

## A 100% Pure Polyurea Waterproofing System

**Guardian Polyurea** is a 2 component 100% solids polyurea waterproofing system suitable for exposed environments.

### USES & ADVANTAGES

**Guardian Polyurea** is formulated for the waterproofing and corrosion protection of almost all substrates and is used in both commercial building, industrial complexes & infrastructure projects. It is formulated to withstand long term water immersion.

#### Areas of use include in:-

Airport facilities, power plants, marine environments, heavy industry, buildings, parking decks, potable water storage, waste water treatment plants & food processing plants.

#### Advantages include the following:-

- 2 component 1:1 by volume.
- Non toxic odorless and zero VOC.
- Excellent thermal stability, still flexible at low temperatures.
- Good resistance to chemicals.
- Abrasion resistant.
- Suitable for use in contact with potable water.
- 100% solids.
- Solvent free.
- Fast cure.
- High impact, tear, corrosion, abrasion and puncture, resistance.
- High output per day up to 1000 m<sup>2</sup>.

### PHYSICAL PROPERTIES

<b>Chemical Structure:</b>	A = MDI Prepolymer	B = Amine Resin
<b>Standard Colours:</b>	Grey	
<b>Density:</b>	1.00-1.05 g/cm <sup>3</sup>	<b>ASTM D792</b>
<b>Gel/Set Time:</b>	≤ 40 seconds	
<b>Tack-free Time:</b>	≤ 50 seconds	
<b>Recoat Time:</b>	< 12 hrs.	
<b>Tensile Strength:</b>	≥ 18 Mpa	<b>ASTM D412</b>
<b>Modulus:</b>	100% elongation ≥10 Mpa 300% elongation ≥15 MPa	
<b>Elongation:</b>	≥ 500 %	<b>ASTM D412</b>
<b>Hardness:</b>	Shore A ≥ 80	<b>ASTM D2240</b>
<b>Tear Strength:</b>	≥ 60 N/mm	<b>ASTM D624</b>
<b>Pull Off Strength:</b>	concrete : ≥ 2.5 N/mm <sup>2</sup> steel : ≥ 6 N/mm <sup>2</sup>	<b>ASTM D4541</b>
<b>VOC Content:</b>	0 %	<b>ASTM D1259</b>
<b>Solid Content:</b>	100%	<b>ASTM D2697</b>
<b>Crack Bridging Ability:</b>	1 mm	
<b>Taber Abrasion:</b>	< 30 mg (H22, 1000 cycle)	EN ISO 5470-1
<b>Chemical Resistance:</b>		
20% Sulphuric & Hydrochloric Acid (30days)		Good
NAOH 30% (30days)		Good
Oil Resistance (Diesel & Crude)		Good

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### COMPONENT PROPERTIES

	Component A (MDI Prepolymer)	Component B (Amine Resin)
Density @25°C (gr/cm <sup>3</sup> ):	1.11±0.03	1.02±0.02

### PROCESS PROPERTIES

Mix Ratio	
by volume [A : B] :	1 : 1
by weight [A : B] :	1.10 : 1
Process Temperature (°C) :	70-80
Process Pressure (bar):	180-200

### SURFACE PREPARATION

Concrete surfaces should be sound, clean and free of cement laitance. Abrasive blasting will achieve an open texture.

Surface defects must be repaired using a suitable repair mortar from Guardian

All dust and friable material to be removed, vacuum surfaces to remove dust. The pull off strength of the surface should be at least 1.5 N/mm<sup>2</sup> and the moisture content less than 6%.

### PRIMING

Unsound friable surfaces having moisture content <4% shall be primed with **Floorgard Primer 903**. Surfaces containing moisture >4% shall be primed with **Floorgard Moisture Barrier**.

### CONSUMPTION & APPLICATION

Polyurea Coating : 1.00 – 1.05 kg/m<sup>2</sup>/mm. Depends on surface of substrate.

The minimum thickness for abrasion resistance should be 2 mm and for pure waterproofing 1-2 mm.

To build the thickness up allow enough time for the previous coat to become firm. In thicknesses over 3 mm pause for more than 5 minutes every approximately 3 mm.

The product may be top coated within 12 hrs. of applying base coat with a color stable aliphatic polyurea or polyurethane if required.

Apply as soon as possible after the final coat reaches tack free.

Application should be through a plural component high pressure reactor at a minimum of 2000 psi spray pressure with a material temperature of 60-80°C.

A Graco plural reactor may be used.

Prior to application, **Guardian Polyurea** Part B must be stirred using a drill mixer until a homogenous mixture and color obtained.

The min recommended material temperature is 24°C & substrate 10°C. The maximum substrate temperature is 50°C. If in doubt consult Guardian.

Full cure takes up to 24 hours.

Old materials should be sound and lightly abraded.

### PACKAGING

420 kg set.

Part A = 220 kg

Part B = 200 kg

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### STORAGE & SHELF LIFE

Store in a well ventilated warehouse in original closed drums at 20 -25°C. Below 10°C is not recommended protect from frost.

Do not heat the material above 80°C

If stored correctly the shelf life is 9 months in unopened original packaging.

### HEALTH & SAFETY

Refer to advise on the safe handling, storage & disposal of the material in the MSDS available from Guardian

### TECHNICAL SERVICE

**Guardian Coating Service Department** is available to assist you in the correct use of our products and its resources are at your disposal entirely without obligation.

### QUALITY ASSURANCE (OEM)

ISO 9001: 2015 verified by TUV Nord.

ISO 14001 : 2015 verified by Lloyd's Register International.

### DISCLAIMER

Performance data is achieved testing in accordance with International Standards. Testing by others may result in different results from those published as a result of external factors such as poor sampling, incorrect mixing, varying temperatures, curing, crushing procedures etc.

Guardian does not take responsibility nor need to defend others testing that does not achieve the published data.

The user must test the products suitability for the intended application and purpose. Guardian reserves the right to change the properties of the product.

Site conditions and differences in materials are such that no warranty or fitness for a particular purpose, nor liability can be inferred from the published data sheet, written recommendations or from other advise offered