

Reference	FM-MS 05 PW Rev 0
Release Date	August 2006

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## METHOD STATEMENT

# FireMaster Marine Plus Profile Wrap Systems for Composite Bulkheads and Decks

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## 1. Systems To Which This Method Statement Applies

This method statement applies only to profile wrap fire protection systems for composite sandwich (internal foam core with outer skin laminate) bulkheads or decks that use FireMaster Marine Plus Blanket. Please refer to the System Data Sheet for the composite system being used and verify that it references this method statement.

## 2. General Design Principles Common To All Systems

### 2.1 Design Considerations

#### 2.1.1 Range of different composite structures that can be protected using FireMaster Marine Plus Blanket

The fire testing of FireMaster Marine Plus Blanket is designed using composite structures that present a "worst-case" load-bearing strength. This allows the systems to be used on a wide variety of structures, i.e. any structure equal or greater in strength to that used in the fire test carried out to obtain Type Approval for the system. There are many factors that determine the load-bearing strength of composite bulkheads and decks and industry knowledge of the performance of composites in fire tests is not extensive. Guidance to the

This Method Statement does not offer design guidance for the design of FireMaster Marine Plus Blanket systems for composite bulkhead and deck structures. Reference should be made to Design Information document FM-DI-C01 for technical guidance on the application of the Type Approved systems for composite structures. Reference should be made to this document only for installation guidance.

#### 2.1.2 System Data Sheet

This method statement must be read in conjunction with the relevant System Data Sheet for the system being used. The System Data Sheet specifies the exact thickness and density of FireMaster Blanket required; the number of layers that should be installed and the anchor type and spacing required.

Specific information on the System Data Sheet has precedence over any general information given in this document.

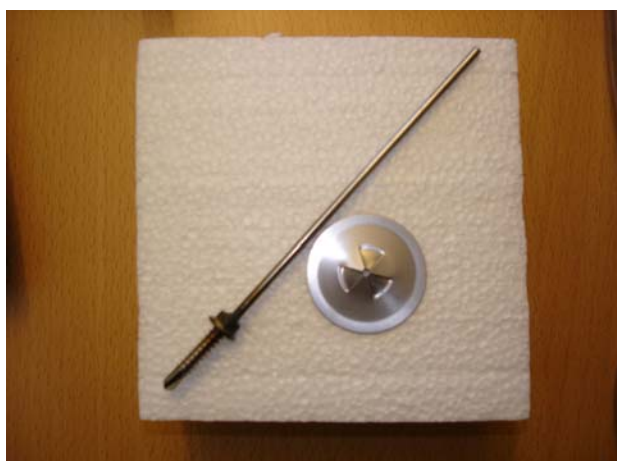
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## 2.2 Fixing Anchors

### 2.2.1 Anchor Types Used

3mm diameter anchors and a friction fit washer are used to fix FireMaster Blanket. The approved anchors are illustrated below. Supplier details can be obtained from Thermal Ceramics.

The anchor pin consists of a 3mm stainless steel pin welded to a 6mm diameter, 30mm long self-drilling screw. The screw end is fixed into the composite core. The blanket lining is impaled over the pin and retained with a friction fit washer.

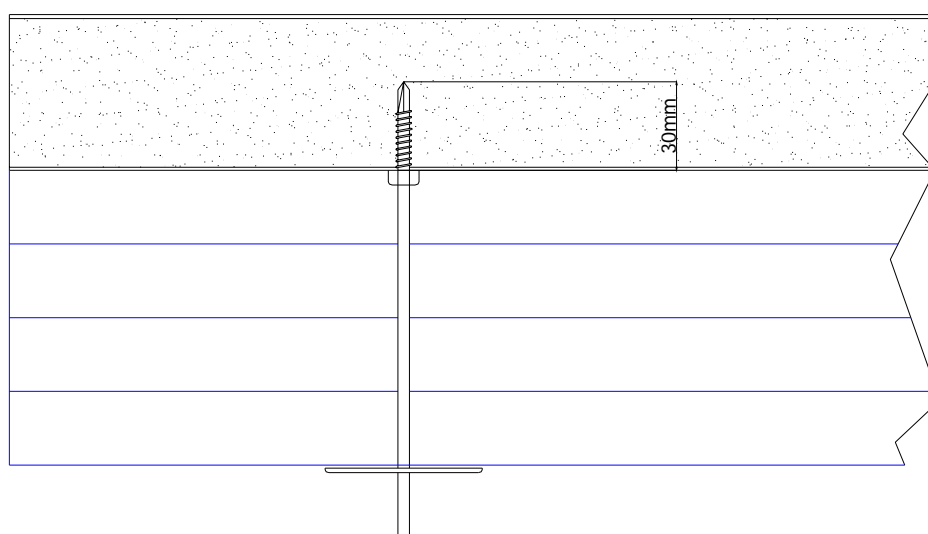


The anchor pins system consists of a 3mm steel pin welded to a 6mm diameter self-drilling screw and a 38mm diameter friction fit washer. Installation utilises a drill with screw fix attachment and is very fast.



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Anchor Fixing for composite sandwich bulkheads and decks



### 2.2.2 Recommended Anchor Lengths

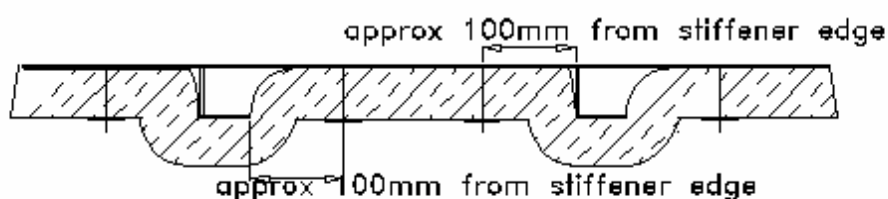
The anchor length should be about 12 to 25 mm longer than the total Blanket thickness.

### 2.2.3 Number of Anchors Needed

See the individual system information sheets for the exact anchor layout for each system.

Anchors should not be spaced more than 75 mm from the edge of the Blanket otherwise the joint between adjacent blankets may sag and expose the steel substrate or joint in underlying Blanket layers to heat from the fire resulting in localised excessive temperature rise.

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## 2.3 Installing FireMaster Blanket

### 2.3.1 General Principles

The Blanket is usually supplied in rolls of 610 mm width. The length of roll varies depending on the thickness of Blanket so that one standard size carton can be used for all thicknesses.

The Blanket is easily cut with a sharp insulation knife. The use of a straight edge is recommended as a guide when cutting. The Blanket carton can be used as a clean surface on which to lay the Blanket, if required, whilst cutting.

A compressed butt joint is used between adjacent Blanket widths. This is achieved by designing the anchor pattern for a theoretical blanket width of 580 mm. This allows an overlap of Blanket at the edges of each adjacent roll. This overlap is opened outwards and the edges of the Blanket are squeezed together to form a compressed butted joint. FireMaster Blanket is soft and compressible and is ideally suited to this type of installation technique.

### 2.3.2 Installation of FireMaster Blanket on Underside of Decks

The Blanket is installed lengthways along the deck allowing the stiffeners to be wrapped without having to cut the Blanket. Normally an anchor is fitted either side of the stiffener there is normally no need to install an anchor on the stiffener itself. The Blanket is fixed to the anchor pins at either side thus allowing the stiffener contour to be wrapped.

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Typical deck  
installation  
around stiffeners

### 2.3.3 Installation of FireMaster Blanket on Bulkheads

The same techniques as the corresponding deck systems are used, and the Blanket is installed in exactly the same way.

### 2.3.4 Installation of Multiple Layer Systems

Where more than one layer is required in order to make up the required thickness of FireMaster (refer to the System Data Sheet to determine if multiple layers are required) then joints between adjacent blankets in one layer should not occur in the same place in the next layer. Joints must be offset by a minimum of 150mm. The ideal joint offset is half the width of blanket as this ensures maximum economy of material. If this cannot be achieved then joints must be offset by at least 150mm.

## 2.4 Installing the washers

Washers are simply pressed over the end of the anchor pin and pushed down until they come into contact with the Blanket surface. Care should be taken not to press with too much force as this may over - compress and damage the Blanket local to the washer. If required, after installing the washer, a plastic protective cap may be fitted over the end on the anchor pin to avoid the sharp point at the end causing injury.

**END.**