FIRETEX® Technical Bulletin

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FIRETEX at Connections

Intumescent coatings (such as FIRETEX FX1000, FX2000 and FX5000 Series) are thermoplastic in nature, they can "creep" when under compression, especially at higher ambient temperatures. FIRETEX FX6000 series and FX9500 are chemically cured and are more resistant to creep when under stress.

Companies who regularly bolt intumescent coated items together or attach items such as brackets to intumescent painted steel, will usually mask off the connection area to ensure a good/sound connection can be made. When only a low thickness of intumescent coating is required, masking may not be necessary. Typically, for the FIRETEX FX1000/2000 series, 0.8mm is taken as the maximum specified DFT and for the FX6000 series, 2.0mm is taken as the maximum specified DFT before masking (or coating removal) is preferred, but this decision is made based on the company's own experience.

Where a high thickness of intumescent coating is "sandwiched" within a bolted connection the coating can creep when compressed and may continue to deform over time and reduce the bolt tension.

If bolt torque/tension or friction between the attachment and primary element is important, Sherwin-Williams recommends that any applied intumescent coating be removed from the contacting parts of the connection to ensure coating creep does not reduce bolt tension over time. Ideally such areas would be masked at the time of intumescent application.

After erection of pre-coated structural components, the nuts and boltheads, as well as any parts which were masked off or had coatings removed will require protection. It is normal practice for this to be done using the same thickness and product (or high flash point variant where available) as that applied to the main part of the element.

Due to the complications of taking meaningful dft readings on the connection area the thickness is usually judged visually in comparison with the thickness applied to the main part of the element.

Where the information is available to the applicator, Sherwin-Williams is satisfied that where 2 elements with different dft's are connected the lower specified thickness may be used for the connection area on both elements. This relies on the applicator's ability to take wet film thickness measurements during application as a minimum and preferably the ability to subsequently check the dry film thickness.

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