

Deckrete Polyguard STX

High Chemical-Resistant Polyurethane Protective Coating

Description

Deckrete PolyGuard STX is a high-build, chemical-resistant polyurethane coating formulated to protect concrete and steel structures in sewerage plants, effluent treatment facilities, manholes, pump rooms, and chemical holding areas.

It forms a dense, seamless, impermeable membrane with superior resistance against:

- Hydrogen Sulfide (H₂S)
- Sewer gases
- Organic acids
- Industrial contaminants
- Biological corrosion (MIC – Microbially Induced Corrosion)

Designed to extend the service life of wastewater infrastructure, Deckrete PolyGuard STX provides long-term protection in highly corrosive and permanently wet environments.

Features & Benefits

- Excellent **chemical resistance** to acids, alkalis, detergents & sewer gases
- Highly resistant to **H₂S & MIC attack**
- Seamless, pinhole-free protective barrier
- Strong adhesion to concrete & steel
- Flexible membrane to accommodate movement
- Resistant to constant **immersion**
- Suitable for **internal tanks & wet wells**
- Excellent abrasion & impact resistance
- Easy application by roller, brush, or spray
- Optional **anti-slips** finish for wet areas

Recommended Uses

- Sewerage Treatment Plants (STP)
- Effluent Treatment Plants (ETP)
- Industrial wastewater channels
- Manholes, inspection chambers
- Pump room & sludge tanks
- Clarifiers, aeration basins
- Digesters, bioreactors
- Lift stations & wet wells
- Concrete and steel tanks

Technical Properties

Property	Typical Value
Appearance	High-build PU Coating
Solid Content	70-85%(ETP/STP grade)
Mixing Ratio	A : B = 4 : 1
Pot Life	25 – 40 minutes @25°C
Tack-Free	3 – 4 hours
Immersion Cure	48 – 72 hours
Full Cure	7 days
Hardness (Shore D)	65 – 80
Tensile Strength	10 – 18 MPa
Elongation	80 – 120%
Adhesion to Concrete	>2.5 MPa
Chemical Resistance	Excellent (list below)
Recommended DFT	250 – 500 microns per coat
Coverage	0.4 – 0.7 kg/m ² per 300–500 μm

Chemical Resistance

Deckrete PolyGuard STX is resistant to :

- Hydrogen Sulfide (H₂S gas)
- Sulfuric acid (diluted & moderate concentrations)
- Ammonia & ammonium salts
- Sodium hypochlorite
- Sewage bacteria & organic acids
- Alkaline cleaning agents
- Industrial effluent contaminants
- Petrochemicals, oils & greases

Surface Preparation

Concrete

- Compressive strength ≥ 25 MPa
- Moisture < 4%
- Remove laitance, grease, contaminants
- Achieve CSP 2 – 4 profile by grinding or blast cleaning

Steel

- Blast to SA 2.5
- Remove rust, scale & contaminants

Priming

Use one of the following primers :

- Deckrete EP Epoxy Primer
- Deckrete PU Primer

Application

1. Apply using roller, brush, or airless spray
2. Recommended system:
 - Primer coat
 - 2 x Deckrete PolyGuard STX high-built coats
3. For heavy chemical zones, use 3 coats (750–1000 µm total)
4. Avoid coating during rain or high humidity (>85%)
5. Ensure adequate ventilation in enclosed tanks

Limitations

- Do not apply over surface with active moisture or hydrostatic pressure
- Do not dilute unless approved by Topkrete Technical Department
- Ensure proper curing before immersion

Packaging

- 5 kg set
- 20 kg set

Storage & Shelf Life

- Store in original, unopened containers
- Keep in dry, shaded area at 5 -35°C
- Shelf life : 12 months

Safety & Handling

- Use gloves, goggles and respirations in confined spaces
- Avoid inhalation of vapours
- In case of skin contact, wash with soap & water

Disclaimer

The information provided is based on laboratory tests and field performance. Deckrete PolyGuard STX should be tested on-site for suitability under actual conditions. Topkrete reserves the right to modify the product without prior notice

Additional Information

Topkrete manufacturers and offers a wide range of complementary products which includes waterstop, waterproofing products, grouts, anchors, specialized flooring products. In addition, a wide range of products formulated for repair and refurbishment of spelled concrete are available.

Warranty

Topkrete Sdn Bhd warrants that the products manufactured by it shall be free from material defects and will conform to formulation standards and contain all components in their proper proportion. Should any of the products be proven defective, the liability to TOPKRETE SDN BHD shall be limited to replacement of the material proven to be defective, and TOPKRETE SDN BHD shall in no case be liable otherwise or for incidental or consequential damages. **TOPKRETE SDN BHD MAKES NO WARRANTY AS TO MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE AND THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES EXPRESSED OR IMPLIED.** User shall determine the suitability of the product for its intended use and assume all risks and liability in connection therewith.

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