



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 cellulosic fire protection. FIREMASK 3003 is approved with its superior heat insulation ability by Korea standard test for 3 hours intumescent coating under license of Korea Institute of Civil Engineering and Building Technology.

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| Recommended use | Middle coat in fire-proofing coating system to provide fire protection for plants or facilities having steel structures |
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Physical Properties

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| Finish and Color | Flat, Medium Grey (PTA : Grey, PTB : White) |
| Specific gravity | Approx. 1.0 ~ 1.3 (according to spray conditions) |
| Solids by volume | Approx. 100% (in accordance with ISO 3233) |
| Spreading rate (Theoretical) | *Beam : 0.0694 m ² /L for 14.40 mm dry film thickness on a smooth surface. *Column : 0.0699 m ² /L for 14.30 mm dry film thickness on a smooth surface. |
| Flash point | *PTA /PTB : above 100 °C (closed cup) |

Application details

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| 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 50µm | |
| 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 EP170 at a thickness not exceeding 2 mils(50µm). * 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°C Part B : Max. 60°C |
| | In-line heater temperatures | Part A : 50 ~ 60°C Part B : 45 ~ 55°C |
| | Hose heater temperature | 50 ~ 60°C |
| | Tank stirrer speed | Part A : Min. 20 rpm Part B : Min. 15 rpm |
| | Gun exit temperature | 55 ~ 60°C |
| | 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.
Both PTA and PTB are needed pre-heating to a minimum temperature of 60 °C while re-circulating through the unit, so that satisfactory spray application conditions are obtained.

1. Application process

- ① All surfaces to be coated should be clean, dry and free from contamination.
- ② The first coat of FIREMASK 3003 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 3003 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.

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| Mixing | PTA : PTB = 2.5 : 1 (by weight) | | | |
| Thinning | No dilution. | | | |
| Application conditions | <p>The surface must be completely clean and dry.</p> <p>Do not apply when relative humidity is above 85% and below 10 °C.</p> <p>The surface temperatures must be at least 3 °C above dew point to prevent condensation.</p> <p>At application temperatures below 10 °C, drying and curing times will be significantly extended.</p> <p>Application at ambient air temperature below 5 °C is not recommended.</p> <p>If application needed for other shapes except H or I-shape structures, consult KCC.</p> | | | |
| Film thickness | <p>Refer to certification (certification no. for beam : BP16-0718-1, for column : CP16-0718-2)</p> <p>*Beam : 14.45 mm (including primer thickness : 0.05 mm)</p> <p>*Column : 14.35 mm (including primer thickness : 0.05 mm)</p> <p>* Reinforcing Mesh(designated Type : Nexweb) shall be applied over the flange tips and webs at approximately mid-depth of the total thickness of FIREMASK 3003.</p> | | | |
| Drying time | Substrate temperature | 10°C | 25°C | 40°C |
| | Set to touch | 8 h | 4 h | 2 h |
| | Dry hard | 17 h | 15 h | 6 h |
| | Recoating interval | 17 h | 15 h | 6 h |
| | <p>※ 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 by KCC.</p> | | | |
| Subsequent Coat | <p>Recommended top coat : KORETAN Topcoat UT6581(K1), KORETHANE Enamel UT2578 Morecoat Multi-Purpose Urethane</p> <p>*Apply KCC top coat after at least 14 days (Winter season) or 7days (Summer season) passes from the</p> | | | |

final coating of FIREMASK 3003.

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| Pot life | 15 °C | 25 °C | Remark |
| | 110 mins | 80 mins | Only for trowel application |
| Recoating interval | The best time to overcoat FIREMASK 3003 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 3003 is to be overcoated with recommended top coats, the following obercoating intervals will apply: At 25°C , below 85% R.H, under well-ventilated condition – Minimum : 15 hours – Maximum : 1 week | | |

Storage and package

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| Shelf life | 24 months |
| Storage | Store in dry, well-ventilated place, out of direct sunlight, 5~30°C |
| Packing Unit | 1 SET = 50Kg (PTA 17.9Kg X 2EA : PTB 14.2Kg X 1EA) |

Remarks

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| Handling Precautions | 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 suitability of use this product, consult KCC for further advice. |
| Note | *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. |
| 1'st issue | 2016-07-01 |
| Revision | 2017-01-25 |

Disclaimer : The information in this data sheet is believed to the best of our knowledge based on laboratory test and practical experience. However, there are many factors affecting the performance of product and the product quality itself, so we are not able to guarantee without the confirmation of the purpose of using the product from us in writing. We reserve the right to change the data without notice and you should check that this data sheet is current prior to using the product.

