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® MII System as manufactured by Promat. Promat FENDOLITE® MII shall be applied strictly in accordance with the current Promat FENDOLITE® MII & FENDOLITE® TG Energy Industries Application Manual. The application of Promat FENDOLITE® MII shall be carried out by a Promat Recognised Applicator contractor.

Pre-treatment of the PU surface

Different (combinations of) pre-treatments are possible to provide sufficient adhesion:

- no pre-treatment,
- application of PROMAT® PSK 101,
- application of a PROMAT® SBR Bonding Latex + Promat FENDOLITE® MII keycoat,
- abrading the PU surface.

Generally, application of PROMAT® PSK 101 will provide good adhesion of Promat FENDOLITE® MII and abrading of the PU surface is not necessary. In some cases good adhesion can also be achieved by direct application of Promat FENDOLITE® MII to the PU surface. On the other hand, sometimes it is necessary to apply a PROMAT® SBR Bonding Latex + Promat FENDOLITE® MII keycoat and/or abrade the PU surface. Spraying trials can show which (combination of) measures is required to achieve appropriate adhesion.

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® MII – 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 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. If required, abrade the polyurethane surface with course sandpaper or sweep blast to abrade the surface.
2. Using a grinding disc, grind off the existing primer to bright metal where the stud welding needs to be carried out.
3. Attach stainless steel PROMAT® Helical CD Weld Pins or mild steel stud weld pins.
4. Repair the existing priming system in accordance with Client's specifications.
5. If required, spray or brush apply one coat of PROMAT® PSK101 as detailed in EIDS 050 and/or apply a keycoat as detailed in EIDS 019.
6. 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® MII thickness.
7. Spray apply Promat FENDOLITE® MII 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.
8. Promat FENDOLITE® MII 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® MII / steel junctions to receive a mastic seal.
9. 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.
10. Apply a polysulphide or silicone based mastic sealer at Promat FENDOLITE® MII / steel junctions.
11. At the commencement of application a representative sample beam or column protected with Promat FENDOLITE® MII shall be prepared by the Promat CRA Contractor to be used as a reference in matters of reinforcement, standard of finish etc.
12. The Promat CRA Contractor shall mask and protect all adjacent surfaces prior to the commencement of application of Promat FENDOLITE® MII.
13. The Promat CRA Contractor shall ensure that the minimum required thickness of Promat FENDOLITE® MII has been applied in all areas.

The information given in this Application Procedure is based on practical experience, independent and other tests and represents, in Promat's opinion, the best technical advice available. Since the products are applied under circumstances beyond our control, Promat can accept no direct or consequential liability, whether in contract or in tort, for the interpretation of such recommendations and reserves the right to modify the recommendations as necessary. Should it be unclear as to the meaning of any of the instructions given above, or if further information is required, please consult Promat.