Introduction

This specification covers general requirements for materials and workmanship for the fire protection of structural steelwork in petrochemical plants. Fire protection shall be provided using the Promat FENDOLITE® TG System as manufactured by Promat. Promat FENDOLITE® TG shall be applied strictly in accordance with the current Promat FENDOLITE® MII & FENDOLITE® TG Energy Industries Application Manual. The application of Promat FENDOLITE® TG shall be carried out by a Promat Recognised Applicator contractor.

Materials

1. PROMAT® Helical CD Weld Pins – stainless steel pins for attaching the reinforcing mesh without clips. Alternatively, 3mm mild steel stud welded pins and non-return washers may be used to secure the reinforcement.
2. PROMAT® PSK 101 – a single pack, water based ready to use primer sealer and keycoat based on a modified vinyl acrylic co-polymer. Supplied in 25 litre metal pails.
3. Reinforcing Mesh – 50mm x 50mm PROMAT® Plastic Coated Galvanised Mesh or 50mm x 50mm x 1.4 – 1.6mm galvanised hexagonal mesh.
4. Promat FENDOLITE® TG – supplied as a factory controlled premix in 20kg bags. The product is a lightweight aggregate cementitious mix.
5. PROMAT® TOPCOAT 200 – a single-pack, water based, ready-to-use acrylic polymer emulsion designed for application over Promat FENDOLITE® MII and Promat FENDOLITE® TG on structural steel.

Workmanship

Execution of the work must be in strict accordance with the current Promat FENDOLITE® MII & FENDOLITE® TG Energy Industries Application Manual. The sequence of operations is to be carried out as follows:

1. Using a grinding disc, grind off the existing primer to bright metal where the stud welding needs to be carried out.
2. Attach stainless steel PROMAT® Helical CD Weld Pins or mild steel stud weld pins.
3. Repair the existing priming system in accordance with Client's specifications.
4. Spray or brush apply one coat of PROMAT® PSK 101 to a wet film thickness of 100-150 microns (55-82 microns DFT).
5. Install Promat's 50 mm x 50 mm PROMAT® Plastic Coated Galvanised Mesh (or 100mm x 100mm x 2mm galvanised mesh) and attach to previously installed stainless steel Helical pins or to the mild steel pins using non-return washers.
   Ensure mesh is pulled away from the steel to lie substantially within the mid-third of the required Promat FENDOLITE® TG thickness.
6. Hand apply Promat FENDOLITE® TG in the minimum number of coats to the required thickness. The final coat shall be at least 8mm thick to avoid cracking.

For small steel sections (up to section heights of roughly 200-250 mm) the 'solid fill' method can be applied. Timber laths attached to the flange edges using caddy style clips may be used to aid the installation process.

7. Promat FENDOLITE® TG to be float finished to close down texture. All angles shall be true to line and level. Slope and float top surfaces to shed water. Cut 'U' shape at Promat FENDOLITE® TG / steel junctions to receive a mastic seal.
8. Apply two coats of PROMAT® TOPCOAT 200 to a total Dry Film Thickness of 150 – 200 microns. Refer to Energy Industries Data Sheet EIDS 030.
9. Apply a polysulphide or silicone based mastic sealer at Promat FENDOLITE® TG / steel junctions.
10. At the commencement of application a representative sample beam or column protected with Promat FENDOLITE® TG shall be prepared by the Promat CRA Contractor to be used as a reference in matters of reinforcement, standard of finish etc.
11. The Promat CRA Contractor shall, if necessary, mask and protect adjacent surfaces prior to the commencement of application of Promat FENDOLITE® TG.
12. The Promat CRA Contractor shall ensure that the minimum required thickness of Promat FENDOLITE® TG has been applied in all areas.



Figure 1: Plastic coated galvanised mesh installed on a column

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