Introduction

The following general procedure is applicable to vessel skirts operating at temperatures less than 0°C and should be read in conjunction with any specific requirements of the client detailed in the guideline specification prepared for the project.

Unless directed to the contrary in this technical guidance document, Promat FENDOLITE® MII shall be mixed and applied in accordance with the current Promat FENDOLITE® MII & Promat FENDOLITE® TG Energy Industries Application Manual.

Skirts having a surface area up to 20m² may be reinforced with 50mm x 50mm PROMAT® Plastic Coated Galvanised Mesh, whilst skirts with a surface are greater than this shall be reinforced with 100mm x 100mm x 2mm galvanised hexagonal mesh or 50mm to 75mm square x 2mm galvanised welded wire mesh.

Inspection of steel surfaces

All steel surfaces to be protected shall be in good condition, adequately protected from possible corrosion, be free from oil, grease, dirt, dust, grime or any other contaminants that may impair adhesion of the fire protection system.

Priming requirements

Anticorrosion and paint requirements are beyond the scope of this procedure. However, where the Promat FENDOLITE® MII system is to be applied directly to steel substrates, Promat recommend that the surfaces be blast cleaned to SA 2½ in accordance with SIS 05 59 00:1967 and are primed and painted with a two pack epoxy system, applied and cured in accordance with the manufacturer's recommendations.

Application of foamglas insulation

The calculation of the required foamglas insulation thickness is beyond the scope of this document and should be calculated / recommended by others. The thickness of insulation shall be sufficient to provide an interface temperature (foamglas / Promat FENDOLITE® MII) of at least 4 °C. Installation of the foamglas shall be carried out strictly in accordance with the manufacturers recommendations and be followed by a suitable vapour barrier.

Application of PROMAT® PSK 101

All items of primed steelwork which are to be protected with Promat FENDOLITE® MII shall receive one coat of PROMAT® PSK 101 applied at a wet film thickness of 100-150 microns (55-82 microns DFT) which must be allowed to adequately cure and dry (minimum 2 hours).

Installation of support system

In order to aid the installation of the mesh reinforcement (particularly to the inside surfaces of the skirt), Promat propose the application of self-adhesive / glued insulation pins to the vapour barrier prior to the application of the continuous keycoat and Promat FENDOLITE® MII. The pins shall be at 400mm centres on a staggered pitch and of sufficient length to restrain the mesh reinforcement (i.e. 25 - 30mm). Longer pins may be bent over or cut once the mesh reinforcement is installed.

Application of continuous keycoat

In order to protect the vapour barrier which must be applied over the thermal insulation, Promat require the application of a continuous Keycoat to all insulated surfaces. The thickness of the Keycoat shall be 6mm and is not included in the total Promat FENDOLITE® MII thickness. The Keycoat shall be made from Promat FENDOLITE® MII mixed with a 50 / 50 mixture of SBR Latex / water. Once applied, this coat shall be left for between 24 and 36 hours before proceeding further depending upon environmental conditions.

Application of Promat FENDOLITE® MII bands

The bands will be formed using Promat FENDOLITE® MII, their purpose being to ensure correct positioning of the mesh reinforcement.

Promat FENDOLITE® MII is spray applied as horizontal bands around the perimeter of the vessel skirt both inside and out. The bands shall be 200 - 300mm in width and at not less than 500mm and no more than 1000mm centres. The bands shall be approximately 50% of the final Promat FENDOLITE® MII thickness and may be levelled off if necessary with a float and left for at least 24 hours before proceeding further.

NOT If the application of bands is impractical, a first coat of approximately 50% thickness may be applied to the prepared substrate.

In either case, Promat FENDOLITE® MII must be left with a rough texture to ensure adequate bonding of the subsequent coat.

Installation of mesh reinforcement

Depending upon the size / area of the vessel skirt attach the required mesh reinforcement (50 mm x 50mm PROMAT® Plastic Coated Galvanised Mesh or 100mm x 100mm x 2mm galvanised hexagonal mesh) to the previously installed adhesive pins and secure using galvanised non-return (“Speedfix”) washers. The inner and outer surfaces of the skirt shall be covered with mesh reinforcement and overlapped a minimum of two mesh apertures and self-tied or tied with 1.6mm galvanised hog rings or tie wire at 150mm centres.

NOT Joints should be staggered so that not more than three layers of mesh must overlap at any one point.

Application of subsequent coat(s) of Promat FENDOLITE® MII

Application of the Promat FENDOLITE® MII shall be in accordance with the latest Promat Promat FENDOLITE® MII & FENDOLITE® TG Energy Industries Application Manual. Application may commence at the base of the vessel skirt and proceed upwards. Where possible, Promat FENDOLITE® MII shall be applied as a single coat to the required thickness. It may be applied in more than one pass, however (i.e. a pass of material may be left for up to two hours to stiffen before application of another pass). If the material is allowed to set, the next layer is defined as another coat. The final coat shall be at least 8mm thick to avoid cracking. Promat FENDOLITE® MII **must not be trowelled flush with the reinforcing mesh**, as this can create a plane of weakness. The suggested finishing technique is to level the surface with a steel float to close down the surface.

Water shedding and sealing of Promat FENDOLITE® MII /steel junctions

Top surfaces and all terminations of Promat FENDOLITE® MII against steel must be sloped to shed water. Promat FENDOLITE® MII /steel junctions shall be sealed by cutting a 'U' shape into the material and applying a polysulphide or silicone mastic sealant. A mastic seal shall also be installed at the Promat FENDOLITE® MII / concrete plinth junction to prevent standing water being absorbed.

NOT We recommend that the mastic seals are not applied until after final surface treatment.

Final surface treatment

Promat propose that on curing and drying of the Promat FENDOLITE® MII, the surface is treated with a Promat approved topcoat paint system. The selected topcoat system must be applied strictly in accordance with the manufacturer's recommendations. It is necessary to maintain the correct environment conditions as stipulated in our current Promat Promat FENDOLITE® MII & Promat FENDOLITE® TG Energy Industries Application Manual immediately before, during and after the particular application. Refer to Energy Industries Data Sheet EIDS 033 - Sikalastic (Decothane) Application Procedure.

NOT Ideally, all repair work should be carried out prior to application of the final surface treatment (refer to the current Promat FENDOLITE® MII & Promat FENDOLITE® TG Application Manual).

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.