QUICK SPRAY AROMATIC HYBRID POLYUREA COATING

VX Guardian Polyurea Hybri is a fast-setting, premium, hybrid two-component 100% solids coating/elastomer, derived from the reaction of an isocyanate pre-polymer and an amine-terminated resin blend with polyurethane. This hybrid polyurea is specifically designed to protect and coat various surfaces. It is relatively insensitive to moisture and temperature variations. The product reacts within seconds and, once cured, forms a flexible, durable, and tough surface. It is highly effective as a primary or secondary containment coating, whether applied over concrete, steel, earth, or geotextile fabric

VX Guardian Polyurea PureSeal (spray) is a specially formulated system for repair and maintenance of coated surfaces, as well as for smaller applications. It can now be applied using a standard Greenseal Polyurea spray machine.

FEATURES

- Extremely fast reactive and cured
- Cost effective hybrid
- Seamless and joint less coating and lining, maintains flexibility
- 100% solids, no solvents, VOC-free, no odor,
- Resistant to most chemicals, solvents, acids and caustics
- Excellent corrosion protection, low permeability, saltwater resistant, good outdoor weathering.
- High impact & abrasion resistance, resilient, will not crack or check
- Thermal stability, low temperature flexibility, takes high radiant heat
- Excellent tensile and structural strength, high elongation at break
- Exceptionally good adhesion to concrete, steel, aluminum, plastics, fiberglass, wood, foams etc
- Almost immediate return to service time

TYPICAL USES

- Repair of existing coatings
- Truck bed lining
- Load areas on vehicles (inside & outside)
- Loading ramps
- Truck flooring and transporter flooring
- Tank lining (inside and outside)
- Swimming Pool Application
- Corrosion protection, structural protection for hard wear and tear
- Model building & prototyping
- Underbody coating against stone chips
- Corner protection and overhaul
- Roof waterproofing

PRODUCT PROPERTIES

Precessing Properties	Data EU
Mix Ratio	1:1 (volume)
Theoretical Coverage	1 L / 1 m² / 1 mm thickness (1 : 1 : 1)
Thickness range	1 – 2 mm and over
No. of Coats	1 – 2
Max thickness per coat	unlimited
Recoat time	0 – 12 hr
Gel time (working time)	8 – 15 sec
Tack	20 – 30 sec
Cure time	1 hr/90%; 7 days / 100%
Ambient temperature	+5°C to 50°C
Surface temperature	> 5°C
Processing temperature	Ideally 70°C

Physical Properties	Data EU (DIN)
Chemical base: Amine (A) Isocyanate (B)	 Pre-polymer Amine
Solids	100%
Solvent	no
VOC	0 g/l
A : Viscosity @ 23°C B : Viscosity @ 23°C	600 +/- 20 mPa.s 550 +/- 20 mPa.s
A : Density @ 23°C B : Density @ 23°C	1g/cm³ 1g/cm³
Shore Hardness (A) – ASTM D 2240 @24h/23°C/50%rh	75 - 80
Thermal stability	-30°C to 120°C

Tensile strength	>16 (+/-1) MPa (N/mm^2)
Elongation	>400%
Change in volume	< 1%
Shelf conditions	Room temperature (18°C – 23°C)
Shelf life	12 months @ 20°C / 50%rh
Colour	Black, grey or color on request

SURFACES PREPARATION

In general all surfaces must be dry, clean and free of oil, grease, dust and other contaminants. Priming is always recommended after mechanical preparation, since the surface coatings can be attributed to poor surface preparation.

POLYUREA COATINGS

It is recommended to abrade the damaged areas of the existing coating and chemically reactivate them using MEK (Methyl Ethyl Ketone), NEP, or similar solvents. After reactivation, clean the surface thoroughly with Acetone or an appropriate cleaning agent.

CONCRETE

Concrete must have a 28 days cure prior to application. Remove any curing agent, from release material, oil, wax, moisture or any material that may affect bonding. Clean and wash to remove contaminants and maintain 5% residual moisture.

Perform a moisture vapor test before making the coating application on concrete. Provide rough profile minimum of 60 to 80 mil (1.5 to 2 mm). Seal / repair all bug holes, cracks and spills. Use brush blast techniques to remove loose or weak concrete.

STEEL, CAST-IRON

Metal surfaces must also be free from any residues. To achieve optimal bonding on metal, sanding or scuffing of the original paint finish is required. Use a 40-grit sanding disc with a power tool or 80–100 grit sandpaper for manual sanding

PRIMER

A primer is always recommended to fill voids, potholes, or bug holes and to enhance adhesion properties. The surface must be free of dust before application.
Film may be applied using airless sprayer, brush or core roller. Thickness of dry film is approximately 3- 4 mil per coat. Allow primer to become tack-free before applying the coating.

For best results, “VX Carbon Primer” is recommended for concrete surfaces to prevent flash rusting.

EPOXY PRIMER COATING

It is recommended to use 'VX Carbon Primer,' a high-quality, two-component primer available in 5 kg and 20 kg packaging. Mix Part A and Part B for 3 minutes before application.

- Thoroughly clean the surface area, free of oil, grease, paint and loose dust, mud and laitance and hose down the area thoroughly.
- VX Carbon Primer should be applied by brush or roller with coverage area 1 litre to 5-10m^2.

TOPCOAT

A topcoat is required to protect the applied polyurea surface from UV radiation, which can cause discoloration and degradation over time.

For optimal protection against UV radiation, it is recommended to apply two coats of 'VX Guardian Topcoat' on the polyurea surface after it has fully dried.

VX Guardian Topcoat

It is recommended to use 'VX Guardian Topcoat,' a high-quality, two-component topcoat available in a 20 kg set package (Part A: 16 kg, Part B: 4 kg), and mix for 3 minutes to ensure thorough mixing of the product.

- Ensure all surfaces are clean and free from dirt, oil, grease, efflorescence, fungi growth, loose particle and laitance.
- Repair the surface if necessary. Ensure the application surface is level, with no unevenness or depressions. Apply VX Guardian Topcoat at a rate of 0.25 kg/m^2 per coat using a brush, roller, or airless spray. A two-coat application is required

APPLICATION

PRECONDITIONS

The temperature of the components should be at least 30°C before application. The surface temperature should be between +5°C and 50°C, ensuring it remains above the dew point. Especially at higher temperatures and/or high humidity, the surface temperature should be at least 3°C (37°F) above the dew point during application.

VX Guardian Polyurea PureSeal (spray) can be applied in one or multiple layers to achieve the desired film thickness. The material is applied using the crossover method, even on vertical surfaces and ceilings. Be cautious of light overspray!

SPECIAL INSTRUCTIONS

Do not spray onto wet surfaces. For best results, always use a primer or a primer/moisture barrier where applicable. Preheat the component up to 70°C, depending on the surrounding temperature and working conditions.

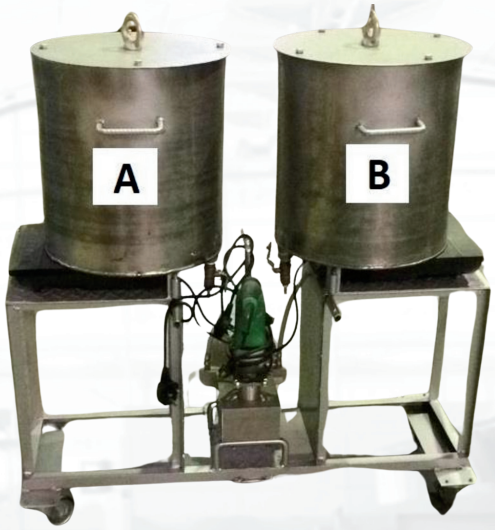
STORAGE

VX Guardian Polyurea Hybrid can be stored in its original container for up to 12 months from the date of manufacture. Protect from frost and direct sunlight. Cartridges should be stored on shelves or pallets at room temperature (18°C – 23°C) and not directly on the floor.

RECOMMENDED MACHINERY

VX Guardian Polyurea PureSeal (spray)
Machine with Heating Mantle

Designed for applying polyurea and other coatings that require high pressure and temperature, the heating mantle provides a steady supply of heat to the polyurea components, enhancing the spraying process. The heaters quickly heat the materials and maintain the set temperature at key points, even when spraying at maximum flow rates.



RECOMMENDED MACHINERY

As a precaution, it is recommended to wear protective gloves and goggles when handling this product. Always ensure proper ventilation in basements or enclosed areas. If ingested, do not induce vomiting; seek medical attention immediately. In case of eye contact, rinse thoroughly with plenty of water. For skin contact, wash the affected area with soap and water. Change into clean clothes and shoes, and thoroughly wash contaminated clothing and footwear before reuse