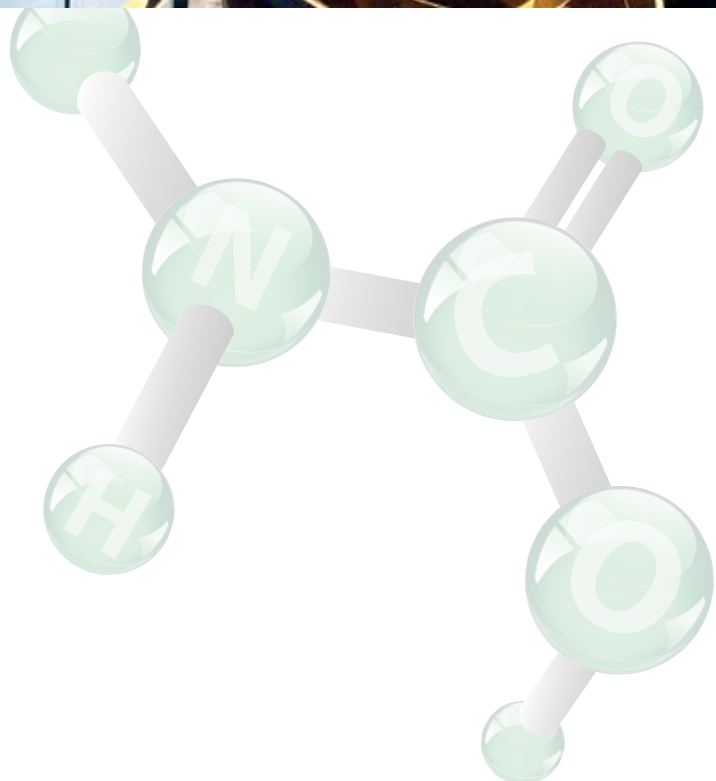




## ELASTOMERIC SPRAY SYSTEMS



# Introduction to Elastomeric Spray Systems

Polyurethane and polyurea elastomeric membranes are exceptionally tough and flexible to compensate for the movement and cracking of substrates – particularly concrete. These versatile linings may be spray applied to metal and concrete containment structures or used on geotextile, creating a chemical resistant membrane. They are 100% solids and VOC compliant.



## 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 the other two chemistries. The main difference between the two

types is polyurea chemistry uses amine polyols in the Part B component. **Era Polymers** manufactures all three types of chemistries, so please be sure to contact your local **Era Polymers** representative for a specific product recommendation based on your application.

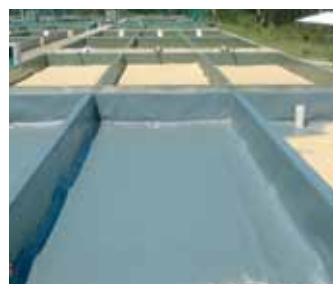
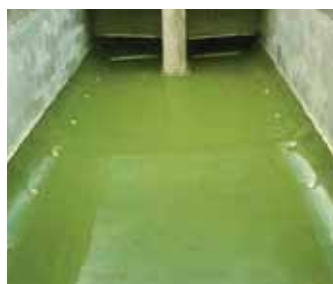
### Physical Property Comparison Polyurea & Polyurethane

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



Sprayable Polyurethanes 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, teamed with fast build for very thick requirements means reduced labour and time, offering 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 Polyurethanes 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?

# Elastomeric Spray Systems

## 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

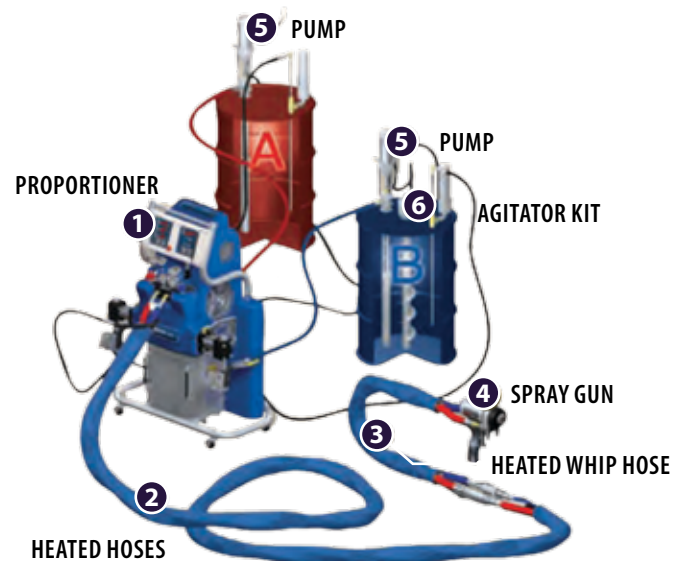
The primer required will depend on the substrate and the final protective coating. ***Era Polymers*** have a large variety of primers and will be able to assist you with the most suitable one for your application.

Once the primer is cured the relevant spray systems can be applied.



## Application

A suitable machine for applying **Eraspray Systems** in any volume would be a Plural-Component Proportioner, such as the **Graco REACTOR model.**



***Era Polymers*** are a Graco Distributor and can assist you with your choice of machine.

## Potable Water

**Eraspray ES900PW** is a Medium Performance, non-solvented, 100% solids spray elastomer with good abrasion resistance. This system is certified in accordance with AS/ NZS 4020 (Testing of products for use in contact with drinking water) so is ideal for potable water applications.



## Aliphatic Coatings

**Eraspray AL550D** is an aliphatic polyether based polyurethane spray system designed for harsh environments where **colour stability** is of prime importance. **Eraspray AL550D** also gives high abrasion resistance so is ideal for areas which are exposed to sunlight but where wear resistance is paramount.



## Polyurea Coatings & Fire Retardant

### *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<sub>2</sub>S) 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.

# Elastomeric Spray Systems

## Slow Set Systems

If your application would benefit from a system with 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 such as a 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 prior to spraying or repairing linings once spraying is complete.

The thixotropy of these systems is sufficient to prevent sagging and therefore makes them an ideal repair material 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; the main difference between **Eratrowel 83A** and **Eratrowel 93A** is the hardness of the compound.

## Strategic Alliances



Primers and Polyureas  
for specialist applications



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 <sup>3</sup> )
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## 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 ES900PW	90 Shore A	MDI / PPG	2	1 : 1	< 30 sec	120
Eraspray ESM750D	75 Shore D	MDI / PPG / PTMEG	2	1 : 1	< 10 sec	250

## High Performance MDI – Hybrid (Polyurethane/Polyurea)

Eraspray ESP850	85 Shore A	MDI / PTMEG	2	1 : 1	< 30 sec	70 – 100
Eraspray ESP950	95 Shore A	MDI / PTMEG	2	1 : 1	< 30 sec	90 – 100
Eraspray ESP600D	60 Shore D	MDI / PTMEG	2	1 : 1	< 30 sec	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

Futurathane 5041	50 Shore D	MDI /Amine	2	1 : 1	<10 sec	180
Eraspray ESU630D	63 Shore D	MDI /Amine	2	1 : 1	< 20 sec	135
Eraspray ESU950	95 Shore A	MDI /Amine	2	1 : 1	< 20 sec	145
Eraspray ESU500D FR	50 Shore D	MDI /Amine	2	1 : 1	< 10 sec	240

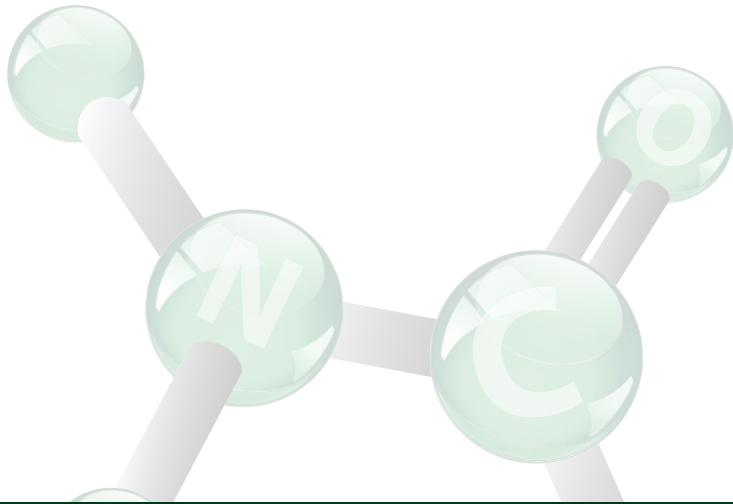
## Aliphatic Coating – Polyurea

Eraspray AL550D	55 Shore D	Aliphatic / PTMEG	2	1 : 1	< 30 sec	125
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## Standard Compliance

■ UV STABILITY WEATHERING TEST	–	DIN EN 1297
■ WATER VAPOUR PERMEABILITY	–	ASTM E96-95
■ DURABILITY 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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