



# EpiMax 655AR

## Wastewater Treatment Facility Protection System

### Description

EpiMax 655AR is a two component solventless, heavy duty novolac coating system designed for application to final thicknesses ranging from 800 microns through to 3 mm (3000 microns). The use of EpiMax 655AR in the wastewater facility environment provides fast, in-situ renewal, without affecting services.

Sulphide-rich effluents, a warm, humid environment and long retention times create the perfect conditions for Microbiologically Induced Corrosion (MIC). MIC, a result of an acid-producing bacteria known as thiobacillus, is the principal cause of corrosion in municipal sewer systems. These microorganisms metabolize elemental sulphur oxidized from hydrogen sulphide sewer gas and produce sulphuric acid as a waste product which then attacks the substrate. This sulphuric acid will quickly destroy ordinary concrete-based materials in a municipal sewer system.

Wastewater manholes are under constant attack from MIC, traffic loading and groundwater infiltration. In many cases, the manholes are located in the middle of busy streets, making them impossible to replace without costly pavement repairs and traffic disruption.

This system provides seamless chemically resistant protection with excellent mechanical properties and is suitable for the protection of a great variety of concrete and steel surfaces. It provides outstanding resistance against impact and wear and permanent adhesion to prepared surfaces under dry and wet exposure conditions. EpiMax 655AR is built on a further development of the well established chemical backbone of EpiMax 333AR High Build Acid Resistant Coating system.

EpiMax 655AR is applied using industry standard mix-in-head or near head plural component airless spray equipment of sufficient capacity.



### Advantages

- Prevents exfiltration and infiltration
- Provides structural reinforcement to prolong life
- Flows maintained during procedure
- Clean operation as no excavation/digging is required
- Cures quickly at high strengths for a speedy return to service
- Can be completed within 3-6 hours - minimizes above ground disruption

### Typical applications

- Manholes
- Launderers and clarifiers
- Oxidation ditch systems
- Sludge tanks
- Preliminary treatment areas
- Bio reactors
- Effluent pump stations
- Large diameter pipes
- Wet wells
- Odour control bunds
- Primary settling tanks
- Pump stations

### Typical properties

- Shelf life: 2 years
- Set to touch time: 2 hours at 25°C
- Full cure: 24 hours at 25°C
- Tensile strength: 65 MPa
- Compressive strength: 91 MPa
- VOC content: GBCA rated
- Tamper resistant: 4 hours at 25°C
- Adhesion: primerless and exceeds concrete tensile strength
- Vertical application thickness: up to 3 mm per pass
- Excellent wastewater effluent resistance

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### **Chemical resistance**

Hydrogen sulphide (H<sub>2</sub>S) generation in wastewater treatment facilities is always been present. It causes corrosion in the form of sulphuric acid attack of concrete in sewer collection/treatment systems. Gaseous H<sub>2</sub>S condenses on aerated, wet concrete surfaces; is metabolised by sulphur-oxidising bacteria and is oxidised to form dilute sulphuric acid (H<sub>2</sub>SO<sub>4</sub>).

EpiMax 655AR is resistant to a wide range of chemicals in the wastewater environment.

### **Estimating data**

540 ltr EpiMax 655AR = 540 m<sup>2</sup> (assumes 1 mm dft)

### **Surface preparation**

Concrete should be at least 28 days old. Ensure the surface is clean, dry and free of additives, curing agents, oils, etc.

Prepare by acid etching/neutralising/washing, professional grinding or captive blast cleaning as applicable to expose firmly adhered aggregate. Allow to dry if wet. Always confirm preparation adequacy. Surface profile should exceed CSP 5.

Steel should be abrasive blast cleaned to AS 1627 Part 4 - 2005 to class 3 white metal and achieve profile height minimum 75 - 100 microns.

### **Airless spray application**

Typical component set up:

- 1 70:1 Graco Xtreme airless
- 2 12.5 mm ID x 7.5 m - 15 m, 500 bar (7,250 psi) rated airless hose
- 3 6 mm ID x 2 m 500 bar (7,250 psi) rated whip hose
- 4 Gun, tip size: 631 (0.031" orifice, 30 cm fan pattern)
- 5 Supply pumps
- 6 Agitator (as required)

Note: Typical inlet air pressure is 7 bar (100 psi) and spray pressure 400 - 480 bar (6,000 to 7,000 psi).



### **Packaging**

EpiMax 655AR is available in 540 litre packs (includes Hardener & Compound). It is pre-packaged in correct proportions for immediate use.

Ordering Information: EpiMax 655AR 540 litre # 9065720

### **Safety precautions**

Read **Material Safety Data Sheet** before commencing any application. Keep away from children. Avoid contact with skin and avoid breathing vapour. Always provide adequate personal protection (gloves & goggles etc) during use. Always provide adequate ventilation, especially in confined spaces. If poisoning occurs, call Doctor or Poisons Information Centre.

Phone 13 11 26. If swallowed, DO NOT induce vomiting. Give plenty of water or milk. If skin contact occurs, quickly remove contaminated clothing and wash affected areas thoroughly with soap and water.

TDG Code, EpiMax 655AR: Hardener - UN 1760. Compound - Not Classified