

ArmourCoat® Polyurea PURE High Strength

Pure polyurea – high strength

ArmourCoat® Polyurea PURE High Strength is a high-strength thermoset spray-applied plural-component aromatic polyurea elastomer used as an abrasion, impact, and moisture-resistant coating for multiple substrates. This rapid curing, 1:1 volumetric ratio system is designed to be sprayed with high-pressure plural component spray equipment. ArmourCoat® Polyurea PURE High Strength forms a seamless, monolithic membrane that delivers water and chemical resistance along with superior stiffness and corrosion resistance. Developed with a slower set time, it allows for smoother application finishes and the ability to be applied through cartridge spraying systems or low-pressure machinery. Thickness of the lining will vary depending on the application, typically from a minimum of 500um up to unlimited thickness.

Intended Uses:

Applied using plural component spray equipment with 1:1 direct impingement at a temperature of 70°C or with cartridge / low pressure spraying systems at ambient temperatures.

Cures within seconds, allow rapid return to service, and is relatively moisture and temperature insensitive allowing extended working seasons. It is not a hybrid polyurea, so there is no compromise on performance.

Used for all round applications including but not limited to:

- Secondary containment lining.
- Industrial flooring.
- Roofing liner.
- Water barrier membrane.
- Steel protection in general.
- Abrasion resistance.
- Truck bed liners.
- Pipe & Tank linings interior and exterior
- External waterproofing on water towers and reservoir roofs.
- Lining of sewage digesters.
- Armoured vehicles
- As a hard coat on EPS, PU and other foams

ArmourCoat® Polyurea PURE High Strength with the correct priming system can be applied to steel, concrete, wood, asphalt, and polystyrene. As with all aromatic polyurea coatings, discolouration upon exterior exposure is common. These effects can be masked by using black polyurea or by overcoating the polyurea with an aliphatic coating such as PU DTM Flexi , Polyaspartic Coatings or other flexible aliphatic polyurethane within the set out overcoating window.

Features & Benefits:

- 100% solid, zero VOCs, no solvents
- Provides a smooth glossy surface, can be textured by adjusting the spray technique
- High performance pure polyurea technology.
- Excellent bond
- Excellent chemical resistance and corrosion resistance
- Excellent waterproofing properties
- Excellent ballistic properties
- Fast set, walk on in seconds.
- Excellent physical properties – thermally stable to 150°C.

Physical Properties:

Shore A Hardness	92
Shore D Hardness	45
Gel Time (s)	20 seconds at 25°C
Tack Free Time (s)	5 minutes at 25°C (material temperature)
Temperature Resistance (°C)	95°C
Density Comp. A (isocyanate)	1.15
Density Comp. B	1.00

Technical Data:

Colour	Black or Grey
Type	Pure polyurea
Density @ 25°C	1.11 Kg/ Litre – Comp. A (ISO) 1.05 Kg/ Litre – Comp. B (POL)
Volume Solids	100%
Typical Film Thickness	0.5 mm to 5mm per coat
Theoretical Coverage	1 m²/ Litre @ 1mm DFT
Method of Application	Plural component heated spray
Processing Temperature	Min 70°C for high pressure
Mixing Ratio	1 : 1
Pack Size	40 & 400 Litre, or 1.5lt Cartridges
Cure Walk On @ 1.5mm	10 minutes @ 20°C
Cure Light Duty @ 1.5mm	4 hours @ 20°C
Cure 80% @ 1.5mm	1 day @ 20°C
Cure 100% @ 1.5mm	4 days @ 20°C
Recoat Time Minimum	4 minutes @ 20°C
Recoat Time Maximum	4 hours with re-activation
Over 4 Hours Recoat	Abrade, de-dust & re-prime with 2K PU SF Primer or 1K PU Primer

Surface Preparation:

As with quick cure coatings, the rapid setting of polyurea systems can sometimes limit the wetting and penetration of the substrate surfaces. This in turn can affect the mechanical bonding. For this reason, end users are advised to test the adhesion of sprayed elastomer films on target substrates to assess the coating bond, where necessary, the use of surface primers may be required.

ArmourCoat® Polyurea spray systems should only be applied to clean, dry, and sound surfaces. Remove grease and loose rust, or any other foreign material to ensure adequate adhesion.

Concrete:

The concrete shall be completely cured, minimum 28 days. Laitance, release agents and salts need to be removed by high pressure water jetting or sandblasting. Other substrates cleaning guidelines can be consulted via SSPC-SP13, NACE 6.

2K PU SF Primer, 1K PU Primer or Epoxy SF Primer Fast Cure is needed to achieve adequate adhesion. Recoat windows MUST BE STRICTLY ADHERED to.

Metal/Steel:

The metal surface needs to be prepared by means of abrasive blast cleaning. The surface profile will ensure adequate mechanical adhesion. Solvent cleaning is needed to remove oil and grease.

INDUSTRIAL PROTECTIVE COATINGS: ABRASION & WEAR RESISTANCE

Whilst we endeavour to ensure that all advice we give about the product is correct, the information given in this data sheet is not intended to be exhaustive and any person using the product for any purpose other than that specifically recommended in this sheet without first obtaining written confirmation from us as to the suitability of the product for the intended purpose does so entirely at his own risk. As conditions of use, method of application and suitability of the substrate prior to painting are beyond our control, no guarantee is implied by the recommendations contained herein. We therefore do not accept any liability whatsoever or howsoever arising from the performance of this product or for any loss or damage arising out of the use of this product. The information contained in this sheet is liable to modification from time to time in the light of experience and ongoing product development programmes. It is the user's responsibility to ensure that this sheet is current prior to using the product

If a primer is going to be applied, it should be done within 4-8 hrs after sandblasting to prevent any flash rusting.

Application:

Application	Prior to commencing the use of the product, ensure that the two components are stored at a temperature no lower than 20°C, a temperature of around 25°C is preferable and can be achieved by storage in a heated room or electrical jacket heaters. The B Component should be power mixed prior to use. Suitable dispensing equipment is required in order to apply this product. Equipment must be capable of delivering product at between 120 – 320 bar, accurately metering the two components in a fixed 1:1 ratio by volume. The machine should have an output adequate to match the highest projected output from the gun to be used, typically a minimum of around 1 – 4 Litres/minute. It must also be capable of controlling component temperatures independently along the length of the hoses up to the gun coupling block to around 70°C. The spray gun must use high pressure impingement to achieve satisfactory mixing of the components immediately on triggering, consult with Specialized Coating Systems to discuss suitable equipment. To achieve an even finish during application the gun should be held at right angles to the substrate at 30 – 70 cm and multiple passes at 90° to one another are favoured to produce each coat. Exact distance can depend on pressures and gun output. Review the appropriate methods statement for detailed application instructions.	
Thinner	DO NOT THIN	
Cleaner	MEK Thinner	For dry paint & equipment
Work Stoppage	Do not allow material to remain on application equipment after use, thoroughly flush and clean all equipment with MEK Thinner. Equipment can then be deep cleaned and flushed with DOP or Messamol.	
Clean Up	Clean all equipment immediately after use with MEK Thinner . It is advisable to periodically flush out spraying equipment during the course of the working day. Frequency of cleaning is dependent upon the amount applied, temperature and elapsed time. Work strictly in accordance with the specified pot life of the material.	

Limitations:

- Use in well-ventilated areas - supply air extraction during curing process.
- This coating will chalk. fade after exposure to sunlight. This will not affect the performance of the coating.
- Material (in closed containers) should be maintained in protected storage in accordance with information given in the STORAGE section of this data sheet.
- Technical and application data herein is for the purpose of establishing a general guideline of the coating application procedures.
- Test performance results were obtained in a controlled laboratory environment and Specialized Coating Systems makes no claim that the exhibited published test results, or any other tests, accurately represent results found in all field environments. As application, environmental and design factors can vary, due care should be exercised in the selection and verification of the performance and use of the coating.

Storage:

- Shelf Life: 12 months at 25°C from date of manufacture. Subject to inspection thereafter.
- Store in dry conditions out of direct sunlight, away from sources of heat or ignition.

Precautions:

For complete safety and handling information please refer to the appropriate Safety Data Sheets prior to using this product.