Epoxy Intumescent Coating FIREMASK 3500

DATA-SHEET

Two component, solvent free, fast curing, high performance epoxy intumescent fire protection coating system. The product is a high build material providing excellent durability and combined corrosion and hydrocarbon fire protection.
Fully tested and certified by Underwriters Laboratories(UL) / UL1709 (Design No. XR648)

Recommended use	For use in the onshore oil, gas, petrochemical and power generation. For the protection of steel structures from the effects of hydrocarbon pool fire.

Physical Properties

Finish and Color	Flat, Medium Grey
Specific gravity	Approx. 1.0 ~ 1.3 (affected by spray condition)
Solids by volume	Approx. 100 % (in accordance with ISO 3233)
Spreading rate (Theoretical)	Depends on protection required, the thickness of coating varies(according to certification), resulting in a change in the theoretical spreading rate
Flash point	FIREMASK 3500 PTA : 106 ℃ FIREMASK 3500 PTB : 106 ℃

Application details

Surface preparation	* All surface to be coated should be clean, dry and free from dust, oil and grease, other contaminants. * Prior to paint application all surfaces should be assessed and treated in accordance with ISO 8504:2000. - Blast cleaning : SSPC-SP10 or Sa2½ (ISO 8501-1:2007) - Profile requirements : more than 50㎛
Preceding coat	Selected primers or priming systems must have completed the primer qualification procedure from KCC and feature on KCC paint published primer list. The preferred system shall be Korepox Primer EP170QD at a thickness not exceeding 2 mils(50㎛). *** Inorganic zinc rich primer is not recommended.**
Method of application	Plural component airless spray is recommended and preferred. *Operation parameters for Plural component hot airless spray equipment

Storage tank temperatures	Part A : Max. 60℃ Part B : Max. 60℃
In-line heater temperatures	Part A : 50 ~ 60℃ Part B : 45 ~ 55℃
Hose heater temperature	50 ~ 60℃
Gun exit temperature	55 ~ 60℃
Displacement pump pressure	175 ~ 240 bar (2,500 ~ 3,500 psi)
Spray tip nozzle size	0.031" ~ 0.041"

*The details of twin component spray tip orifice size, fan angle and pressure are given as a guide only.

	1. Application process ① All surfaces to be coated should be clean, dry and free from contamination. ② The first coat of FIREMASK 3500 is sprayed and quickly trowelled into the surface to ensure good wetting. ③ The subsequent coat is sprayed and mesh reinforcement should be installed at mid-depth of coating in accordance with specific fire design as detailed in the FIREMASK 3500 Application Guidelines and thoroughly rolled with short nap roller. ④ The subsequent coat is sprayed and trowelled into the surface to ensure good wetting and even thickness. Once trowelled, trowel marks and high points are knocked down with a short nap roller dampened with a small quantity of the Epoxy Thinner XX0432A. The purpose of this rollong is to achieve a uniform thickness and a smooth finish of the coat.
Mixing	PTA : PTB = 2.5 : 1 (by weight)
Thinning	No dilution.
Application conditions	The surface must be completely clean and dry. **Do not apply when relative humidity is above 85% and velow 10℃.** The surface temperatures must be at least 3℃ above dew point tp prevent condensation. At application temperatures below 10℃, drying and curing times will be significantly extended. Application at ambient air temperature below 5℃ is not recommended. If application needed for other shapes except H or I-section structures, consult KCC.
Film thickness	Refer to UL1709 certification (Design No. XR648). * Reinforcing Mesh(designated Type : NEXWEB) shall be applied over the flange tips at at approximately mid-depth of the total thickness of intumescent coating.
Drying time	<table><tr><th>Substrate Temperature</th><th>10℃</th><th>25℃</th><th>40℃</th></tr><tr><td>Set to touch</td><td>8 h</td><td>4 h</td><td>2 h</td></tr><tr><td>Dry hard</td><td>17 h</td><td>15 h</td><td>6 h</td></tr><tr><td>Recoating interval</td><td>17 h</td><td>15 h</td><td>6 h</td></tr></table> ※ The actual drying time is subject to the film thickness, ventilation, humidity,etc., and drying time under other temperature conditions must be checked and informed from us.
Subsequent Coat	Recommended top coat : KORETAN Topcoat UT6581(K1), KORETHANE Enamel UT2578 Apply KCC top coat after at least 14 days (Winter season) or 7 days (Summer season) passes from the final coating of FIREMASK 3500.
Pot life	<table><tr><th>15 ℃</th><th>25 ℃</th><th>Remark</th></tr><tr><td>110 mins</td><td>80 mins</td><td>Only for trowel application</td></tr></table>
Recoating interval	The best time to overcoat FIREMASK 3500 with itself is 'wet on wet' or with in 12 hours of application and before the coating has had any chance to become contaminated. Where FIREMASK 3500 is to be overcoated with recommended top coats, the following obercoating intervals will apply; At 25℃, below 85% R.H, under well-ventilated condition - Minimum : 15 hours - Maximum : 1 week

Storage and package

Shelf life	12 months
Storage	Store in dry, well-ventilated place, 5 ~ 30℃
Packing Unit	50 kg Kit (FIREMASK 3500 PTA : 17.9kg X 2EA, FIREMASK 3500 PTB : 14.2kg X 1EA)

Remarks

Handling Precautions	***Intended use : Only structural steel** Avoid the cause of fire and direct sunlight during storage. Protect skin and eyes, and avoid prolonged breathing of other solvent vapors. Use with adequate ventilation. Respiratory protection is recommended when applying in confined spaces or stagnant air.
Note	This product is intended for use only by professional applicators in industrial situation in accordance with the advice given on this sheet, the Material Safety Data Sheet(MSDS) and the container(s), and should not be used without reference to the MSDS which KCC has provided to its customers. All work involving the application and use of this product should be performed compliance with all relevant national Health, Safety & Environmental standards and regulations. In the event welding or flame cutting is performed on metal coated with this product, dust and fumes will be emitted which will require the use of appropriate personal protective equipment and adequate local exhaust ventilation. If in doubt regarding the suitablility of use this product, consult KCC for further advice.
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