CHARREX 1709

CHARREX 1709 is a high performance epoxy intumescent fire protection coating system. The product is a high build, two pack material providing excellent durability and combined corrosion and fire protection.

1. Special Feature

CHARREX 1709 is qualified by Underwriters Laboratories(UL) ANSI/UL 1709.

2. Usage

For use in the onshore oil, gas, petrochemical and power generation industries. For the protection of steel structures, pipework and vessels from the effects of hydrocarbon pool fires.

3. Application

Surface Preparation

1)Ambient conditions
- Air temperature : 5 ~35℃
- Relative humidity : maximum 80%
- Surface Temperature : at least of 3℃ above dew point temperature

2)Steel surface preparation and primer application
- Clean surfaces of dirt, oil and grease to required standard, generally SSPC-SP1.
- Blast clean to required standard, generally ISO 8501-1 Sa 2½ or SSPC-SP10, with 50-75 microns (2-3 mils) blast profile.
- Where primer is required, only an SAMHWA Paint qualified primer system should be used.
- Check ambient environmental conditions to ensure the air and steel temperatures and relative humidity are in accordance with the primer manufacturer's requirements.
- Prime surfaces ensuring primer is kept within specified thickness, generally 50-75 microns (2-3 mils) with maximum of 100 microns (4 mils) at overlap areas, to avoid over thickness of primer.

3)Product conditioning immediately prior to application
For plural component spray application it is recommended that both Part A and Part B are moved to a 'holding area' controlled at 30-40℃ for a few days to reduce viscosity and so help with product pumping.

4)Reinforcement System confirming UL
SP-1 Mesh, Nominal 10 by 10 mm carbon/glass-fiber mesh with a nominal weight of 80 g/m2 applied over the flange tips.
CHARREX 1709 should be applied between each layer and the mesh shall be fully 'wetted out'.
SP-1 Mesh shall be placed at approximately mid-depth of the total thickness of intumescent coating and fully cover the inside/outside face of the flanges. No mesh is required on the web.
Mesh overlaps should be 50mm.

5)Application of CHARREX 1709 using plural component (twin pump) airless spray equipment
- Spray application should not start unless the weight ratio check is within ± 10 % of the designated ratio. After checking and confirming acceptability of the mix ratio, it is not recommended to alter or change any of the operating parameters of the plural spray unit except the metering pump air motor inlet pressure. Proper atomization should be achieved by adjusting the metering pump pressure within 205~345 bar
- Ensure ambient environmental conditions are within following parameters: Minimum air temperature 5℃ maximum relative humidity 80%; surface temperature at least 3℃ above dew point temperature.
- Check surface for cleanliness and that primer is correct thickness and sufficiently cured.
- Ensure surfaces not to be coated with CHARREX 1709 are suitably masked and protected.
- Check following parameters on the heated plural spray machine
- It is possible to apply CHARREX 1709 in one coat to a minimum thickness of 1mm and a maximum thickness of 5mm. CHARREX 1709 can be applied with a normal spray pattern, but it may still be necessary to be rolled to obtain a smooth finish.
- Build up thickness uniformly, using short nap rollers lightly dampened with THINNER 505 to remove trowel marks and achieve uniform finish and thickness.
- Surface finish of CHARREX 1709 to be in accordance with client's required specification.
- Flushing of Equipment, hot water can be used very effectively for flushing out lines and equipment, but care should be taken, as water will not dissolve epoxy resin based materials. If a true solvent is required for Equipment maintenance, the use of SAMHWA THINNER 395 is recommended.
- Adjustment Process, If the dried film thickness is below the recommended film thickness, apply the coating over the defined film thickness using a spatula, trowel and etc

Application System

Primer : SUPERPOXY 110F, SUPERPOXY 130 Series
Under Coat : CHARREX 1709
Top Coat : SUPERTHANE 300F

Coverage

Coating order	Product name	Standard number	Coating times	Dry film thickness	Theoretical consumtion	Actual consumtion	Remark

* Consult SAMHWA PAINTS Industrial,. LTD

Application Procedure

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2)Reinforcement System confirming UL
SP-1 Mesh, Nominal 10 by 10 mm carbon/glass-fiber mesh with a nominal weight of 80 g/m2 applied over the flange tips.

	CHARREX 1709 should be applied between each layer and the mesh shall be fully 'wetted out'. SP-1 Mesh shall be placed at approximately mid-depth of the total thickness of intumescent coating and fully cover the inside/outside face of the flanges. No mesh is required on the web. Mesh overlaps should be 50mm. 3)Application of CHARREX 1709 using plural component (twin pump) airless spray equipment - Spray application should not start unless the weight ratio check is within ± 10 % of the designated ratio. After checking and confirming acceptability of the mix ratio, it is not recommended to alter or change any of the operating parameters of the plural spray unit except the metering pump air motor inlet pressure. Proper atomization should be achieved by adjusting the metering pump pressure within 205~345 bar - Ensure ambient environmental conditions are within following parameters: Minimum air temperature 5℃ maximum relative humidity 80%; surface temperature at least 3℃ above dew point temperature. - Check surface for cleanliness and that primer is correct thickness and sufficiently cured. - Ensure surfaces not to be coated with CHARREX 1709 are suitably masked and protected. - Check following parameters on the heated plural spray machine - It is possible to apply CHARREX 1709 in one coat to a minimum thickness of 1mm and a maximum thickness of 5mm. CHARREX 1709 can be applied with a normal spray pattern, but it may still be necessary to be rolled to obtain a smooth finish. - Build up thickness uniformly, using short nap rollers lightly dampened with THINNER 505 to remove trowel marks and achieve uniform finish and thickness. - Surface finish of CHARREX 1709 to be in accordance with client's required specification. - Flushing of Equipment, hot water can be used very effectively for flushing out lines and equipment, but care should be taken, as water will not dissolve epoxy resin based materials. If a true solvent is required for Equipment maintenance, the use of SAMHWA THINNER 395 is recommended. - Adjustment Process, If the dried film thickness is below the recommended film thickness, apply the coating over the defined film thickness using a spatula, trowel and etc REMOVAL AND REPAIR PROCEDURE Repair of damaged or failed areas, in the fabrication yard or during service life, and cutback areas should follow the procedure below. Application conditions must conform to specified conditions for primer, CHARREX 1709 and topcoat application. Removal - Where it is possible, areas to be removed should be cut and sliced using angle grinders and then mechanically chopped and scraped using hand held pneumatic chisels. - It is essential that proper safety precautions are taken during this operation. Reference shall be made to the CHARREX 1709 Material Safety Data Sheets(MSDS) and all site safety requirements. Repair - The primer system shall be reinstated to its original specification. - Remove all damaged material back to solidly adhered material. - After removal of CHARREX 1709 surfaces must be solvent cleaned with Thinner #395 and allowed to dry before commencing application of CHARREX 1709. It is important that newly applied CHARREX 1709 blends into the existing material to achieve a uniform appearance. - Reinstate primer to specification, if required. - Reinstate CHARREX 1709 to specification, taking care to smooth over the repair area edges. Trowel application of CHARREX 1709 is acceptable for repair areas. - The specified topcoat system shall be applied, based on the original specification, in strict accordance with SAMHWA's written instructions.
Caution	GENERAL REMARKS -CHARREX 1709 should be top coated with qualified topcoat when sufficiently cured, ensuring the surface is clean and dry. -Only trained and qualified personnel should install CHARREX 1709. -Keep yourselves clean (hot water and soap is best) and always use suitable personal protective equipment. -Keep equipment clean, well maintained and ensure all hoses and fittings are rated to the high pressures of the pump. -Contact SAMHWA PAINTS' Field Service for any further information or assistance FIRST AID MEASURES AND SAFETY ARTICLES -In case of eye contact, flush immediately with plenty of water for at least 15minutes and get medical attention; for skin , wash thoroughly with soap and water. Do not use organic solvent. -If affected by inhalation of vapor or spray mist, remove to fresh air. If feel unwell, or in case of prolonged exposure, seek medical attention. -Do not internally. If swallowed, get medical attention. -Wear suitable absorbent mask/respirator if exposed to vapor or spray mist. -Wear suitable gloves for hand protection. -Wear suitable goggles or facemask.