Introduction

Promat FENDOLITE® MII is used in the petrochemical industry to protect structural steel, storage vessels, vessel skirts and saddle supports for up to 240 minutes hydrocarbon fire protection.

From time to time it is necessary to remove Promat FENDOLITE® MII on vessels and vessel supports to facilitate Non Destructive Testing (NDT) of the steel substrate and the welds. This document details the removal process of the existing Promat FENDOLITE® MII coating and the replacement of the coating once the testing has been completed.

Promat FENDOLITE® MII is only applied by Promat CRA Contractors in accordance with the Promat FENDOLITE® MII & Promat FENDOLITE® TG Energy Industries Application Manual. In line with this requirement we would recommend that only Promat CRA Contractors are used to carry out removal and repair work required.

It is the responsibility of the Promat CRA Contractor to make detailed QA/QC records of all stages of the removal and replacement of the Promat FENDOLITE® MII system, including photographic illustration of progress where possible, so that any future issues which may arise with the installation of the Promat FENDOLITE® MII passive fire protection system can be effectively investigated and resolved. Promat can offer on-site technical support during installation of all aspects of the Promat FENDOLITE® MII system.

Promat FENDOLITE® MII shall be mixed and applied in accordance with the current Promat FENDOLITE® MII & FENDOLITE® TG Energy Industries Application Manual. Reference should also be made to EIDS 029 for Promat FENDOLITE® MII repair guidance.

Inspection

Prior to any material being removed for NDT testing, Promat would recommend that the existing Promat FENDOLITE® MII system coating is inspected by either a suitably qualified Promat CRA applicator or a representative from Promat. This may form part of the site annual inspection procedure. Any additional areas of the existing coating found to require repairs should be addressed at the same time that the NDT patch areas are replaced in order to ensure that the coating satisfies the required level of passive fire protection and longevity of the coating system.

Recognition of Significant Defects

Inspection of the Promat FENDOLITE® MII system must rely heavily on visual observation and although basic, much can be gleaned by tapping, brushing and probing the surface of coatings. There are no instrumental or automated techniques that can replace manual inspection methods. The early

recognition of defects and appreciation of their significance plays an important role in the pursuit of a successful maintenance programme. Defects may be present or may develop from the original installation.

The need to repair a passive fire protection system may arise through accidental damage or deliberate breaching, for example - removal for hot work during modifications.

Promat FENDOLITE® MII removal and replacement

General Procedure

1. Mark out the areas to be removed for NDT inspection.
2. Use site approved tools to remove the Promat FENDOLITE® MII from the area to be inspected.
3. Once the NDT testing has been completed, re-apply the steel primer (anti-corrosion system), as required and in accordance with manufacturer's instructions.
4. Apply the PROMAT® PSK 101.
5. Reposition or replace the mesh reinforcement system as necessary.
6. Prepare and apply Promat FENDOLITE® MII or Promat FENDOLITE® TG.
7. Seal the Promat FENDOLITE® MII with an approved topcoat paint system.
8. Check the condition of the mastic seals and repair if necessary.

Detailed Procedure

1. Mark out the area to be removed on the surface of the Promat FENDOLITE® MII using a thick marker pen.
2. Using site approved hand tools (an anti-spark chisel and hammer are normally acceptable) carefully cut into the Promat FENDOLITE® MII, taking care not to damage the mesh reinforcement within the Promat FENDOLITE® MII coating. The cut edges of the Promat FENDOLITE® MII should be sloped at an angle of approximately 45 degrees. Once the mesh is exposed, cut the mesh on three sides of the patch and peel the mesh back. Take care not to cut into any drop down wires encountered under the mesh reinforcement. Remove the remaining Promat FENDOLITE® MII and clean the surface of the vessel with clean potable water. If the NDT test areas are going to be left un-patched for a period of time greater than 1 month, then the exposed Promat FENDOLITE® MII edges should be sealed with a coat of PROMAT® Topcoat 200. This should be removed immediately prior to the patch repair being carried out.
3. Once the NDT test has been completed, the exposed steel priming system should be inspected and if necessary repaired using the site approved priming system.
4. Apply one coat of PROMAT® PSK101 to the prepared substrate to a wet film thickness of 100-150 microns (55-82 microns DFT) and allow to cure and dry.
5. Reposition the existing mesh, or install the new piece of mesh onto the existing exposed mesh around the aperture. Ensure that the mesh is installed onto all/any new PROMAT®

Helical CD Weld Pins and pull the mesh away from the substrate so as to be substantially in the mid third of the final applied thickness. All mesh joints should be overlapped by a minimum of 50mm and tied together at 150mm centres using the mesh cut-ends or 1.4mm galvanised tie wire.

6. Prior to installing the new Promat FENDOLITE® MII, the existing Promat FENDOLITE® MII should be thoroughly dampened-down with clean potable water.
   Mix and spray apply Promat FENDOLITE® MII or trowel apply Promat FENDOLITE® TG to the prepared areas to reinstate the original applied thickness. If more than one coat is required, pull the mesh away from the first coat after it has started to stiffen so that the second coat will bond to the underlying layer as well as be reinforced by the mesh. Allow some overlap onto the existing material and trowel finish the repair to match surrounding material.
   NOTE: The drying / curing time of the Promat FENDOLITE® MII will depend on environmental conditions and applied thickness. Poor ventilation, excessive humidity and low temperature will extend the drying time.
7. When Promat FENDOLITE® MII has cured/dried sufficiently, apply a Promat approved topcoat paint system in accordance with EIDS 032 for PROMAT® Topcoat 200 or EIDS 036 for SIKA LPL DECOTHANE topcoat paint system guidance.
   NOTE: If another topcoat paint system was originally installed please consult Promat for further advice.
8. If the existing Promat FENDOLITE® MII coating has been installed for a number of years, the condition of the polysulphide or silicone mastic seals may have deteriorated. They should therefore be inspected, removed and replaced as required.

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.