Era
Polymers

ELASTOMERIC SPRAY SYSTEMS

Introduction to Elastomeric Spray Systems

Polyurethane and polyurea elastomers are exceptionally tough and flexible to compensate for the movement and cracking of substrates – particularly concrete. These versatile linings are spray applied to metal and concrete containment structures or used on geotextile, creating a chemical resistant membrane.

Polyurethane, Polyurea or Hybrid?

Era Polymers offers a variety of spray materials, from 100% Polyurethane, to 100% Polyurea, to Hybrids which are a combination of the best properties of both. The main difference between the two is polyurea chemistry uses amines in the Part B component and polyurethane chemistry uses polyol in the Part B component. ***Era Polymers*** manufactures a range of both, so please contact your local ***Era Polymers*** representative for a specific product recommendation based on your application.

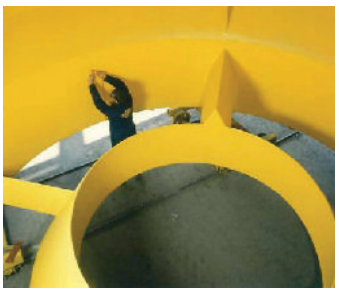
Polyurea & Polyurethane Comparison

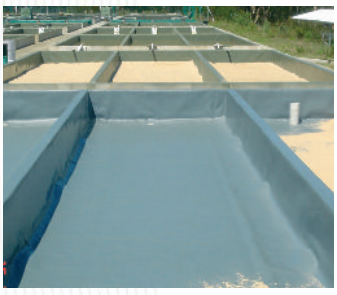
	Polyurea	Polyurethane
Tensile Strength	++	++
Elongation	+	++
Impact Resistance	++	++
Abrasion Resistance	+	++
Chemical Resistance	+	++
High Temperature Resistance	++	+
Humidity/Moisture Resistance	++	-/+
Low Temperature Application	++	+
Surface Smoothness	–	++
Adhesion to Primers	–	+
Ability for Topcoat Adhesion	–	+
Price	–	+
Aromatic PU Weatherability	– –	–

++ Outstanding + Good – Fair – – Poor

Applications Include:

- COOL ROOMS
- FIRE RETARDANT COATINGS
- FLOOR & WALL COATINGS
- PIPE LININGS
- POTABLE WATER
- SPIRAL GRAVITY SEPARATORS
- TANK LINING
- THEMING INDUSTRY
- UTE & TRUCK BEDS
- WATERPROOFING
- VIBRATING SCREEN SUPPORT FRAMES
- SECONDARY CONTAINMENT
- MINERAL ORE SLURRY PROCESS EQUIPMENT






Sprayable Elastomers are a great solution for Plant Managers and Engineering Consultants who need to solve problems associated with abrasion, corrosion or erosion. They can be applied to old, worn out processing equipment as well as new equipment to assist in prolonging their operating service life.

With the exception of one of the High Performance TDI Sprayable Elastomers, all the products within this range are 100% solids with Zero VOC; they are two component systems with a 1:1 mix ratio so are easy to use, with high-pressure spray equipment.

Fast curing times an high build capability offers an extremely cost effective solution.

These systems offer hydrolytic stability, corrosion and abrasion resistance with toughness. Subject to the correct surface preparation they will bond to almost any substrate.

Sprayable Elastomers are used for heavy-duty industrial

applications where elastomeric coatings/linings are specified. They also remain flexible so are capable of handling the expansion and contraction of metal associated with climate change and the movement or cracking in concrete.

Era Polymers comprehensive range of sprayable products has a system for most applications. The system you choose will be dependent on the requirements of your application:

- What hardness/abrasion resistance do you need?
- Do you need a Potable Water System?
- Do you need a Fire Retardant System?
- Does your system need to be UV Stable?

Substrate Preparation is the Key

Surface preparation will vary depending on the type of substrate being coated. However all surfaces need to be clean, dry and free of any contaminants that may impair the adhesion of the required primer.

Generally a mechanical key is required for the primer to bond with the substrate, this means the surface is not smooth but has a sandpaper type appearance which allows the primer to adhere easily to the surface profile. It is important that the profile of the substrate is appropriate for the film thickness of the coating.

For further information on preparation please refer to ***Era Polymers Surface Preparation Guide***.

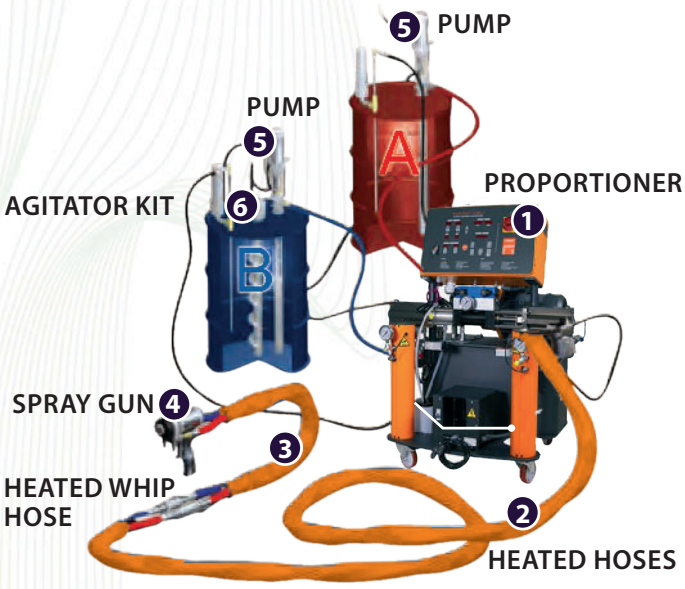
Primers

The primer required will depend on the substrate and the final protective coating. ***Era Polymers*** have a large variety of primers and will be able to assist you with the most suitable one for your application.

Once the substrate is primed the relevant spray systems can be applied.

Application

To apply **Eraspray Systems** you require a Plural-Component Proportioner, such as the **Gama** equipment.



Era Polymers are the only Australian & New Zealand **Gama** Distributor and can assist you with machine selection, operation and servicing.

Potable Water

Era Polymers has two systems certified in accordance with AS/NZS 4020 (Testing of products for use in contact with drinking water) so are ideal for potable water applications. **Eraspray ES900PW** is a High Performance 100% solids hybrid spray polyurethane with good abrasion resistance. **Eraspray STPW** is an alternative approved pure polyurea system.

Polyurea & Fire Retardant Coatings

Polyurea Coatings

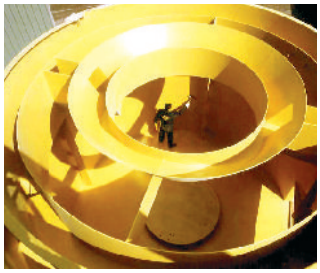
The polyurea systems offer an alternative coating system to the sprayable polyurethane systems. Your choice of system would depend on the end performance of the protective coating required. Polyurea's are commonly used in waste water applications due to their superior Hydrogen Sulphide (H_2S) resistance.

Fire Retardant Coatings

Era Polymers offer one off the shelf Fire Retardant grade, **Eraspray ESU500D FR**. The addition of fire retardants can be made to all Eraspray systems.

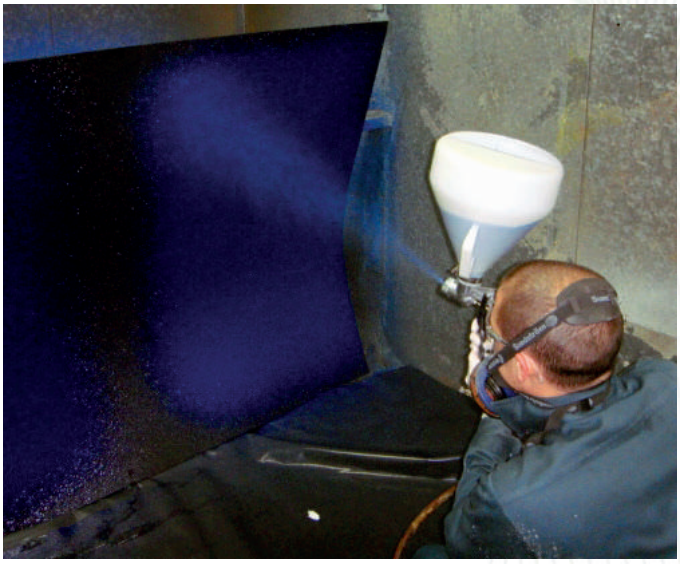
Aliphatic Coatings

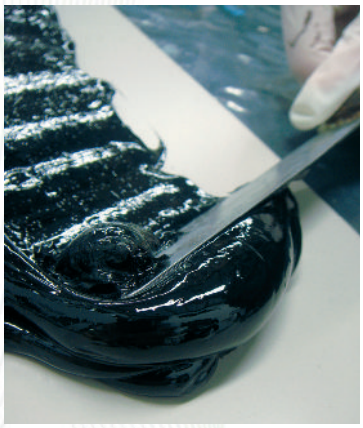
Eraspray AL950 is an aliphatic polyether based polyurethane spray system designed for harsh environments where **colour stability** is of prime importance. **Eraspray AL950** also gives excellent abrasion resistance so is ideal for areas which are exposed to sunlight but where wear resistance is paramount.



Slow Set Systems

If your application requires a slower setting time, you should use **Eraspray ES81A-HB.** This polyether based polyurethane, which is 70% solids, is designed to operate in harsh environments where wear characteristics are of importance. Due to the one hour pot life of this system, standard airless equipment, hopper gun, brush or even a roller can be used to apply this coating.





Ancillary Products

To complement our spray range we have some excellent trowellable systems which are ideal for repairs.

The thixotrophy of these systems is sufficient to prevent sagging and therefore makes them an ideal repair materials for vertical surfaces.

Two Component MDI/Polyether Trowellable Systems

Eratrowel MT70AFR is a polyether based polyurethane repair compound with a working life of 10 – 12 minutes; it contains additives that enable the elastomer to have fire retardant and anti-static properties.

Eratrowel MT80A is a high performance cold trowellable polyurethane which cures at room temperature.

Three Component TDI/Polyether Trowellable Systems

Both TDI systems **Eratrowel 83A** and **Eratrowel 93A** have longer working lives than the MDI systems so should be used when a longer pot life is required.

Strategic Alliances

irathanefutura
A Division of ITW Limited

Primers and Polyureas for specialist applications

GAMA

High Pressure Spray Equipment for Foams and Elastomers

Sprayable Products

The following chart details ***Era Polymers*** full range of Elastomeric Spray Systems:

Product	Hardness	Chemical Backbone	Parts	Mix Ratio (by Volume)	Gel Time	Abrasion Loss (mm^3)
Medium Performance MDI – Hybrid (Polyurethane/Polyurea)						
Eraspray ESM700	70 Shore A	MDI / PPG	2	1 : 1	< 30 sec	180
Eraspray ESM800	80 Shore A	MDI / PPG	2	1 : 1	< 30 sec	170
Eraspray ESM900	90 Shore A	MDI / PPG	2	1 : 1	< 30 sec	120
Eraspray ESM955	95 Shore A	MDI / PPG	2	1 : 1	< 30 sec	190
Eraspray ES900PW *	90 Shore A	MDI / PPG	2	1 : 1	< 30 sec	120
High Performance MDI – Hybrid (Polyurethane/Polyurea)						
Eraspray ESP880	88 Shore A	MDI / PTMEG	2	1 : 1	< 30 sec	49
Eraspray ESP950	95 Shore A	MDI / PTMEG	2	1 : 1	< 30 sec	90 – 100
High Performance TDI – Polyurethane						
Eraspray ES81A-HB	80 Shore A	TDI / PTMEG	3	100/60/1 (w)	60 mins	70
Eraspray ES321	80 Shore A	TDI / PTMEG	2	3 : 1	< 30 sec	65
High Performance MDI – Polyurea						
Eraspray ST *	50 Shore D	MDI /Amine	2	1 : 1	<5 sec	165
Eraspray ESM610D	60 Shore D	MDI /Amine	2	1 : 1	< 30 sec	150
Alphatic Coating – Polyurea						
Eraspray AL930	95 Shore A	Aliphatic / PTMEG	2	1 : 1	< 30 sec	220

***AS/NZS 4020 potable water approved**

Standard Compliance

- UV STABILITY WEATHERING TEST – DIN EN 1297
- WATER VAPOUR PERMEABILITY – ASTM E96-95
- DURABLITY OF MEMBRANES – AS/NZS 4858: 2004 TABLE A1
- TEST FOR PRODUCTS IN CONTACT WITH DRINKING WATER – AS/NZS 4020

Your requirements can be discussed with an Era Polymers Representative to ensure you get the correct coating to meet your needs.

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