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KING-GUARD FLEX® 5000F

Spray Elastomeric Polyurea



Heavy Duty—Universal Elastomer Coating System

KING-GUARD FLEX® 5000F

A 100% solids, fast-set, two component high performance spray polyurea elastomer coating.

Product Description

KING-GUARD FLEX® 5000F is an ultra rapid curing spray applied polyurea elastomer coating and lining system, offering a high degree of mechanical and chemical protection for concrete and metal surfaces in aggressive environments. Typical application thickness is 2-3mm.

KING-GUARD FLEX® 5000F is a premium performance elastomeric coating for the preservation and repair of surfaces which may have been damaged or degraded by chemical attack, time or mechanical wear. It has excellent hydrolytic stability and is resistant to low concentrations of acids, alkalis, diesel fuel, seawater, moderate abrasion, sunlight and high temperatures.

KING-GUARD FLEX® 5000F is a 100% solids, two-component, 1:1 ratio material with elongation properties exceeding 400% and tensile strengths exceeding 15 MPa.

KING-GUARD FLEX® 5000F is applied using a plural component heated spray system with an effective pot life of 2 - 4 seconds. This product can be applied in temperatures ranging from -10°C to 50°C and can be utilized within 30 minutes (light duty traffic / water immersion).

KING-GUARD FLEX® 5000F meets AS 4020:2005 Criteria - for use in potable water structures.



Advantages

Advantages of sprayed King-Guard Flex® 5000F coating include:

- Fast cure
- Elastomeric - crack resistant
- High impact resistance
- Very good chemical resistance
- No VOC's and minimal odour
- Reduced maintenance down-times



Recommended Uses

King-Guard Flex® 5000F is recommended as a durable, high performance protective coating and lining system in a wide range of industries. Some suitable applications may include:

- Concrete potable water tank linings
- Waterproofing rooftops
- Below grade waterproofing
- Manhole chambers and sewer linings
- Seamless secondary containment linings
- Fuel storage bund linings
- Earthen pond linings
- Irrigation canals
- Tunnel and pipe linings
- Retaining walls
- Outdoors ponds & planter boxes
- Sports stadium waterproofing

Chemical Resistance (7 Days Immersion Exposure - Guide Only)

| | | | |
|-------------------------------|-----------------------------|-----------------------------------|-----------|
| Hydrochloric Acid 10%: | Resistant | Diesel Fuel: | Resistant |
| Sulphuric Acid 20%: | Resistant | Heavy Duty Detergent: | Resistant |
| Sulphuric Acid 30%: | Splash & spillage, < 48 hrs | Sodium Chloride (all conc.) 60°C: | Resistant |
| Phosphoric Acid : | Resistant | Water, de-ionized: | Resistant |
| Sodium Hydroxide 20%: | Resistant, discolouration | Liquid Nitrogen Fertilizer: | Resistant |
| Sodium Hydroxide 50% @ 60°C : | Secondary containment only | Hydrogen Sulphide Gas: | Resistant |

Physical Properties

| | |
|--|------------------------------------|
| Gel Time | 2 - 4 seconds |
| Tack Free Time | 20 - 25 seconds |
| Light duty foot traffic | < 0.5 hours |
| 90% Cure @ 25°C | 12 - 16 hours |
| Tensile Strength, [N/mm ²] ASTM D-638 | > 15 |
| Tensile Elongation, % | ≥ 400 |
| Shore Hardness, D | 50 ± 5 |
| Density [kg/litre] | 1.05 |
| Thermal Resistance (dry) | minus 40 – 120°C |
| Taber Abrasion Resistance, ASTM D-4060 (CS 17 wheel, 1000 cyc, 1kg) | < 6mg loss |
| Water Vapour Permeability, ASTM E 96 | 0.00042 gm/hr/in ² |
| Resistance to Weathering, ASTM G-23 (Type DH weatherometer - 3000 hrs) | No cracking, blistering or flaking |

Surface Preparation

Concrete

Concrete/ masonry surfaces to be high pressure water or sweep abrasive blasted to remove all traces of dirt, laitance and other contamination. Prime/fill imperfections in the substrate surface to limit out-gassing.

Remove all existing coatings by most efficient method available. Only well bonded, profiled, compatible coatings may remain.

Vacuum to remove loose dust etc, prior to application of primers.

Carbon Steel

Steel substrate surfaces to be abrasive blasted to AS 1627.4 Class 2.5 - 3 and adequately profiled (consult Asset Systems). Avoid flash rusting prior to priming.

Soluble salts must be removed to an acceptable level for the coating/lining application.

Primers

An adhesion promoting primer system is required for both metal and concrete substrates. Consult Asset Systems for advice.

Application

The King Guard Flex® 5000F is applied using specialist 1:1 plural component, heated, high pressure spray equipment.

Cure Time

Applications in cold temperatures will require longer cure times. For rapid return to service applications, consult Asset Systems for advice.

| | 10 - 21°C | 21 - 32°C | 32 - 43°C |
|---------------------------|-----------|-----------|-----------|
| Tack Free | <30 sec | <30 sec | <30 sec |
| Hard Film | <1 min | <1 min | <1 min |
| Recoat (max) | 6 hr | 6 hr | 6 hr |
| Light Foot Traffic | 10 min | 10 min | 10 min |
| Water Immersion | 10 min | 10 min | 10 min |
| Full cure | 4 days | 3 days | 2 days |

Consult Asset Systems for specific over-coating instructions. Surfaces may require additional preparation/priming.

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