A**	**XLS95A**
PREPOLYMER PROPERTIES									
%NCO	4.50 ± 0.20	5.20 ± 0.20	6.00 ± 0.20	6.00 ± 0.20	9.00 ± 0.20	9.30 ± 0.20	3.50 ± 0.20	3.90 ± 0.20	5.40 ± 0.20
Specific Gravity at 25°C	1.03	1.05	1.07	1.09	1.06	1.03	1.19	1.19	1.19
Viscosity at 80°C	400 - 700	250 – 550	300 – 600	350 - 550	800 – 1300	200 – 500	1500 – 1700	1300 – 1500	900 – 1100
Colour	clear, light amber	clear, light amber	clear, light amber	clear, light amber	clear, light amber	clear, light amber	clear, light amber	clear, light amber	clear, light amber
MOCA PROCESSING									
Moca Level at 110 -120°C (pph)	13.6	15.7	18.1	18.1	27.2	28.1	10.6	11.8	16.3
Recommended % Theory	95	95	95	95	95	95	95	95	95
Erapol Temperature (°C)	75 - 85	75 – 85	75 – 85	75 -85	75 – 85	60 – 70	75 – 85	75 – 85	75 – 85
Pot Life / Prepolymer at 80°C (minutes)	14	12	8	8	3	3	14	13	8
Demould at 100°C (mins)	30	30	25	25	15	15	35	35	25
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)	10.9	12.6	14.5	14.5	21.8	22.5	8.5	9.4	13.1
Recommended % Theory	95	95	95	95	95	95	95	95	95
Erapol Temperature (°C)	75 - 85	75 – 80	75 – 80	75 - 85	65 – 75	65 - 75	75 – 80	75 – 80	75 - 85
Pot Life / Prepolymer at 70°C (minutes)	8	6	5	5	2	2	10	7	6
Demould at 100°C (mins)	30	30	25	15	15	15	20	20	20
Post Cure at 100°C (hours)	16	16	16	16	16	16	16	16	16
PHYSICAL PROPERTIES (MOCA)									
Hardness (Shore A)	90 ± 3	95 ± 3	95 ± 3	95 ± 3	70D ± 3	75D ± 3	83 ± 3	90 ± 3	95 ± 3
Tensile Strength / MPa (psi)	34 (4873)	42 (6092)	44 (6382)	45 (6526)	50 (7252)	51 (7426)	40 (5801)	45 (6570)	48 (6962)
100% Modulus / MPa (psi)	8.5 (1233)	11 (1595)	14.3 (2074)	12.5 (1813)	39.8 (5770)	44.8 (6498)	5.3 (769)	7.3 (1059)	12.8 (1856)
300% Modulus / MPa (psi)	19.8 (2827)	28 (4061)	36 (5221)	22.5 (3263)	-	-	13.9 (2016)	20.7 (3002)	26.8 (3887)
Elongation (%)	425	410	315	400	220	420	535	475	460
Angle Tear Strength, Die C (kN/m)	79	72	88	108	149	185	77	92	127
DIN Abrasion Resistance (mm^3)	53	48	35	33	84	97	59	52	65
Compression Set / 22 hr at 70°C (%)	23	30	28	34	-	-	36	36	32
Cured Specific Gravity (g/cm^3)	1.09	1.12	1.08	1.13	1.19	1.20	1.26	1.26	1.28

*The information presented here is based on laboratory testing.

Polyether (PTMEG) TDI Prepolymers – Shore D

	High Performance									Ultra High	
ERAPOL PREPOLYMER	**ETX65D**	**ETX70D**	**ETX764D**	**ETX80D**	**ETX85D**	**ET60D**	**ET65D**	**ET70D**	**ET75D**	**EHP60D**	**EHP70D**
PREPOLYMER PROPERTIES											
%NCO	8.00 ± 0.20	8.75 ± 0.25	8.75 ± 0.25	9.50 ± 0.30	12.00 ± 0.30	7.40 ± 0.20	8.00 ± 0.25	9.20 ± 0.20	11.20 ± 0.25	7.50 ± 0.25	9.00 ± 0.25
Specific Gravity at 25°C	1.10	1.10	1.10	1.10	1.15	1.06	1.11	1.13	1.11	1.10	1.11
Viscosity at 80°C	400 – 800	200 – 500	400 – 800	300 – 800	300 – 800	300 – 700	300 – 700	300 – 700	300 – 700	400 – 800	400 – 800
Colour	clear, light amber	clear, light amber	clear, light amber	clear, light amber	clear, light amber	clear, light amber	clear, light amber	clear, light amber	clear, light amber	clear, light amber	clear, light amber
MOCA PROCESSING											
Moca Level at 110 -120°C (pph)	22.9	25.0	25.0	25.7	32.4	21.2	21.6	24.9	30.3	22.7	27.2
Recommended % Theory	90	90	90	85	85	90	85	85	85	95	95
Erapol Temperature (°C)	60 – 65	60 – 65	60 – 65	60 – 65	60 – 65	60 – 65	60 – 65	60 – 65	60 – 65	60 – 70	60 – 70
Pot Life / Prepolymer at 65°C (minutes)	4	3	2.5	2.5	2.5	3	2	1	<1	3	2
Demould at 110°C (hours)	<1	<1	<1	<1	<1	1	1	<1	<1	<1	<1
Post Cure at 110°C (hours)	24	36	36	36	36	16	16	16	16	16	16
ETHACURE 300 PROCESSING											
Ethacure 300 Level at 20 – 30°C (pph)	18.4	20.1	20.1	20.6	26.0	17.0	17.3	19.9	24.3	18.2	21.8
Recommended % Theory	90	90	90	85	85	90	85	85	85	95	95
Erapol Temperature (°C)	55 – 65	55 – 65	55 – 65	55 – 65	55 – 65	55 – 65	55 – 65	55 – 65	55 – 65	55 – 65	55 – 65
Pot Life / Prepolymer at 80°C (minutes)	3	2	2	3	3	2	2	1	<1	4	2
Demould at 110°C (hours)	1	<1	<1	<1	<1	1	1	1	1	<1	<1
Post Cure at 110°C (hours)	24	36	36	36	36	16	16	16	16	16	16
PHYSICAL PROPERTIES (MOCA)											
Hardness (Shore D)	65 ± 5	70 ± 5	75 ± 5	78 ± 5	84 ± 5	60 ± 3	65 ± 3	73 ± 3	75 ± 3	60 ± 3	70 ± 3
Tensile Strength / MPa (psi)	48 (6962)	50 (7251)	52 (7542)	55 (7977)	58 (8412)	43 (6240)	48 (6962)	52 (7542)	54 (7832)	49 (7140)	50 (7252)
100% Modulus / MPa (psi)	27.0 (3916)	32.0 (4641)	33.0 (4786)	38.0 (5511)	42.0 (6092)	19.3 (2799)	29.0 (4206)	34.5 (5004)	31.0 (4496)	24.1 (3500)	25.0 (3626)
300% Modulus / MPa (psi)	48.0 (6962)	-	-	-	-	42.7 (6193)	-	-	-	45.5 (6600)	-
Elongation (%)	300	225	160	220	220	330	280	210	200	400	245
Angle Tear Strength, Die C (kN/m)	130	235	200	170	265	120	115	193	110	168	192
DIN Abrasion Resistance (mm^3)	80	85	87	125	123	62	110	105	115	68	68
Cured Specific Gravity (g/cm^3)	1.13	1.13	1.19	1.13	1.13	1.16	1.13	1.13	1.20	1.16	1.15

*The information presented here is based on laboratory testing.

Polyether (PPG) and (PTMEG/PPG) TDI Prepolymers

	Polyether (PPG)									Medium Performance			
ERAPOL PREPOLYMER	**ETL55A**	**ETL65A**	**ETL75A**	**ETL80A**	**ETL85A**	**ETL91A**	**ETL94A**	**ETL69D**	**ETL75D**	**EMP83A**	**EMP89A**	**EMP92A**	**EMP95A**
PREPOLYMER PROPERTIES													
%NCO	2.50 ± 0.20	2.85 ± 0.25	2.85 ± 0.2	3.60 ± 0.20	4.20 ± 0.20	5.00 ± 0.20	6.25 ± 0.25	8.0 ± 0.2	11.20 ± 0.20	3.20 ± 0.20	4.80 ± 0.20	5.00 ± 0.20	6.30 ± 0.20
Specific Gravity at 25°C	1.05	1.06	1.02	1.06	1.07	1.08	1.08	1.10	1.10	1.05	1.05	1.05	1.05
Viscosity at 80°C	100 - 400	100 – 500	500 - 1500	550 - 950	300 – 700	100 – 500	150 – 500	300 – 800	300 - 500	300 – 800	300 – 800	300 – 700	300 – 700
Colour	amber	amber	amber	amber	amber	amber	amber	amber	amber	amber	amber	amber	amber
MOCA PROCESSING													
Moca Level at 110 -120°C (pph)	7.6	8.6	8.6	10.9	12.7	15.1	18.9	21.8	30.3	9.7	14.5	15.1	19.0
Recommended % Theory	95	95	95	95	95	95	95	85	85	95	95	95	95
Erapol Temperature (°C)	75 - 85	75 – 85	75 - 85	75 - 85	75 – 85	75 – 85	75 – 85	55 – 65	55 - 65	75 – 85	75 – 85	75 – 85	75 – 85
Pot Life / Prepolymer at 80°C (minutes)	45	25	25	24	10	6	5	3	1	6	6	5	3
Demould at 100°C (hours)	-	-	3.5	3.5	2	1	1	1	<1	1	1	1	1
Post Cure at 100°C (hours)	16	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	6.9	6.9	8.7	10.2	12.1	15.1	17.4	24.3	7.8	11.6	12.1	15.3
Recommended % Theory	95	95	95	95	95	95	95	90	85	100	95	95	95
Erapol Temperature (°C)	60 - 70	60 – 70	65 - 70	65 -70	60 – 70	60 – 70	60 – 70	55 – 65	55 - 65	65 – 75	65 – 75	65 – 75	65 – 75
Pot Life / Prepolymer at 80°C (minutes)	40	20	17	20	8	5	4	2	1	6	5	5	3
Demould at 100°C (hours)	-	-	3.5	3	2	1	1	1	<1	1	1	1	1
Post Cure at 100°C (hours)	16	16	16	16	16	16	16	16	16	16	16	16	16
PHYSICAL PROPERTIES (MOCA)													
Hardness (Shore A)	55 ± 3	65 ± 3	75 ± 3	80 ± 3	85 ± 3	90 ± 3	95 ± 3	70D ± 3	75D ± 5	83 ± 3	90 ± 3	93 ± 3	95 ± 3
Tensile Strength / MPa (psi)	9 (1334)	8 (1160)	12(1740)	20 (2901)	28 (4061)	26 (3698)	28 (4061)	37 (5366)	38 (5497)	25 (3626)	27 (3916)	31 (4496)	38 (5497)
100% Modulus / MPa (psi)	2.1 (305)	2.1 (305)	3.0 (435)	3.6 (522)	5.3 (769)	6.2 (899)	6.2 (899)	13.8 (2002)	17.2 (2490)	5.0 (725)	6.9 (1001)	9.0 (1305)	9.7 (1407)
300% Modulus / MPa (psi)	3.4 (493)	4.4 (638)	4.9 (711)	7.1 (1030)	11.0 (1595)	11.7 (1697)	17.2 (2495)	37.0 (5366)	-	9.0 (1305)	12.4 (1798)	17.2 (2495)	17.9 (2596)
Elongation (%)	848	1100	780	620	525	430	350	300	200	450	400	540	400
Angle Tear Strength, Die C (kN/m)	35	30	43	50	70	80	89	110	110	75	80	90	95
DIN Abrasion Resistance (mm^3)	-	165	209	180	140	140	145	160	180	80	80	85	97
Compression Set / 22 hr at 70°C (%)	45	45	-	-	45	45	50	50	50	30	45	45	42
Cured Specific Gravity (g/cm^3)	1.07	1.08	1.11	1.11	1.11	1.13	1.14	1.15	1.15	1.10	1.10	1.10	1.10

*The information presented here is based on laboratory testing.

Polyester TDI Prepolymers

	High Performance							
ERAPOL PREPOLYMER	**RN70A**	**RN83A**	**RN90A**	**RN52D**	**RN560D**	**RN3038**	**RN3039**	**RN3050**
PREPOLYMER PROPERTIES								
%NCO	2.50 ± 0.25	3.20 ± 0.15	4.55 ± 0.15	5.70 ± 0.20	6.00 ± 0.20	3.20 ± 0.25	4.30 ± 0.10	5.10 ± 0.25
Specific Gravity at 25°C	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20
Viscosity at 80°C	1700 – 2500	1700 – 2300	1200 – 1800	1200 – 1800	800 - 1200	1800 – 2400	1600 – 2500	1300 – 1900
Colour	clear, light amber	clear, light amber	clear, light amber	clear, light amber	clear, light amber	clear, light amber	clear, light amber	clear, light amber
MOCA PROCESSING								
Moca Level at 110 -120°C (pph)	7.6	9.7	13.7	17.8	18.0	9.7	13.0	15.4
Recommended % Theory	95	95	95	98	95	95	95	95
Erapol Temperature (°C)	75 – 85	75 – 85	75 – 85	75 – 80	75 - 80	75 – 85	75 – 85	75 – 85
Pot Life / Prepolymer at 80°C (minutes)	12	8	4	4	4	3	4	2
Demould at 100°C (hours)	1	1	1	1	1	1	1	< 1
Post Cure at 100°C (hours)	16	16	16	16	16	16	16	16
ETHACURE 300 PROCESSING								
Ethacure 300 Level at 20 – 30°C (pph)	6.1	7.8	11.0	14.2	14.5	7.8	10.4	12.4
Recommended % Theory	95	95	95	98	95	95	95	95
Erapol Temperature (°C)	65	65	65	60	70	65	65	65
Pot Life / Prepolymer at 80°C (minutes)	9	6	4	4	4	3	4	2
Demould at 100°C (hours)	1	1	1	1	1	1	1	> 1
Post Cure at 100°C (hours)	16	16	16	16	16	16	16	16
PHYSICAL PROPERTIES (MOCA)								
Hardness (Shore A)	70 ± 5	83 ± 3	90 ± 3	52 ± 3 Shore D	55 ± 3 Shore D	85 ± 3	90 ± 5	50 ± 5 Shore D
Tensile Strength / MPa (psi)	40 (5802)	47 (6817)	53 (7687)	58 (8413)	51.6 (7884)	45 (6527)	50 (7252)	51 (7397)
100% Modulus / MPa (psi)	2.8 (406)	4.9 (711)	5.2 (754)	14.0 (2030)	12.5 (1813)	5.0 (725)	9.5 (1378)	12.4 (1798)
300% Modulus / MPa (psi)	3.9 (566)	8.3 (1204)	10.3 (1494)	28.0 (4061)	30.7 (4453)	11.0 (1595)	17.9 (2596)	20.7 (3002)
Elongation (%)	675	725	650	500	450	720	650	550
Angle Tear Strength, Die C (kN/m)	70	75	100	145	138	92	105	131
DIN Abrasion Resistance (mm^3)	70	65	60	60	68	68	45	80
Compression Set / 22 hr at 70°C (%)	28	25	30	30	30	22	31	27
Cured Specific Gravity (g/cm^3)	1.25	1.26	1.26	1.28	1.28	1.25	1.27	1.28

*The information presented here is based on laboratory testing.

Specialty TDI Prepolymers

	Polycaprolactone							High Temperature		
ERAPOL PREPOLYMER	**ECP50A**	**ECP61A**	**ECP72A**	**ECP83A**	**ECP93A**	**ECP95A**	**ECP57D**	**HTE80A**	**HTE90A**	**HTE95A**
PREPOLYMER PROPERTIES										
%NCO	3.40 ± 0.2	3.75 ± 0.20	3.30 ± 0.20	3.65 ± 0.25	5.20 ± 0.20	5.80 ± 0.20	7.20 ± 0.20	3.40 ± 0.25	4.25 ± 0.25	5.25 ± 0.25
Specific Gravity at 25°C	1.15	1.15	1.10	1.10	1.10	1.10	1.11	1.11	1.10	1.11
Viscosity at 80°C	900-1500	1000 – 1600	1200 – 2000	1000 – 1600	700 – 1200	700 – 1100	300 – 800	1700 – 2300	1300 – 1700	1300 – 2000
Colour	clear, light amber	clear, light amber	clear, light amber	clear, light amber	clear, light amber	clear, light amber	clear, light amber	clear, light amber	clear, light amber	clear, light amber
MOCA PROCESSING										
Moca Level at 110 -120°C (pph)	10.3	11.3	10.0	11.0	15.7	17.5	21.8	9.7	12.8	15.9
Recommended % Theory	95	95	95	95	95	95	95	95	95	95
Erapol Temperature (°C)	75-85	75 – 85	70 – 80	75 – 85	75 – 85	75 – 85	60 – 70	70 – 80	70 – 80	60 – 70
Pot Life / Prepolymer at 80°C (minutes)	20	19	15	10	7	4	3	17	6	2
Demould at 100°C (hours)	2	2	2	2	1	1	< 1	2	<1	<1
Post Cure at 100°C (hours)	16	16	16	16	16	16	16	16	16	16
ETHACURE 300 PROCESSING										
Ethacure 300 Level at 20 – 30°C (pph)	8.2	9.1	8.0	8.8	12.6	14.1	17.4	7.8	10.3	12.7
Recommended % Theory	95	95	95	95	95	95	95	95	95	95
Erapol Temperature (°C)	75-85	75 – 85	70 – 80	65 – 75	65 – 75	65 – 75	60 – 70	70 – 80	70 – 80	60 – 70
Pot Life / Prepolymer at 80°C (minutes)	20	15	15	5	4	3	2	16	6	2
Demould at 100°C (hours)	2	2	2	2	1	1	< 1	2	1	<1
Post Cure at 100°C (hours)	16	16	16	16	16	16	16	16	16	16
PHYSICAL PROPERTIES (MOCA)										
Hardness (Shore A)	50 ± 3	60 ± 5	71 ± 3	83 ± 3	93 ± 3	95 ± 3	57 ± 3	85 ± 3	90 ± 3	95 ± 3
Tensile Strength / MPa (psi)	22 (3176)	35 (5076)	33 (4786)	36 (5221)	42 (6092)	40 (5802)	52 (7527)	33 (4790)	40 (6530)	42 (6092)
100% Modulus / MPa (psi)	1.5 (218)	3.2 (464)	2.3 (334)	3.5 (508)	6.8 (986)	7.2 (1044)	19.4 (2814)	6.2 (754)	5.4 (783)	7.3 (1059)
300% Modulus / MPa (psi)	3.6 (522)	8.0 (1160)	3.9 (566)	5.0 (725)	10.9 (1581)	11.3 (1639)	43.7 (6338)	7.6 (1100)	11.0 (1595)	10.7 (1552)
Elongation (%)	530	500	620	650	480	395	345	600	480	415
Angle Tear Strength, Die C (kN/m)	24	37	70	58	116	120	145	63	82	94
DIN Abrasion Resistance (mm^3)	140	71	50	45	66	70	70	50	65	54
Compression Set / 22 hr at 70°C (%)	16	10	15	24	32	32	35	25	28	32
Cured Specific Gravity (g/cm^3)	1.16	1.15	1.15	1.20	1.20	1.20	1.15	1.15	1.20	34

*The information presented here is based on laboratory testing.

Solvent & Acid Resistant Prepolymers

	Solvent Resistant						Acid Resistant			
ERAPOL PREPOLYMER	**SDM3060A**	**SDR32A**	**SDR50A**	**SDR55A**	**RN3038**	**RN3039**	**CRE70A**	**CRE81A**	**CRE90A**	**CRE95A**
PREPOLYMER PROPERTIES										
%NCO	MDI	2.55 ± 0.20	3.90 – 0.20	4.80 ± 0.20	3.20 ± 0.20	4.30 ± 0.10	10.0 ± 0.2	10.0 ± 0.2	10.0 ± 0.2	12.0 ± 0.2
Specific Gravity at 25°C	1.23	1.20	1.02	1.20	1.20	1.20	1.05	1.05	1.05	1.05
Viscosity at 80°C	150 @ 25°C	300 – 800	1500 – 2600	1000 – 1700	1800 – 2400	1600 – 2500	700 – 1300	700 – 1300	700 – 1300	700 – 1300
Colour	brown	clear, light amber	clear, light amber	clear, light amber	clear, light amber	clear, light amber	water clear	water clear	water clear	water clear
PROCESSING INFORMATION		ISONOL 93	ISONOL 93	ISONOL 93	ISONOL 93	ISONOL 93	PART B	PART B	PART B	BDO
Curative Level (pph)	-	5.3	8.1	10.0	6.7	8.9	41.6	32.5	10.4	12.2
Recommended % Theory	95	95	95	95	95	95	95	95	95	95
Erapol Temperature (°C)	25	70 – 80	70 – 80	70 – 80	70 – 80	70 – 80	65 – 70	65 – 70	75 – 80	75 – 80
Curative Temperature (°C)	75 - 80	25	25	25	25	25	25	25	25	25
Pot Life / Prepolymer at 80°C (minutes)	25 - 35	>45	30	35	45	35	20	20	20	50
Demould at 100°C (hours)	8	8	–	8	5	5	1	1	1	1
Post Cure at 110°C (hours)	16	16	16	16	16	16	16	16	16	16
PHYSICAL PROPERTIES		ISONOL 93	ISONOL 93	ISONOL 93	ISONOL 93	ISONOL 93	PART B	PART B	PART B	BDO
Hardness (Shore A)	30 ± 3	32 ± 3	50 ± 3	55 ± 3	52 ± 5	60 ± 5	70 ± 5	80 ± 5	90 ± 5	95 ± 5
Tensile Strength / MPa (psi)	2 (232)	2 (232)	3 (435)	5 (725)	25 (3626)	41 (6005)	15 (2176)	13 (1885)	18 (2611)	17 (2466)
100% Modulus / MPa (psi)	-	0.7 (102)	–	1.9 (276)	1.0 (145)	2.1 (305)	2.9 (421)	5 (725)	10.9 (1581)	10.6 (1537)
300% Modulus / MPa (psi)	-	1.0 (145)	–	3.4 (493)	2.0 (290)	4.8 (696)	6.3 (914)	11.3 (1639)	-	12.1 (1755)
Elongation (%)	225	420	185	340	540	475	490	325	290	370
Angle Tear Strength, Die C (kN/m)	14.2	17	26	14	25	31	31	39	60	65
Cured Specific Gravity (g/cm^3)	1.27	1.20	1.25	1.15	1.23	1.24	1.00	1.01	1.01	1.01

*The information presented here is based on laboratory testing.

Polyether (PTMEG) MDI Prepolymers

	Polyether (PTMEG)						
Erapol Prepolymer	**EMD75A**	**EMD86A**	**EMD901A**	**EMD93A**	**EMD950A**	**EMD52D**	**EMD57D**
PROPERTIES							
%NCO	5.10 ± 0.20	6.50 ± 0.25	7.80 ± 0.25	8.80 ± 0.25	9.60 ± 0.25	10.6 ± 0.20	13.6 ± 0.20
Specific Gravity at 25°C	1.05	1.05	1.05	1.05	1.05	1.05	1.10
Viscosity at 80°C	1000 - 3000	1200 –2000	1200 –1800	700 – 1500	800 – 1200	400 – 1200	1400 - 2200
Colour	clear to hazy	clear to hazy	white translucent	clear to hazy	white translucent	clear to hazy	clear to hazy
PROCESSING							
BDO Level (pph)	5.2	6.6	7.9	8.9	9.8	10.8	13.8
Recommended % Theory	95	95	95	95	95	95	95
Prepolymer Temperature (°C)	75 - 85	70 – 80	70 – 80	70 – 80	70 – 80	70 – 80	40 - 50
Curative Temperature (°C)	20 - 30	25 – 30	25 – 30	25 – 30	25 – 30	25 – 30	25 - 30
Pot Life (minutes)	7	11	8	4	4	3	6
Demould at 110°C (minutes)	90	60	40	50	45	45	45 @ 100°C
Post Cure at 110°C (hours)	16	16	16	16	16	16	16 @ 100°C
PHYSICAL PROPERTIES (BDO)							
Hardness (Shore A)	75 ± 3	85 ± 3	90 ± 3	93 ± 3	95 ± 3	52D ± 3	57D ± 3
Tensile Strength / MPa (psi)	30	32 (4640)	33 (4786)	35 (5076)	29 (4206)	36 (5221)	34 (4989)
Elongation (%)	500	540	480	510	495	450	385
Angle Tear Strength, Die C (kN/m)	66	103	95	120	121	145	130
Trouser Tear Strength (kN/m)	-	30	27	37	42	45	65
DIN Resilience (%)	72	67	65	60	60	49	41
DIN Abrasion Resistance (mm^3)	32	45	58	51	43	45	67
Cured Specific Gravity (g/cm^3)	1.10	1.1	1.1	1.1	1.1	1.1	1.15

*The information presented here is based on laboratory testing.

Polyester & Polycaprolactone MDI Prepolymers

	Polyester				Polycaprolactone			
Erapol Prepolymer	**EME80A**	**EME85A**	**EME90A**	**EME95A**	**EMC700A**	**EMC850A**	**EMC90A**	**EMC95A**
PROPERTIES								
%NCO	5.80 ± 0.20	6.40 ± 0.20	7.70± 0.20	9.00± 0.20	4.8 ± 0.10	7.30± 0.20	7.90 ± 0.2	9.70 ± 0.20
Specific Gravity at 25°C	1.13	1.13	1.13	1.13	1.13	1.13	1.15	1.18
Viscosity at 80°C	1000 - 2000	1000 - 2000	950 - 1100	700 - 1000	1300 - 2300	1500 - 3500	700 - 1000	200 - 700
Colour	clear to hazy	clear to hazy	clear to hazy	clear to hazy	water clear	clear to hazy	white translucent	clear to hazy
PROCESSING								
BDO Level (pph)	5.9	6.5	7.8	9.1	4.9	7.4	8.0	9.9
Recommended % Theory	95	95	95	95	95	95		95
Prepolymer Temperature (°C)	75 - 85	75 - 85	75 - 85	75 - 85	75 - 85	75 - 85	75 - 85	75 - 85
Curative Temperature (°C)	25 - 30	25 - 30	25 - 30	25 - 30	20 - 30	25 - 30	20 -30	25 - 30
Pot Life (minutes)	12	10	6	5	21	13	9	13
Demould at 110°C (minutes)	120	120	30	18	3 @ 100°C	120	120	40
Post Cure at 110°C (hours)	16	16	16	16	16 @ 100°C	16	16	16
PHYSICAL PROPERTIES (BDO)								
Hardness (Shore A)	80 ± 3	85± 3	90 ± 3	95 ± 3	70 ± 3	84 ± 3	90 ± 3	95 ± 3
Tensile Strength / MPa (psi)	38 (5555)	48 (6962)	36 (5221)	31 (4496)	39.5 (5729)	35 (5076)	44 (6440)	38 (5511)
Elongation (%)	625	610	550	465	505	525	530	420
Angle Tear Strength, Die C (kN/m)	88	98	107	117	70	71	109	100
Trouser Tear Strength (kN/m)	51	58	65	62	32	43	50	44
DIN Resilience (%)	34	30	44	21	66	63	49	42
DIN Abrasion Resistance (mm^3)	57	39	33	43	65	58	41	63
Cured Specific Gravity (g/cm^3)	1.25	1.25	1.24	1.25	1.14	1.15	1.17	1.19

*The information presented here is based on laboratory testing.

Polyether (PTMEG) MDI Quasi System – 4 Component

	High Performance							
	EMD135/60A	**EMD135/65A**	**EMD135/70A**	**EMD135/75A**	**EMD135/80A**	**EMD135/85A**	**EMD135/90A**	**EMD135/95A**
EMD 135 – ISOCYANATE PREPOLYMER								
Specific Gravity at 25°C	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Colour	cloudy	cloudy	cloudy	cloudy	cloudy	cloudy	cloudy	cloudy
EMD135 – POLYOL CURATIVE								
Specific Gravity at 25°C	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Colour	hazy	hazy	hazy	hazy	hazy	hazy	hazy	hazy
BDO								
Specific Gravity at 25°C	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Colour	clear	clear	clear	clear	clear	clear	clear	clear
PROCESSING INFORMATION								
EMD135 – Isocyanate Level	100	100	100	100	100	100	100	100
EMD135 – Polyol / BDO Level	180 / 5.6	150 / 7.0	120 / 8.4	105 / 9.1	90 / 9.8	60 / 11.2	45 / 11.9	30 / 12.6
Eracat MFD -Catalyst by weight (ppw)	2.6	2.4	1.4	1.2	0.8	0.6	0.6	0.4
Recommended % Theory	95	95	95	95	95	95	95	95
EMD135 – Isocyanate Temp (°C)	40	40	40	40	40	40	40	40
EMD135 – Polyol Temp (°C)	40	40	40	40	40	40	40	40
BDO Temp (°C)	25	25	25	25	25	25	25	25
Pot Life (minutes)	5 – 8	5 – 8	5 – 8	5 – 8	5 – 8	5 – 8	5 – 8	5 – 8
Demould at 90 – 100°C (minutes)	20	20	20	20	15	15	15	15
Post Cure at 90 – 100°C (hours)	16	16	16	16	16	16	16	16
PHYSICAL PROPERTIES								
Hardness (Shore A)	60 ± 3	65 ± 3	70 ± 3	75 ± 3	80 ± 3	85 ± 3	90 ± 3	95 ± 3
Tensile Strength / MPa (psi)	17 (2466)	22 (3191)	23 (3336)	26 (3771)	27 (3916)	28 (4061)	30 (4351)	30 (4351)
100 % Modulus / MPa (psi)	1.5 (218)	2.3 (334)	3.0 (435)	4.0 (580)	5.3 (769)	7.2 (1044)	8.8 (1276)	11.0 (1595)
300 % Modulus / MPa (psi)	3.8 (551)	6.1 (885)	8.0 (1160)	9.8 (1421)	11.0 (1595)	13.8 (2002)	16.3 (2364)	18.3 (2654)
Elongation (%)	454	450	428	423	432	445	430	402
Angle Tear Strength, Die C (kN/m)	30	48	52	68	80	91	102	117
Trouser Tear Strength (kN/m)	16	19	24	25	45	47	57	69
DIN Resilience (%)	76	73	72	71	70	72	68	66
DIN Abrasion Resistance 10N (mm^3)	30	33	30	25	30	34	36	44
Cured Specific Gravity (g/cm^3)	1.05	1.06	1.06	1.07	1.07	1.10	1.11	1.13

*The information presented here is based on laboratory testing.

Polyester MDI Quasi System – 4 Component

	High Performance								
	PC56/55A	**PC56/60A**	**PC56/65A**	**PC56/70A**	**PC56/75A**	**PC56/80A**	**PC56/85A**	**PC56/90A**	**PC56/95A**
EME167 – ISOCYANATE PREPOLYMER									
Specific Gravity at 25°C	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20
Colour	cloudy white	cloudy white	cloudy white	cloudy white	cloudy white	cloudy white	cloudy white	cloudy white	cloudy white
PC56 - POLYOL CURATIVE									
Specific Gravity at 25°C	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18
Colour	pale yellow	pale yellow	pale yellow	pale yellow	pale yellow	pale yellow	pale yellow	pale yellow	pale yellow
BDO									
Specific Gravity at 25°C	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Colour	clear	clear	clear	clear	clear	clear	clear	clear	clear
PROCESSING INFORMATION									
EME167 – Isocyanate Level	100	100	100	100	100	100	100	100	100
PC56 – Polyol Curative / BDO Level	218 / 7.2	178 / 9.0	155 / 10.0	126 / 11.3	104.5 / 12.3	84 / 13.2	66 / 14.0	55 / 14.5	35.5 / 15.4
Eracat MFD – Catalyst by Weight (ppw)	3.0	1.3	1.6	1.0	1.0	0.66	0.52	0.42	0.30
Recommended % Theory	95	95	95	95	95	95	95	95	95
EME167 – Isocyanate Temp (°C)	45 - 50	45 - 50	45 - 50	45 - 50	45 - 50	45 - 50	45 - 50	45 - 50	45 - 50
PC56 – Polyol Temp (°C)	45 - 50	45 - 50	45 - 50	45 - 50	45 - 50	45 - 50	45 - 50	45 - 50	45 - 50
BDO Temp (°C)	25 - 35	25 - 35	25 - 35	25 - 35	25 - 35	25 - 35	25 - 35	25 - 35	25 - 35
Pot Life (minutes)	5 – 8	5 – 8	5 – 8	5 – 8	5 – 8	4 – 7	4 – 7	3 – 5	3 – 5
Demould at 80 -100°C (minutes)	25	25	25	25	25	20	20	20	20
Post Cure at 80 -100°C (hours)	16	16	16	16	16	16	16	16	16
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)	29 (4206)	30 (4351)	30 (4351)	31 (4496)	31(4496)	33 (4786)	33 (4786)	33 (4786)	32 (4641)
100% Modulus / MPa (psi)	1.9 (276)	2.5 (363)	2.9 (421)	3.8 (551)	5.7 (827)	7.0 (1015)	9.0 (1305)	12 (1740)	14.8 (2147)
300% Modulus / MPa (psi)	4.1 (595)	4.8 (696)	7.4 (1073)	10.5 (1523)	14 (2031)	27.5 (3756)	27.9 (3756)	31 (4496)	31 (4496)
Elongation (%)	510	500	480	450	420	410	400	385	370
Angle Tear Strength, Die C (kN/m)	32	45	47	50	56	73	93	94	109
Trouser Tear Strength (kN/m)	12	12	14	16	17	17	19	20	28
DIN Resilience (%)	55	54	50	47	46	46	43	43	42
DIN Abrasion Resistance (mm^3)	21	22	25	30	30	34	42	60	71
Cured Density	1.19	1.20	1.20	1.21	1.21	1.21	1.22	1.22	1.23

*The information presented here is based on laboratory testing.

Cold Castable Polyether TDI Systems

	High Performance						General Purpose							
	CC50A	**CC5/65**	**CC80A**	**CC90A**	**CC95A**	**CC60D**	**RT301A**	**RT45A**	**RT50A**	**CCM55A**	**CCM75A**	**CCM80A**	**CCM90A**	**CCM95A**
PART A – PROPERTIES														
Specific Gravity at 25°C	1.06	1.06	1.06	1.06	1.06	1.07	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08
Colour	clear, light amber	clear, light amber	clear, light amber	clear, light amber	clear, light amber	clear, light amber	Clear, straw liquid	clear, light amber	clear, light amber	clear, light amber	clear, light amber	clear, light amber	clear, light amber	clear, light amber
PART B – PROPERTIES														
Specific Gravity at 25°C	1.15	1.04	1.01	1.26	1.20	1.20	1.02	1.02	1.02	1.20	1.04	1.01	1.20	1.20
Colour	amber	amber	amber	amber	amber	amber	amber	amber	amber	amber	amber	amber	amber	amber
PROCESSING INFORMATION														
Mix Ratio by Weight (A/B)	100 / 100	100 / 100	100 / 45	100 / 50	100 / 15	100 / 16.5	100 /110	100 / 100	100 / 48	100 / 56	100 / 45	100 / 35	100 / 20	100 / 15
Temperature of Part A (°C)	25 – 30	25 – 30	25 – 30	25 – 30	25 – 30	25 – 30	20 - 30	25 – 30	25 - 30	25 – 30	25 – 30	25 – 30	25 – 30	25 – 30
Temperature of Part B (°C)	25 – 30	25 – 30	25 – 30	25 – 30	25 – 30	25 – 30	20 - 30	25 – 30	25 - 30	25 – 30	25 – 30	25 – 30	25 – 30	25 – 30
Pot Life at 25°C (minutes)	10	12	17	15	8	6	13 - 17	12	14	30	15	13	9	7
Demould at 25°C (hours)	24	24	24	16	16	7	24	24	24	24	24	24	16	16
Accelerated Cure at 70°C (hours)	8	8	8	8	8	8	8	8	8	8	8	8	8	8
Complete Cure at 25°C (days)	7	7	7	7	7	7	7	7w	7	7	7	7	7	7
PHYSICAL PROPERTIES														
Hardness (Shore A)	50 ± 5	60 ± 5	80 ± 3	90 ± 5	95 ± 3	60 ± 3 Sh D	30 ± 3	45 ± 5	50 ± 5	55 ± 5	73 ± 3	80 ± 3	90 ± 5	95 ± 5
Tensile Strength / MPa (psi)	15 (2176)	16 (2321)	28 (4061)	26 (3771)	44 (6382)	50 (7281)	2.7 (391)	7 (1030)	7 (1020)	15 (2176)	20 (2901)	24 (3481)	20 (2944)	23 (3350)
Elongation (%)	650	600	510	500	380	250	>2200	>2000	700	550	450	500	370	320
DIN Abrasion Resistance (mm^3)	120	135	110	200	85	96	>300	>300	240	185	195	175	260	145
Linear Shrinkage at 23°C (%)	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.4	0.1	0.2	0.1	0.2	0.2	0.2
Cured Specific Gravity (g/cm^3)	1.10	1.10	1.10	1.10	1.12	1.10	1.06	1.06	1.10	1.10	1.10	1.10	1.10	1.10

*The information presented here is based on laboratory testing.

Cold Castable Polyether MDI Systems

	Flexible			Quick Cure				High Performance			Grout
	EMD25ACC	**EMD35ACC**	**EMD45ACC**	**QCM40A**	**QCM60AS**	**QCM70A**	**QCM90AS**	**CMD88A**	**CMD90A**	**CMD93A**	**MGP168**
PART A – PROPERTIES											
Specific Gravity at 25°C	1.13	1.13	1.13	1.15	1.12	1.16	1.16	1.13	1.13	1.13	1.06
Colour	pale amber	pale amber	pale amber	pale amber	pale amber	pale amber	pale amber	clear / hazy	white	clear / hazy	clear / hazy
PART B – PROPERTIES											
Specific Gravity at 25°C	1.03	1.03	1.03	1.03	1.02	1.03	1.03	1.02	1.02	1.02	1.05
Colour	clear	clear	clear	clear	clear	clear	clear	white	white	white	grey
PROCESSING INFORMATION											
Mix Ratio by Weight (A/B)	100 / 230	100 / 210	100 / 120	100 / 185	100 / 100	100 / 90	100 / 65	100 / 56	100 / 60	100 / 42	100/100
Temperature of Part A (°C)	20 – 30	20 – 30	20 – 30	20 – 30	20 – 30	20 – 30	20 – 30	25 – 35	25 – 35	25 – 35	20 - 30
Temperature of Part B (°C)	20 – 30	20 – 30	20 – 30	20 – 30	20 – 30	20 – 30	20 – 30	25 – 35	25 – 35	25 – 35	20 - 30
Pot Life (minutes)	15	15	23	7	15	7	10	10	5	7	4
Demould at 25°C (hours)	4	4	4	1	1	1	2	3	2	2	1
Accelerated Cure at 60°C (hours)	16	16	16	16	16	16	16	16	16	16	-
Complete Cure at 25°C (days)	7	7	7	7	7	7	7	7	7	7	1
PHYSICAL PROPERTIES											
Hardness (Shore A)	25 ± 5	35 ± 5	45 ± 5	40 ± 3	60 ± 3	70 ± 3	90 ± 5	88 ± 3	90 ± 3	93 ± 3	80 ± 5
Tensile Strength / MPa (psi)	1 (145)	5 (725)	4 (580)	2 (290)	6 (870)	10 (1450)	32 (4641)	32 (4641)	24 (3481)	27 (3916)	8 (1130)
Elongation (%)	1200	700	670	300	290	310	250	350	525	410	341
Angle Tear Strength, Die C (kN/m)	5	7	7	8	32	41	75	65	117	137	1
DIN Abrasion Resistance (mm^3)	-	-	-	-	67	55	58	35	57	48	-

*The information presented here is based on laboratory testing.

1K Blocked Series

	Solvent Resistant									
ERAPOL PREPOLYMER	**1K10A**	**1K201A**	**1K30A**	**1K40A**	**1K50A**	**1K55A**	**1K60A**	**1K701A**	**1K801A**	**1K901A**
PRODUCT PROPERTIES										
Viscosity (cps)	600 - 1200	1000 – 5000	2000 - 6000	2000 - 6000	2000 – 6000	2000 – 6000	2000 - 6000	1500 - 2000	2900	2000
Colour	amber	amber	amber	amber	amber	amber	amber	amber	amber to water clear	amber
Specific Gravity at 25°C	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20
PROCESSING INFORMATION										
1K – Melting Temp (°C)	70 - 75	70 - 75	70 - 75	70 - 75	70 - 75	70 - 75	70 - 75	70 - 75	70 - 75	70 - 75
1K – Mould Temp (°C)	130 - 140	130 – 140	130 – 140	130 – 140	130 – 140	130 – 140	130 – 140	130 – 140	130 – 140	130 – 140
Cure Time at 135 – 140 (°C) (hours)	16 - 18	16 – 18	16 – 18	16 – 18	16 – 18	16 – 18	16 – 18	16 – 18	16 – 18	16 – 18
Demould at 135 – 140 (°C) (hours)	16	16	16	16	16	16	16	16	16	16
PHYSICAL PROPERTIES										
Hardness (Shore A)	10 ± 5	20 ± 5	32 ± 3	38 ± 3	50 ± 3	55 ± 3	60 ± 3	70 ± 3	80 ± 5	90 ± 3
Tensile Strength / MPa (psi)	2.2 (319)	3 (377)	2 (290)	8 (1102)	7 (943)	10 (1450)	14 (2031)	15 (2175)	10 (1450)	10 (1450)
100% Modulus / MPa (psi)	0.5 (73)	0.6 (87)	-	-	-	-	-	-	-	4.5
300% Modulus / MPa (psi)	1.0 (145)	1.4 (203)	-	-	-	-	-	-	-	6.1
Elongation (%)	625	540	435	605	600	790	725	550	470	410
Angle Tear Strength, Die C (kN/m)	6	14	8	13	18	21	32	52	42	48
DIN Resilience (%)	28	23	34	29	33	32	29	37	28	29
Cured Specific Gravity	1.19	1.22	1.21	1.21	1.21	1.21	1.21	1.12	1.19	1.18
SOLVENT SWELL TEST (% WEIGHT INCREASE IN 24 HOURS)										
Xylene	15.3	11.1	9.8	8.7	7.4	6.4	37.1	31.3	22.4	9.2
Cyclohexane	0.3	0.2	0.1	0.2	0.1	0.1	0.9	0.6	0.5	0.1
Toluene	30.6	29.7	23.3	20.5	17.5	15.5	60.5	55.1	36.9	15.4
IPA	1.9	1.8	0.9	0.8	1.3	0.7	3.0	2.2	1.8	1.1
Dibasic	79.6	77.2	41.5	39.3	40.3	32.2	27.3	21.6	15.6	7.2
MEK	103.5	100.6	74.6	57.8	57.4	53.8	69.4	59.3	41.5	25.2

*The information presented here is based on laboratory testing.

Spray Systems

	Polyurethane Hybrid								Polyurea		Aliphatic	Potable Water ⊙	
ERASPRAY	**GENERAL PURPOSE**				**HIGH PERFORMANCE**				**HIGH PERFORMANCE**		**SPECIALTY**		
	ESM700	**ESM800**	**ESM900**	**ESM955**	**ESP880**	**ESP950**	**ES81A HB**	**ES321**	**HE50D**	**ESM610D**	**AL930**	**ES900PW**	**STPW**
PART A – PROPERTIES	**MDI**						**TDI**		**MDI**		**ALIPHATIC**	**MDI**	
Specific Gravity at 25°C	1.15	1.15	1.10	1.10	1.11	1.11	1.06	1.05	1.12	1.15	1.04	1.10	1.13
Colour	amber	amber	amber	amber	amber	amber	amber	amber	amber	amber	water clear	amber	amber
PART B – PROPERTIES													
Specific Gravity at 25°C	1.01	1.04	1.02	1.02	1.02	1.01	0.96	1.02	1.02	1.08	0.99	1.02	1.00
Colour	amber brown	amber brown	amber brown	amber brown	amber brown	amber brown	amber	amber	amber	brown	hazy to milky	amber brown	amber
PROCESSING INFORMATION													
Mix Ratio by Weight (A/B/C)	-	-	-	-	-	-	100/60/1	-	-	-	-	-	-
Mix Ratio by Volume (A/B)	100/100	100/100	100/100	100/100	100/100	100/100	-	300/100	100/100	100/100	100/100	100/00	100/100
Temperature of Part A (°C)	40 – 50	50 – 60	50 – 60	50 – 60	50 – 60	50 – 60	20 – 30	70 - 80	60 - 70	60 - 70	60 - 70	50 – 60	60 - 70
Temperature of Part B (°C)	40 – 50	50 – 60	50 – 60	50 – 60	50 – 60	50 – 60	20 – 30	70 - 80	60 - 70	60 - 70	50 – 60	50 – 60	60 - 70
Pot Life at 25°C (minutes)	-	-	-	-	-	-	60	-	-		-	-	-
Pot Life at 40°C (seconds)	15 - 20	12 - 16	12 - 16	8 - 14	12 - 14	15 - 20	60 (min)	10 - 15	5 - 10	5 - 10	15 - 20	8 - 15	5 - 10
Complete Cure at 25°C (days)	6	6	6	5	5	5	7	5	5	5	6	6	5
PHYSICAL PROPERTIES													
Hardness (Shore A)	70	80	90	90	88	95	75	88	50D	60D	93	90	95
Tensile Strength / MPa	7	7	14	17	27	23	11	35	16	22	16	14	17
Elongation (%)	260	260	190	185	320	350	280	380	350	160	475	190	175
Angle Tear Strength, Die C (kN/m)	33	25	42	61	71	64	45	80	85	79	71	42	75
DIN Abrasion Resistance (mm^3)	180	170	120	188	49	98	70	65	192	155	220	120	165
Cured Specific Gravity (g/cm^3)	1.02	0.90	1.02	1.06	1.00	0.96	0.95	0.98	1.03	1.03	0.99	1.02	1.03

*The information presented here is based on laboratory testing. ⊙ AS/NZS 4020: 2005 potable water approved.

Era Polymers Specialty Products

Era Divisions

Era Polymers has grown to offer more than 750 Polyurethane systems. We have diversified to include a number of divisions within the company. These six include:

Era Coatings | Era Elastomers | Era Foams | Era Equipment | Era Tolling | Era Trading

Specialty Elastomers*

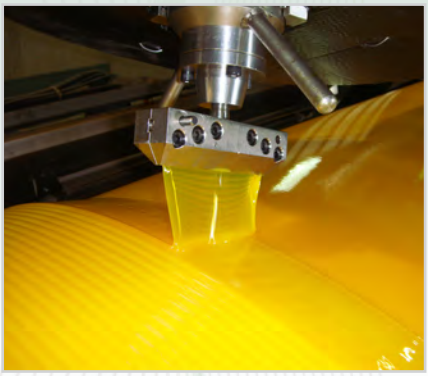
2KE Blocked Series
Used for coating fibres impregnated with coarse carbide grains to produce tough abrasive discs used for cleaning metal surfaces.

High Hardness Cold Castable Series
A range of high hardness castable elastomers, used for tooling and rigid applications.

Eratrowel Series
Two and three component cold cast TDI & MDI trowellable systems.

Eragel
Both MDI and TDI based elastomers with extremely low hardness, used in footwear, mousepads and pillow covers.

Erakote Systems
Rapid reacting elastomers available as two or three component systems. They are poured onto a rotating core to produce a tough elastomeric roller covering, suitable for steel and paper mill rollers.



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

FRAS Systems
Fire **R**etardant **A**nti **S**tatic, additives used to make Elastomers self - extinguishing and non sparking for applications in explosive environments such as underground mining.

*** See product brochure for more details**

Era Polymers Specialty Products

Rubber Binders*

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

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.

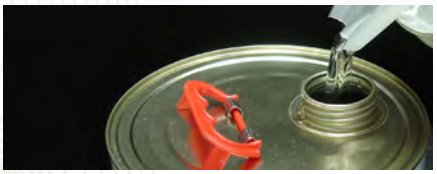
Foam Systems*

Our broad range of Rigid Foams can be used for many applications such as insulation, building panels and surfboards.

Our Flexible Polyurethane Foam systems are used for applications such as Pipe Cleaning Pigs and a variery of speciality consumer and commercial products.

Ancillary Products

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



Curatives

Elastomer Curatives used by processors all around the world, include:

- ***MOCA***
- ***MCDEA***
- ***HQEE***
- ***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 106***
- ***Eracure 110***
- ***Eracure 112***
- ***Eracure 210***
- ***Eracure 211***
- ***Eracure C31***
- ***Eracure C32***

*** See product brochure for more details**

Era Polymers Specialty Products

Era Polymers Primers*

ERAPOL TO METAL PRIMER

Erabond Metal
1-Component Phenolic primer with good adhesion to property prepared steel, iron, aluminium and manganese. Available in clear or red.

Erabond 6100FC
2-Component Polyurethane Primer with good adhesion to steel, ductile iron and galvanised steel. In addition it has good anticorrosive properties for immersion applications.

ERAPOL TO ERAPOL PRIMER

Erabond PU
1-Component Polyurethane primer for bonding to flexible substrates like cured Polyurethane or Rubber.

ERAPOL TO CONCRETE PRIMERS

Erabond LV452
1-Component, low solids Polyurethane primer for bonding to most concrete like substrates.

Erabond 2K Epoxy
2-Component Epoxy primer for bonding Sprayable and Roll on polyurethane systems to concrete.

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.

Stepan — Polyurethane Foams based on New Blowing Agents

ICYNENE — Spray Foam Insulation

ICP ADHESIVES & SEALANTS — 1 & 2 Component Disposable Polyurethane Foam Systems

GAMA — High Pressure Spray Equipment for Foams and Elastomers

FRICTION COATING — Grinding Wheels for Rollers

POLYTEC EMC — Casting Equipment

ACMOS — Release Agents

SAIP ADVANCED POLYURETHANE EQUIPMENT — High and Low Pressure Equipment for Foams

irathanefutura — Spray/Polyurethane/Polyurea Elastomers and Primers

Green Mountain International, LLC — Hydrophobic and Hydrophilic Polyurethane Water Stopping Grouts

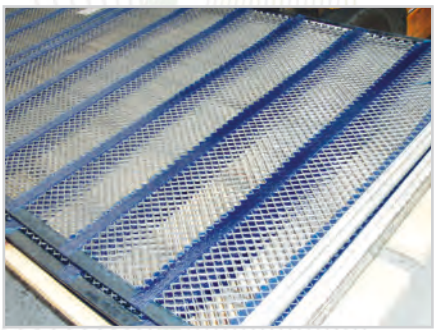
ingevity — CAPA Polycaprolactones for Superior Elastomers and Adhesives

FECKEN FX KIRFEL — Cutting Equipment

CYTEC — Tooling/Prototyping Urethanes

SUMMERS EQUIPMENT INC. — Dual Drive Plantary Mixer

DOW CORNING — Mould Making Silicone Rubber



*** See product brochure for more details**

Pigments

Era Polymers offer a wide range of Pigments that can be used in our Polyurethane Elastomer products. All materials are supplied uncoloured which allows you, as the processor, to add your choice of pigment.

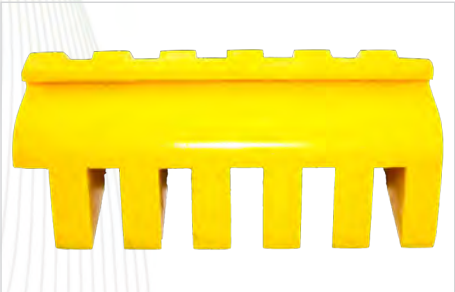
Pigments are dispersed in Diisononyl phthalate (DINP) to ensure complete chemical compatibility. A variety of colours are available as concentrated liquid pastes, which include the following:

Red 100	Brown 700	Green 400	Blue 500
Red 120	Brown 745	Green 420	Blue 525
Orange 220	Brown 725	Green 430	Blue 530
Orange 200N	Yellow 320	Grey 900	Black 615
Orange 240	Yellow 315	White 810	

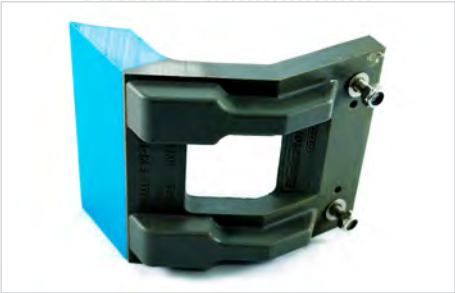
* The colours replicated are as close to actual product colours as modern printing will allow.

Applications



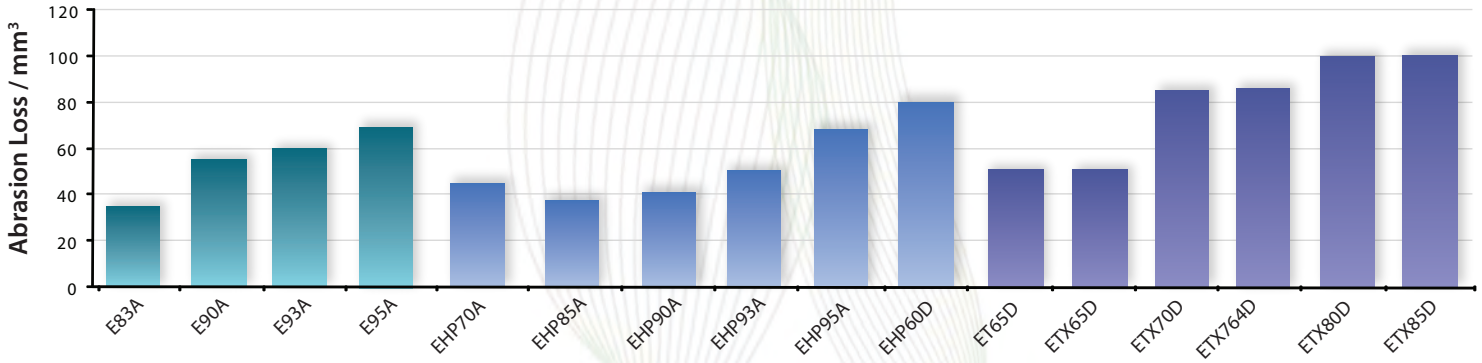




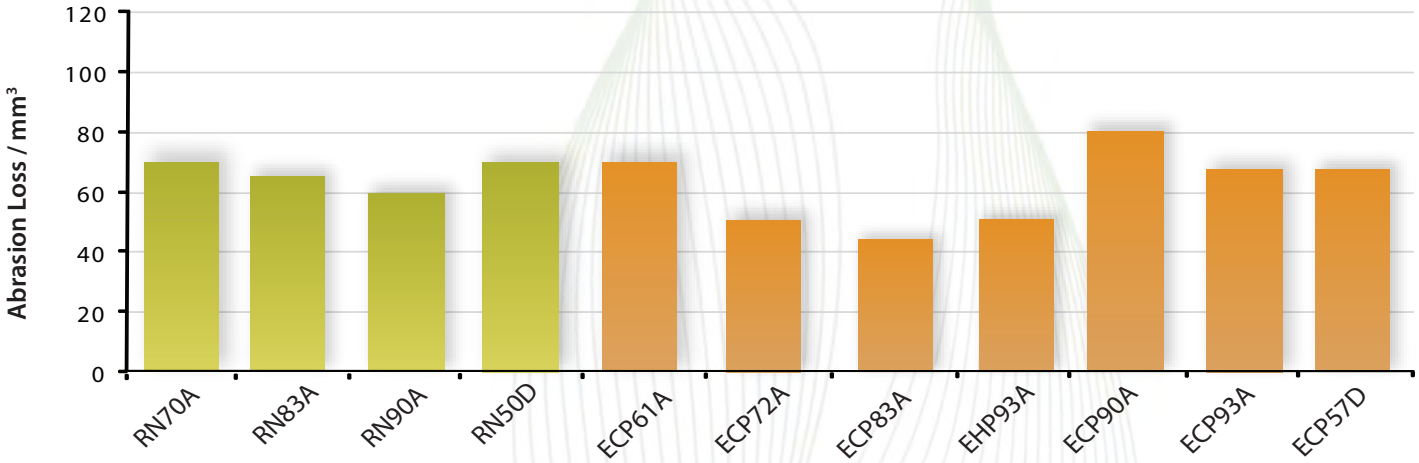




DIN Abrasion Resistance Charts

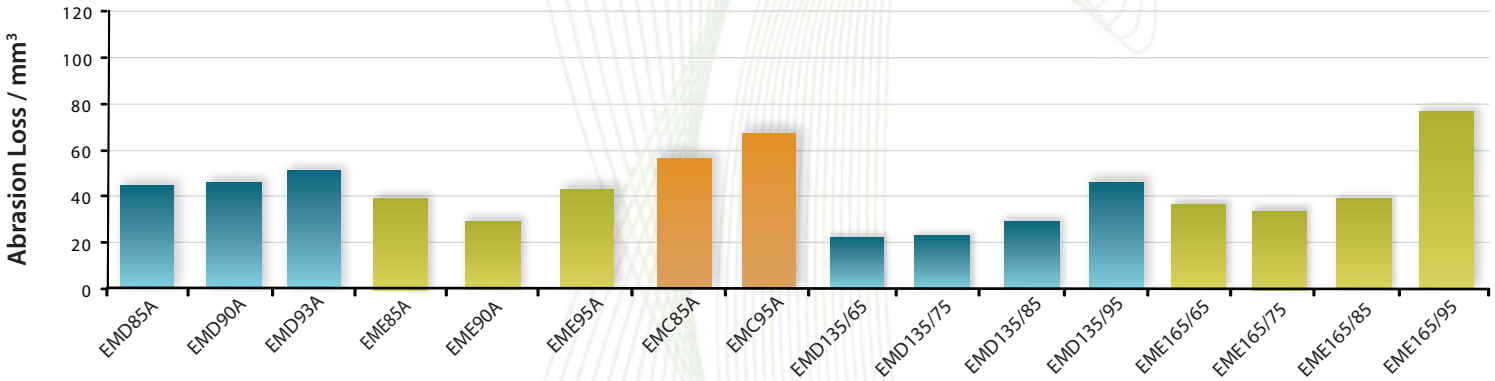
DIN Abrasion Resistance - High Performance TDI Polyethers



DIN Abrasion Resistance - High Performance TDI Polyesters

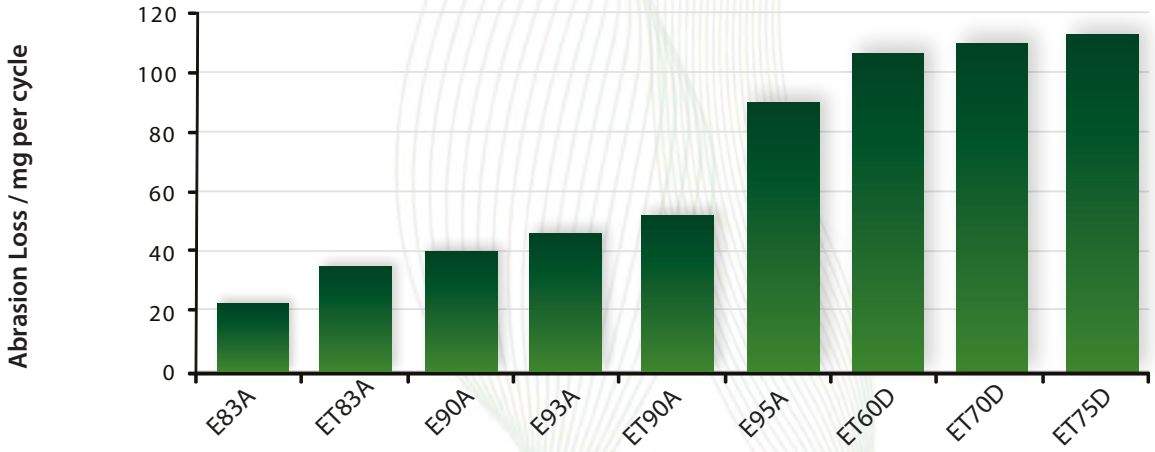


DIN Abrasion Resistance - High Performance MDI Systems

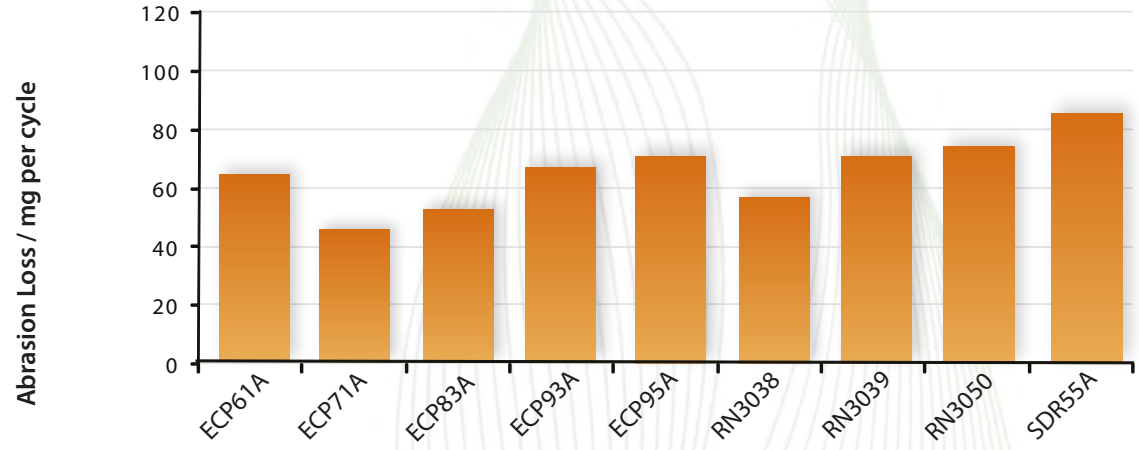


Taber Abrasion Resistance Charts

Taber Abrasion Resistance - High Performance Polyethers

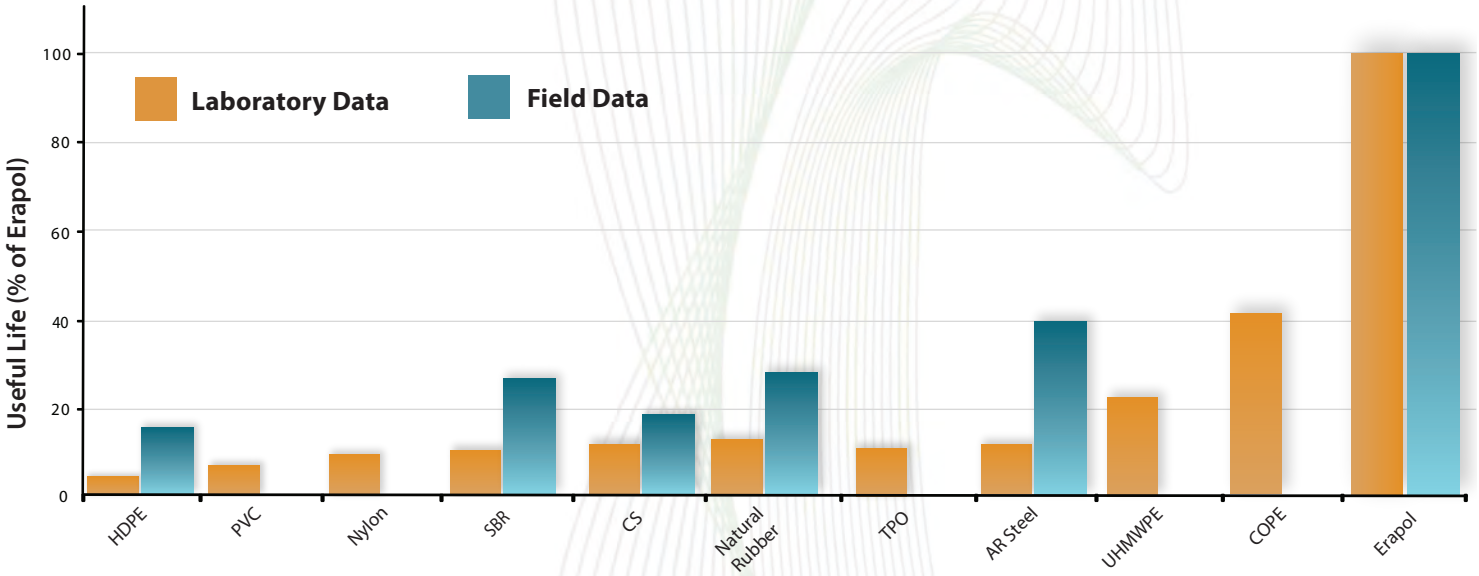


Taber Abrasion Resistance - High Performance Polyesters / CAPAs



Abrasion Resistance Performance

Laboratory vs. Field Data For Commonly Used Materials



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

Chemical Resistance

Erapols are chemically resistant to the following solvents, oils and chemicals. This is 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.

Acetic acid	C	Cyclohexane	B	Oleic acid	B
Acetone	X	Ferric chloride	A	Olive oil	A
Ammonia hydroxide	A	FREON-12 (54°C)	A	Oxygen-cold	A
Ammonium nitrate	X	FREON-113	B	Ozone	A
Ammonium persulfate	X	Gasoline	A	Palmitic acid	A
Animal fats	A	Gelatin	A	Phosphoric acid (20%)	A
ASTM oil #1 (70°C)	A	Glucose	A	Phosphoric acid (45%)	A
ASTM reference fuel	A	Glue	A	Potassium chloride	A
Barium chloride	A	Glycerin	A	Potassium cupro cyanide	A
Barium hydroxide	A	Hydrochloric acid (cold) 37%	X	Potassium cyanide	A
Barium sulfate	A	Hydrochloric acid (hot) 37%	X	Potassium dichromate	A
Barium sulfide	A	Hydrofluoric acid conc. (cold)	X	Potassium nitrate	A
Borax	A	Hydrofluoric acid conc. (hot)	X	Potassium sulfate	A
Boric acid	A	Hydrogen gas	A	Producer gas	A
Butane	A	Isopropyl acetate	A	Radiation	A
Calcium bisulphite	A	Kerosene	B	Soap Solutions	A
Calcium chloride	A	Liquefied petroleum gas	A	Sodium chloride	A
Calcium hydroxide	A	Magnesium chloride	A	Sodium hydroxide (20%)	B
Calcium nitrate	A	Magnesium hydroxide	A	Sodium phosphate	A
Calcium sulfide	A	Mercury	A	Sodium sulfate	A
Carbon dioxide	A	Mineral oil	A	Sodium thiosulfate	A
Carbon monoxide	A	Natural gas	B	Stearic acid	A
Castor oil	A	Nickel sulfate	A	Sulphuric acid (dilute)	B
Citric acid	A	Nitric acid conc.	X	Sulphuric acid (conc)	X
Copper chloride	A	Nitric acid dilute	C	Sulphuric acid (20% oleum)	X
Copper cyanide	A	Nitric acid red fuming	X	Tannic acid (10%)	A
Copper sulphate	A	Nitrogen	A	Tartaric acid	A
Cottonseed oil	A	Octadecane	A	Toluene	C

The table below lists commonly experienced problems and their causes.

Problem	Possible Cause: Off Ratio	Poor Mix	High Exotherm	Incorrect Processing Temperature	Poor Vacuum	Nitrogen or Solvent	Leaks in Mixing Head	Dirty Moulds	Casting Technique	Loss of Prepolymer NCO	Insufficient Cure	Curative Contamination	Low Green Strength
Low Hardness	•	•								•	•		
Wet Spots	•	•											
Poor Tear	•	•								•	•		
Cheesy Appearance	•	•		•							•		•
High Shrinkage	•		•	•								•	
Air Bubbles					•	•	•	•	•			•	
Snow Flake Effect			•						•				
White Skin			•						•				
Voids in Part			•	•				•	•				
Short Pot Life	•			•								•	
Cracking	•	•	•	•					•				•
Foaming						•	•					•	
Striations		•											
Low Tensile Strength	•	•								•	•		

Approximate Viscosities of Common Materials
Material Viscosity in Centipoise

Water 1 cps	SAE 20 Motor Oil 140 – 420 cps	Castor Oil 1,000 cps	Chocolate Syrup 25,000 cps	Sour Cream 100,000 cps
Milk 3 cps	SAE 30 Motor Oil 420 – 650 cps	Karo Syrup 5,000 cps	Ketchup 50,000 cps	Peanut Butter 250,000 cps
SAE 10 Motor Oil 85 – 140 cps	SAE 40 Motor Oil 650 – 900 cps	Honey 10,000 cps	Mustard 70,000 cps	

Conversion Factors

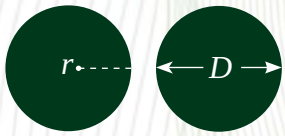
GEOMETRIC FORMULAE

CIRCLE

Area = πr^2 or $\pi D^2 / 4$

Circumference = πD or $2\pi r$

(r = radius, D = diameter, π= 3.1416)



SPHERE

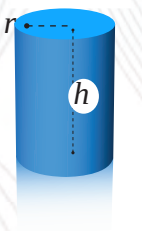
Surface Area = $4\pi r^2$ or πD^2

Volume = ⅓ πr^3 = ⅙ πD^3 = D^3 x 0.5236

CYLINDER

Volume = $\pi r^2 h$

(h = height)



RECTANGLE OR SQUARE

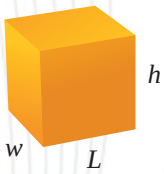
Area = L x h

(L = Length)

BOX

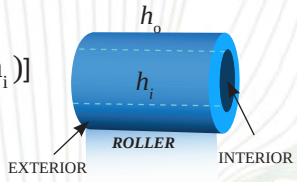
Volume = L x *w* x h

(*w* = width)



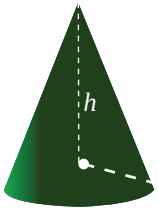
ROLLER

[Volume(outer) = ($\pi r_o^2 h_o$)] - [Volume(inner) = ($\pi r_i^2 h_i$)]



CONE

V = ⅓ $\pi r^2 h$



VOLUME TO MASS CALCULATION

mass = density x volume

THICKNESS

1 mil = 25 microns = 0.025 mm
1 mm = 40 mils = 1000 microns

AREA

1 m^2 = 10.76 ft^2
1 ft^2 = 0.093 m^2

LENGTH

1 m = 3.28 feet
1 cm = 0.4 inches
1 foot = 0.305 m
1 inch = 2.5 cm

PHYSICAL PROPERTIES

1 kN/m = 0.175 x pli
1 N/mm^2 = 145psi = 1 MPa

WEIGHT

1 kg = 2.2 lbs
1 lb = 0.455 kg

VOLUME

1 US Gallon = 3.8 Litres
4 US Gallon = 15.1 Litres
44 US Gallon = 166.3 Litres
55 US Gallon = 208.1 Litres

TEMPERATURES

°C = 5⁄9 x (°F - 32)
°F = (9⁄5 x °C) + 32

PRESSURES

100 kPa = 0.1 MPa = 14.5 psi = 1 bar

DENSITY

1 g/L = 0.062 lb/ft^2
1 lb/sq.ft = 4.82 kg/m^2
1 ft^3 = 0.028 m^3
kg/m^3 = lb/ft^3 x 16

Glossary of Terms

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 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 – Refers to the hardening or build-up of properties of a polymer material by cross-linking of polymer chains.

Curing Agent – Material that starts the reaction with the Prepolymer when added.

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 force without failure or loss of properties.

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

MDI – An abbreviation for diphenyl**M**ethane **D**i **I**socyanate.

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 – **N**aphthalene **D**i **I**socyanate.

NCO – **N**itrogen, **C**arbon, **O**xygen. 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 – Refers to the period after casting, either in mould or after demoulding, before the material has developed full physical properties by cross linking of polymer chains.

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

Prepolymer – A chemical intermediate manufactured by reacting raw isocyanate with polyol.

PTMEG – **P**oly **T**etra **M**ethylene **E**ther **G**lycol

PU – Abbreviation for Polyurethane

RIM – **R**eaction **I**njection **M**oulding. A process of injecting a fast 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 **T**oluene **D**i **I**socyanate.

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

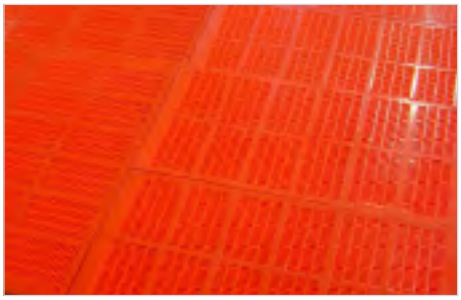
Thermoplastic – A polymer that turns to a liquid when heated and freezes to a solid state when cooled.

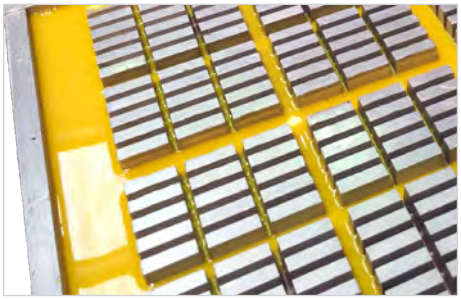
Thixotropic – A material that resists slumping or sagging when applied to a vertical surface.

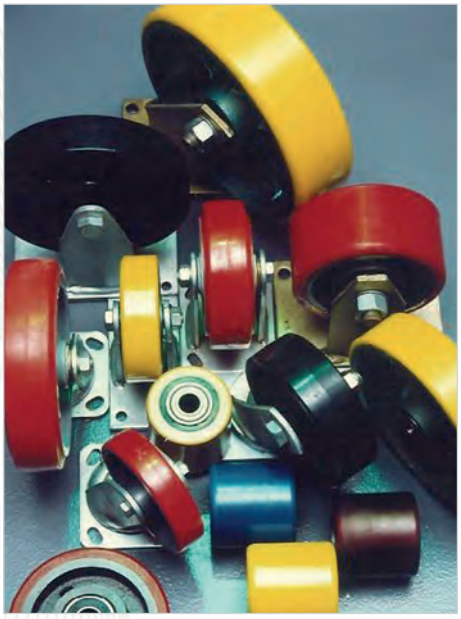
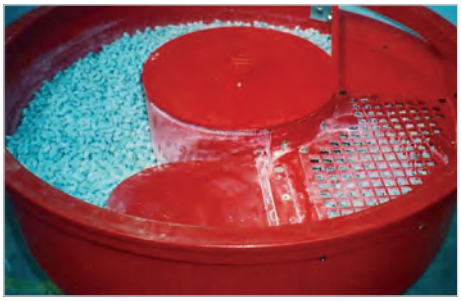
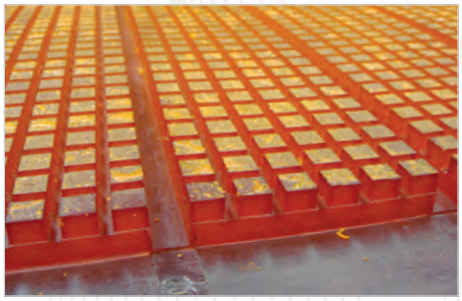
Viscosity – A measure of how easily a liquid flows. The lower the number the thinner the liquid.

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.

Applications





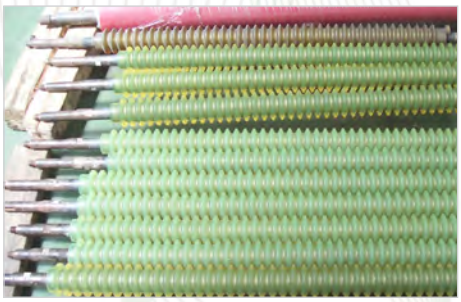
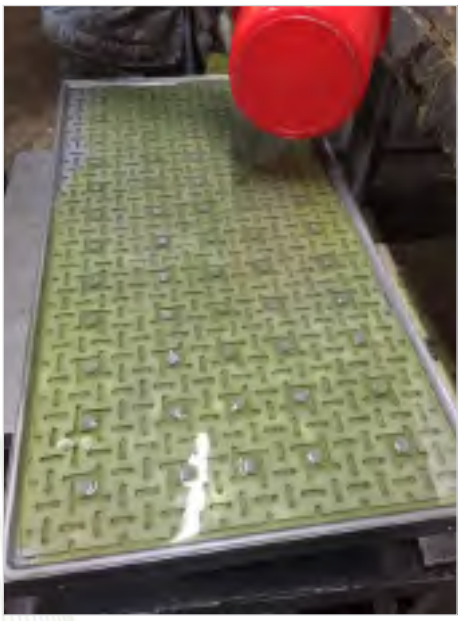















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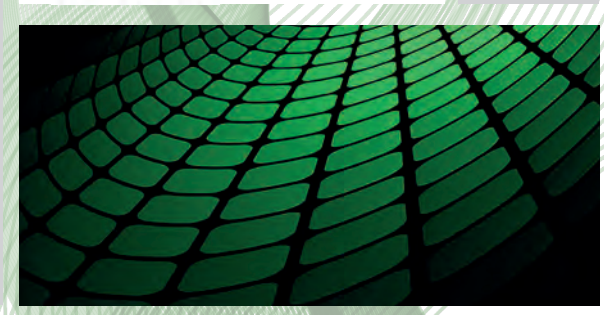

Goddess Hera

(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.

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