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. The purpose of this document is to identify the application requirements of the Sikalastic system onto the Promat FENDOLITE® MII system. The Sikalastic topcoat system is used to provide an improved aesthetic finish to the cured Promat FENDOLITE® MII system and provide durability by enhanced weather resistance, increased protection from wash down, chemical spillage and resistance to fungal and algal growth. The Sikalastic topcoat system is required to provide additional protection to the underlying Promat FENDOLITE® MII system for storage vessels located in cold and damp environments.

NOTE: In the UK, the Sikalastic system is sold under the brand name Decothane. The related UK brand names are mentioned between [brackets] in this document.

Promat FENDOLITE® MII is only applied by Promat CRA Contractors in accordance with the Promat FENDOLITE® MII and Promat FENDOLITE® TG Energy Industries Application Manual. The Promat CRA Contractor must take all necessary measures to provide a suitable surface for application and must store, mix and apply the products using suitable approved equipment according to Promat's instructions. It is the responsibility of the Promat CRA Contractor to make detailed QA/QC records of all stages of application of the Promat FENDOLITE® MII system, including photographic illustration of progress where possible, including daily weather/temperature records, 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.

Full technical details for installation of the Promat FENDOLITE® MII system are included in the Promat FENDOLITE® MII & FENDOLITE® TG Energy Industries Application Manual. Moreover, detailed information about the application of the Sikalastic [Decothane] system is available on the website of SIKA.

Application of the Sikalastic topcoat system onto the Promat FENDOLITE® MII system

Sikalastic [Decothane] is a high performance polyurethane coating which is elastomeric and durable, providing an ideal coating to the Promat FENDOLITE® MII cementitious fire protection for storage vessels located in cold and wet environments.

General procedure

The steps to follow are:

Step 1 - Removal of the existing top coat (only for refurbishment)
Step 2 - Inspection of Promat FENDOLITE® MII

Step 3 - Cleaning of fungal growth and any other surface contamination
Step 4 - Final cleaning
Step 5 - First coat: application of the Sika Bonding Primer
Step 6 - Second coat: application of the Sikalastic-601 BC [Decothane Base Coat]
Step 7 - Embedment of the Sika Reemat Premium glass fibre matting
Step 8 - Third coat: application of the Sikalastic-621 TC [Decothane Top Coat]

Detailed procedure

NOTES:

- *The proposed top coat specification is subject to final confirmation by Sika.*
- *Detailed application instructions are available on the Sika website. This document focuses specifically on the aspects related to application on Promat FENDOLITE® MII.*

Removal of existing top coat (only for refurbishment)

Remove all existing top coat - aggressive mechanical methods may cause damage to existing Promat FENDOLITE® MII. Careful removal will be required using hand tools such as scrapers and chisels and power tools such as electric chisels. Alternatively a sodablast system or similar approved may be used.

Inspection of Promat FENDOLITE® MII

Inspect the Promat FENDOLITE® MII, all areas should be tap tested, small areas found to be hollow or defective should be removed and made good using Promat FENDOLITE® TG and allowed to cure in accordance with standard rendering procedures prior to further treatment. Leave for a minimum period of 72 hours before overcoating. Large areas of repair should only be repaired with Promat FENDOLITE® TG in accordance with the approved Promat application procedures.

Cleaning the surface of Promat FENDOLITE® MII

Surface lying moisture and any other surface contamination should be removed from areas to be coated using scrapers, wire brush or water jetting. In case of refurbishment or a longer time span between application of Promat FENDOLITE® MII and top coat, fungal contamination may occur which has to be cleaned in the same manner.

- Fixed Items: Any fixed item which is not to be included in the coating schedule, including wires, cables, etc., must either be totally removed or in order to allow access, be suspended from the surfaces to be coated. Such items should not be removed without proper authority. The top coat should be allowed to cure for a minimum period of seven days before replacement of these fixtures.
- Protrusions: Inspect any wall protrusion, ie., vents, pipes, etc., to ensure watertightness. Repair or replace defective materials as necessary and prepare each protrusion as required in order to accept the coating.
- Previous Repairs: Inspect any previous repair materials, patches, etc., any which are loose or suspected to be loose should be removed.

- Cracks/Gaps: Cracks, gaps, holes, etc., in the Promat FENDOLITE® MII should be raked out, suitably prepared, cleaned and made good using an appropriate proprietary polymer modified mortar prior to further treatment. Leave for a minimum period of 72 hours before overcoating.
- Exposed Metal Surfaces: Exposed metal surfaces to be included in the coating schedule should be wire brushed or mechanically abraded to remove rust/scale or oxidation. Return to a clean, bright metal wherever possible.

Final Cleaning of the Promat FENDOLITE® MII

Immediately prior to application of the top coat system, ensure that all surfaces are free from visible dampness and that surface lying dust, dirt and other forms of contamination are removed using brushes, scrapers or air lines as appropriate.

NOTE: Exercise suitable precautions when using high pressure equipment. Care needs to be taken by the operative to limit damage to the sound Promat FENDOLITE® MII by the use of high pressure equipment. Power washing uses high pressure and low volumes of water and can be used successfully without overwetting the Promat FENDOLITE® MII.

In case of refurbishment: Special care to fungal contamination, visible growths and vegetation

- Known Fungal Contamination: On areas of known fungal growth, it is often necessary to power wash and/or mechanically clean by scraping or by using a stiff wire brush after removing the existing coating.
- Known Growth - General Surfaces: Visible growths or vegetation should be removed prior to treating with concentrate Sika Biowash, by brush, at a maximum spread rate of 10m² per litre (equivalent to a minimum quantity of 0.1 litres per m²). Allow to dry onto absorbent surfaces and leave to react but thoroughly rinse from non-absorbent surfaces before continuing with the application.

Application of Sika Bonding Primer

Exposed Metallic Surfaces: Apply a full coat of Sika Metal Primer to all prepared, exposed metallic surfaces and allow to dry for a minimum of period of 9 hours before overcoating.

NOTE: Brush application is recommended for smaller areas or where airless spray application is impractical. Do not apply too thickly.

Vessel Surfaces: Apply a coat of Sika Bonding Primer to all prepared, existing and new Promat FENDOLITE® MII rendered surfaces and leave to dry for a minimum of 1-2 hours. Ensure the primer is fully dry prior to overcoating.

Sika Bonding Primer coverage guidance Minimum 0.125 litres / m2 (8m2 / litre) for smooth 'trowel-finished' Promat FENDOLITE® MII, 0.167 litres / m² (6m² / litre) for rough-sprayed finish Promat FENDOLITE® MII.

Application of Sikalastic-601 BC [Decothane Base Coat]

Apply an initial embedment coat of Sikalastic-601 BC [Decothane Base Coat] to the prepared, sound vessel surfaces:

Sikalastic-601 BC [Decothane Base Coat] coverage guidance 1.0 litres /m² for smooth surfaces (trowel-finished Promat FENDOLITE® MII) 1.25 litres /m² for intermediate rough-spray finish Promat FENDOLITE® MII, 1.5 litres / m² for rough-sprayed finish Promat FENDOLITE® MII.

Embedment of the Sika Reemat Premium glass fibre matting

Whilst the Sikalastic-601 BC [Decothane Base Coat] is still wet, embed Sika Reemat Premium glass fibre matting, followed by rollering until the mat is completely embedded and thoroughly saturated. Overlap adjacent areas already laid by 50mm, ensuring sufficient embedment material is applied to the overlap. At this stage, check for pinholes and/ or exposed/ dry matting and apply further material to correct where necessary. Allow to dry before applying the top coat.

Voids and folds: It is important to ensure that voids and folds in the matting are avoided at all changes of angle by the sufficient application of the embedment membrane at these points.

Application of Sikalastic-621 TC [Decothane Top Coat]

Apply a coat of Sikalastic-621 TC [Decothane Top Coat] to these reinforced areas, by roller (brushes may be used for detail work), using a minimum quantity of 0.75 litres per m² (equivalent to a maximum spread rate of 1.33m² per litre). Allow to dry.

NOTE: Where Sikalastic-621 TC [Decothane Top Coat] is to be applied to vertical surfaces, it may well be necessary to apply more than one coat to achieve the required finished dry film thickness.

Material Coverage: When applying materials, use volume to area calculations and/or wet film thickness readings where appropriate to ensure correct material coverage. Coverage rates may vary depending on substrate condition.

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.