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 Promat FENDOLITE® MII & FENDOLITE® TG Energy Industries Application Manual. The application of Promat FENDOLITE® MII shall be carried out by a Promat 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® SBR Bonding Latex, or local Promat approved equivalent.
3. Reinforcing Mesh – 50mm x 50mm PROMAT® Plastic Coated Galvanised Mesh OR 100mm x 100mm x 2mm galvanised hexagonal mesh which must be used on vessel skirts in excess of 20m².
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. Grind off existing primer to bright metal at locations where PROMAT® Helical CD Weld Pins are to be applied.
2. Attach stainless steel PROMAT® Helical CD Weld Pins, or mild steel stud welded pins.
3. Repair existing priming system in accordance with Client's specifications.
4. Apply the keycoat. The keycoat is a 50 : 50 mix of PROMAT® SBR Bonding Latex (8.5 litres) mixed with water (8.5 litres), the total 17 litres of watered-down PROMAT® SBR Bonding Latex is then mixed with the 20kg of Promat FENDOLITE® MII. Apply the keycoat so as to give a 20-50% coverage of the background with blobs of material standing off approximately 5mm from the surface. Ideally the material should be flicked on manually using a trowel, or sprayed with a low throughput using an 11mm nozzle and a low air pressure of approximately 10 psi. The Keycoat must be allowed to cure and dry thoroughly before proceeding with the application of the Promat FENDOLITE® MII. Typically this will take between 24-36 hours depending on the environmental conditions.

5. Install 50mm x 50mm PROMAT® Plastic Coated Galvanised Mesh (or 100mm x 100mm x 2mm galvanised mesh) and attach to previously installed stainless steel Helical pins. Ensure mesh is pulled away from the steel to lie substantially within the mid-third of the required Promat FENDOLITE® MII thickness.
6. 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.
7. Promat FENDOLITE® MII to be float finished to close down texture. All angles shall be true to line and level.
8. Slope and float top surfaces to shed water. Cut 'U' shape at Promat FENDOLITE® MII / steel junctions to receive a polysulphide or silicone based mastic seal.
9. Apply a suitable Promat approved topcoat paint system. Refer to Energy Industries Data Sheet EIDS 028.
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.