Introduction

The following general procedure is applicable to vessel skirts operating at temperatures in excess of 50°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 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.

Installation of support system

To aid installation of the stone wool insulation, Riblath 271 and mesh, reinforcement may be held in position by stud welded pins and Speedfix washers or alternatively may be located on adhesive insulation pins attached to inside and outside skirt surfaces. Insulation may also be banded onto the substrate in which case the Riblath 271 may be attached to the bands with tie wires. Any pins used must be of sufficient length to pass through the stone wool, Riblath 271 and 50% thickness of the applied Promat FENDOLITE® MII. The pins shall be fixed at maximum 400mm centres on a staggered pitch.

Where the steel priming system is removed to facilitate stud welding, it must be made good with a suitable repair paint system in accordance with the client's specification.

Installation of thermal insulation

Installation of thermal insulation shall be carried out in accordance with the insulation manufacturer's recommendations, unless directed otherwise in this technical guidance document. The thickness of the insulation shall be sufficient to provide an interface temperature (between the stone wool and Promat FENDOLITE® MII) of not more than 50°C.

Application of Riblath 271

Galvanised Riblath 271 should be attached to previously fixed stud welded or adhesive-fixed insulation pins and secured using non-return Speedfix washers or attached to existing tie wires located on previously fixed steel banding. It is important that the ribs of the Riblath 271 point toward the mineral wool to provide a stand-off for good penetration and keying of Promat FENDOLITE® MII. Ensure that the Riblath 271 is overlapped and wire tied in accordance with the Riblath 271 manufacturer's recommendations.

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.

NOTE: If the application of bands is impractical, a first coat of approximately 50% thickness may be applied to the Riblath 271 prior to meshing.

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 50 mm 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.

NOTE: 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 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.

NOTE: 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 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.

NOTE: 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.