## PROMARINE® CONTENTS

### contents

<table>
<thead>
<tr>
<th>Topic</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>PROMARINE® Panels</td>
<td>4</td>
</tr>
<tr>
<td>Marine Regulations</td>
<td>5</td>
</tr>
<tr>
<td>Fire Protection Bulkheads</td>
<td>6 – 7</td>
</tr>
<tr>
<td>Fire Protection Ceilings</td>
<td>8 – 9</td>
</tr>
<tr>
<td>Fire Protection Flooring</td>
<td>10 – 11</td>
</tr>
<tr>
<td>Furniture</td>
<td>12 – 13</td>
</tr>
<tr>
<td>Working Characteristics</td>
<td>14</td>
</tr>
<tr>
<td>Physical Properties</td>
<td>15</td>
</tr>
<tr>
<td>Availability and Packaging</td>
<td>16</td>
</tr>
<tr>
<td>Specialist Services</td>
<td>17</td>
</tr>
<tr>
<td>Fire Rated Glass Partitions</td>
<td>18</td>
</tr>
<tr>
<td>Fire Stopping Products</td>
<td>19</td>
</tr>
<tr>
<td>Bulkhead Profiles</td>
<td>20 – 21</td>
</tr>
<tr>
<td>Ceiling Profiles</td>
<td>22 – 23</td>
</tr>
</tbody>
</table>

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**MARINE LIGHTWEIGHT ACCOMMODATION SOLUTIONS**

**PROMAT UK LIMITED**

**PROMARINE® lightweight marine accommodation solutions**
Promat UK Limited is part of Promat International, the fire protection division of the ETEX S.A. Group which employs more than 12,000 people worldwide and has a group turnover of €1.5 billion.

Promat UK Limited is responsible for the sales and marketing of marine passive fire protection products and systems to the international shipbuilding market.

PROMARINE®-640 and PROMARINE®-450, the lightweight system installed where weight of product is critical, have been successfully tested to IMO Res. A799 (19) and A754 (18).

Both PROMARINE®-640 and PROMARINE®-450 panels comply fully with the requirements of the Marine Equipment Directive 96/98/EC (amended by Directive 98/95 and Directive 2001/53). Modules B & D and Type Approval Certificates are available upon request.

PROMARINE®-640 and PROMARINE®-450 are manufactured in Europe. The manufacturing process uses autoclaved calcium silicate, reinforced with selected minerals and fibres. The panels contain no asbestos or other mineral fibres.

PROMARINE®-640 and PROMARINE®-450 are used to provide decorative fire resistant bulkheads, deckheads and floors in accommodation areas on all types of sea-going vessels and offshore platforms.

Both PROMARINE®-640 and PROMARINE®-450 can also be used as the core panels in flat-pack, non-combustible ships’ furniture.
PROMARINE® PANEL RANGE

PROMARINE®-640
Used to provide decorative passive fire protection, PROMARINE®-640 has been manufactured at the Promat Glasgow site for over 20 years. A truly international market leader, PROMARINE®-640 has been supplied to almost every major shipyard in the world and installed on most types of sea-going vessels and offshore platforms. PROMARINE®-640 is a non-combustible autoclaved calcium silicate panel, reinforced with selected minerals and fibres and has a nominal dry density of 640kg/m³.

PROMARINE®-450
PROMARINE®-450 is the latest development in calcium silicate technology. Produced to compliment PROMARINE®-640, PROMARINE®-450 offers improved heat insulation properties while weighing 30% less, at 450kg/m³ nominal dry density. Installed on vessels where weight of product is of major importance, PROMARINE®-450 offers lightweight solutions.
MARINE REGULATIONS

Marine Equipment Directive 96/98/EC

The Marine Equipment Directive (MED) entered into force on 1st January 1999 and covers all fire protection equipment manufactured after this date which is to be installed onto any new or existing European flagged vessel (plus Norway and Iceland flagged vessels).


The purpose of the MED is to ensure that fire protection equipment (amongst other material and systems) must comply with the requirements of international conventions such as SOLAS (agreed by the International Maritime Organisation) and meets a common standard of safety and performance.

It also ensures free movement of equipment within the European Union by guaranteeing that certification issued by a notified body of one country is acceptable to each member state through harmonisation of approval procedures.

Material carrying the ‘Wheelmark’ (also known as the CE mark), meets MED requirements of both performance and quality assurance.

Fire Protection Classifications

‘C’ Class

‘C’ Class is the minimum level of fire protection. All ‘C’ Class components must be non-combustible to A799 (19) standard. There are no mandatory installation requirements.

‘B’ Class

‘B’ Class barriers, in addition to ‘C’ Class requirements, must be tested to A754 (18) and prevent the passage of smoke and/or flames for a minimum of 30 minutes. In addition, the number after the ‘B’ indicates the insulation time.

‘A’ Class

‘A’ Class barriers are also tested to A754 (18), with the addition of a steel bulkhead in the arrangement. An ‘A’ Class division must prevent the passage of smoke and/or flames for a minimum of 60 minutes. The number after the ‘A’ indicates the required insulation time.

The construction of the ‘A’ or ‘B’ Class division installed on the vessel must be the same as the tested arrangement.
BULKHEADS

The following installation guide is provided to answer frequently asked questions regarding the assembly of PROMARINE® fire protection bulkheads.

‘B15’ RATED BULKHEAD

As it is not possible to cover every eventuality on every ship, we have based this example on a ‘B15’ rated partition, using 19.1mm thick PROMARINE®-640 bonded both sides with 0.8mm thick high pressure laminates.

Detail 1 - Top and Bottom Channels

The first step on any installation is the ‘marking off’ of the positions of the bulkhead or partition. This is usually done with a chalk line marked on the deck. Bottom channels (PC-15-E) are then cut to length and positioned on this line. Bottom channels can be secured to the deck by either tack welding or attached using self tapping screws, dependant on deck surface material. Top channels (PC-17-G) can then be marked off and attached to the deck head, again by either tack welding or self tapping screws. Great care must be taken to align top and bottom channels. Use of ‘plumb lines’ and/or ‘spirit levels’ is only recommended if the vessel is in drydock.

Detail 2 - Panel Insertion

PROMARINE®-640 panels can now be trimmed to the correct length and width and inserted into the top and bottom channels by following the simple procedure indicated on Detail 2.

Detail 3 - ‘C’ Spline Joint

‘C’ spline (PJ-1-A) joints are also known as ‘secret fix’ as only the panel edge can be seen after installation. Panels are supplied with grooves cut into the long edges, together with the necessary ‘C’ splines. It is recommended that the ‘C’ splines used are supplied by Promat in order to guarantee correct fit. Starting at a corner, panels are simply pushed together as shown, ensuring that the flat side of the ‘C’ spline is facing the decorative side of the panels.

Detail 4 - Omega Joint

Omega joints (RJ-29-S) are generally used in complex areas and where panels may have to be removed from time to time. This method allows an individual panel to be removed without disturbing the adjacent panel. The omegas should be trimmed to the required length and loosely screwed together using the screws supplied, and inserted between the panels as shown. As with the ‘C’ spline, starting at a corner, panels are pushed together into the omegas, and the screws tightened until a tight fit is achieved.

Detail 5 - Corners

Panel runs usually terminate at either ‘T’ junctions or corners, and are accommodated by using internal angles (PA-30-B) and external angles (PA-50-B) where appropriate. Both profiles are simply screwed to the panels as shown, using the screws provided. For angles other than 90°, PA-5-B and PA-10-B equal angles are used, although the enclosed angle must be specified. An aesthetic alternative to steel corners would be to employ postformed elements – details available on request.

Detail 6 - Cover Strips

The system is complete when the cover strips are introduced to ‘hide’ profiles. Omegas are concealed with PV-03 or PV-04 cover strips, or highlighted with a PS-24 insert. PA-30-B internal angles are covered with PV-05 cover strips and PA-50-B external angles are concealed with PV-06 cover strips. All cover strips are simply pushed into position.
BULKHEADS – INSTALLATION INSTRUCTIONS

Detail 1

Detail 2

Detail 3

Detail 4

Detail 5

Detail 6
CEILINGS
The following installation guide is provided to answer frequently asked questions regarding the assembly of PROMARINE® fire protection ceilings.

'B15' RATED CEILING
This example is based on a ‘B15’ rated ceiling, using 16mm thick PROMARINE®-450, bonded both sides with 0.8mm thick high pressure laminates. Maximum panel dimension is 2430mm x 1210mm. Prior to the installation of PROMARINE®-450 ‘B15’ ceiling and, indeed, the ordering of the materials, the orientation of the ceiling grid must be decided. Several factors must be taken into account, i.e. panel wastage, accessibility etc. Consultation with the Marine Department prior to this decision is recommended.

Detail 1 - Ceiling Perimeter Channel
Prior to the fitting of ceiling perimeter channels (PC-30-T), existing wall panels must be marked with the required ceiling height. Ceiling perimeter channels are then cut to the required length and attached to the existing wall panels using M6 screws provided. At corners, ceiling perimeter channels can either be mitred or cut square.

Detail 2 - Adjustable Hanger Assembly
Adjustable hanger assemblies (HA-40) should be installed at 1220mm maximum centres. The adjustable hanger assembly is fixed to the hanger angle (H300) with two self tapping screws and should be lightly secured to allow movement. Hanger angles are produced to suit the void space dimension, i.e. H300 for up to 300mm void spaces, and are either welded or bolted to the deckhead stiffeners. As the adjustable hanger assembly can accommodate discrepancies of at least 25mm in any direction, the positioning of the hanger angle does not require to be exact. The hanger bracket should also be left loose at this stage.

Detail 3 - Main Channels
The main channels (PC-40-U) are supported between the ceiling perimeter channels and the adjustable hanger assemblies using three way (CB-3-40) and/or four way connector joints (CB-4-40) together with the hanger bracket as shown. Centre main channels should be installed first. After cutting to the required length, connector joints should be attached at either end. This is achieved by folding the upright legs onto the channel with standard pliers. Main channel is then loosely fitted to the adjustable hanger assembly using the M6 spindle bolt provided. Each end of the channel can now be secured to the ceiling perimeter channel and/or other main channels as required, using the same process mentioned above. If the span is longer than 2500mm, two main channels can be joined together with a CB-2-40 straight connector. Again, the upright legs are simply folded into position using pliers.

Detail 4 - Single Omegas
Single omegas (RJ-28-S) are used to support the ceiling panels by clamping them to the main channels. After cutting to required length, omegas should be lightly attached to main channels with screws provided. All main channel and adjustable hanger assembly screws and bolts should now be securely tightened.

Detail 5 - Ceiling Panel Installation
Ceiling panels can now be trimmed to required dimensions and installed into the ceiling grid, commencing from one side of the room. The loose fitting omegas should allow panels to be slotted into position. However, use of ‘G’ clamps is recommended to support one end of each panel while installing the adjacent panel. The perimeter of the ceiling is supported by attaching internal angles (PA-30-B) to the existing wall panels. All omega screws should now be securely tightened.

Detail 6 - Cover Strips
The system is complete when the cover strips are introduced to ‘hide’ profiles. Omegas are concealed with PV-03 or PV-04 cover strips, or highlighted with a PS-24 insert. Internal angles can be covered with a PV-05 cover strip. All cover strips are simply pushed into position.
PROMARINE® FLOATING FLOOR
PROMARINE® Floating Floor is the system to provide A60 fire protection, while offering both thermal and sound insulation. Comprising of 2400mm x 600mm x 20mm floor panels made from PROMARINE®-640, grooved on all four edges and bonded on both sides with 0.6mm thick galvanised steel. 3mm thick pre-cut splines are used to join the panels together. The panels ‘float’ on 50mm thick, 200kg/m³ mineral wool. PROMARINE® Floating Floor is a ‘dry’ system and can be walked upon immediately after laying, saving both time and the inconvenience of ‘no-go’ areas.

Fire Performance
PROMARINE® Floating Floor is fully certified to A60 fire rating.

Installation
Refer to drawings opposite.
Ensure that deck is clean, dry and reasonably flat. Localised ‘high spots’ should be ground flush, and depressions levelled with appropriate filler.

a. Starting from the far corner, mineral wool slabs should be laid directly onto the deck. Careful planning regarding orientation at this stage can ensure that floor panel and mineral wool joints are staggered. Only a ‘manageable’ area should be covered initially.
b. Lay the first PROMARINE® Floating Floor panel on the mineral wool, allowing for an expansion gap at ‘A’ class bulkheads. Gutters should be formed at weather bulkheads using 80mm x 6mm flat bar welded to deck.
c. The joining ‘C’ splines can now be inserted into the long and short panel edges, and the next panel butted up to the short edge. A bead of Promat PROMASEAL® Silicone Sealant along the top of the ‘C’ spline prior to pushing the panels together will ensure water tightness.
d. This continues until a boundary is reached. The last panel can be cut using a jigsaw with a standard metal cutting blade (panels should be trimmed in well ventilated areas). The offcut from the last panel can be used as the first panel of the next row.
e. The next row is laid in the same manner.
f. Upon completion of the final row, panels are prevented from moving apart by stapling the edges together using a pneumatic staple gun and ‘free issue’ staples. Finished floor perimeter can be sealed using Promat PROMASEAL® Silicone Sealant.
g. Floor can now be overlaid with any approved floor covering.

Acoustics
‘B15’ bulkheads can be installed on top of PROMARINE® Floating Floor in order that the entire accommodation area can be isolated from the ships’ structure. This leads to increased comfort and reduced vibration transmission. The PROMARINE® Floating Floor has a mean sound reduction index of 45.7dB (100-3150 Hz).

PROMAT UK LIMITED

PROMARINE® lightweight marine accommodation solutions
FLOATING FLOOR – INSTALLATION INSTRUCTIONS

Typical floating floor arrangement

shaped piece of floating floor held with staples and sealed with PROMASEAL® Silicone Sealant

Fitting around bulkhead stiffeners
The Promat PROMARINE® Furniture range of non-combustible ships’ furniture has been developed to meet the requirements of the latest SOLAS Fire Regulations for passenger carrying vessels. This allows accommodation areas containing furniture and furnishings of restricted fire risk to be downgraded from ‘Moderate Fire Risk (Category 7)’ to ‘Minor Fire Risk (Category 6)’.

This has the advantage of reducing the level of fire protection required between the accommodation areas and their surroundings*.


The Promat PROMARINE® Furniture range consists of
- Pre-manufactured items from stock
- Customised production to suit original designs

The pre-manufactured furniture consists of an attractive range of bed frames, wardrobes, kneehole desks and bedside cabinets, all finished in a matching hardwearing woodgrain laminate. These are available ‘off the shelf’ for turnkey projects. Drawings detailing the dimensions of each item are readily available.

For those customers looking for individuality, our team of experienced professionals can provide assistance and advice from the design stage through to manufacture by our craftsmen and finally, the assembly on board the vessel.
All Promat PROMARINE® Furniture range is supplied ‘flat packed’ for ease of transport and handling. Each pack contains all the fixtures and fittings required as well as detailed assembly instructions.

Promat PROMARINE® Furniture range is manufactured from our Promat PROMARINE®-450 panels, offering a considerable weight saving over combustible materials such as chipboard or MDF, while providing the comfort, practicality and function of traditional joinery products. The laminate finish provides a durable, low maintenance, easy clean surface that contributes to the ambience of the accommodation space.

Promat PROMARINE® Furniture drawings are available on request.
WORKING CHARACTERISTICS

All PROMARINE® panels contain no asbestos or other mineral fibres. No special precautions are necessary when working with the panels. High pressure laminate (HPL) is suitable for bonding to all PROMARINE® panels using a number of adhesives. The type of adhesive to be used when bonding HPL to the panels is determined by the adhesive specified on the laminate manufacturer’s Type Approval Certificate, issued by the National Authority, Classification Society or Notified Body.

This adhesive will be the same glue which was successfully tested and which will be clearly detailed in the independent laboratory test report submitted for the Type Approval Certificate. PROMARINE® laminated panels should not be used, or stored, in conditions where the relative humidity falls below 35% or rises above 85% and where the maximum temperature exceeds 35°C.

Special considerations must be taken into account in areas where the panels will be subject to continuous drying i.e., behind radiators, or in areas that are constantly wet. Advice should be sought from Promat Technical Services Department.

**Note:** All PROMARINE® fire tests have been conducted by IMO approved laboratories, using production panels independently selected and labelled by National Authority, Classification Society or Notified Body representatives.

**Lead Times**

All PROMARINE® plain panels are available in a typical despatch time of 7 days from order.

All PROMARINE® laminated panels are available in a typical despatch time of 4 weeks from laminate specification/order.

**Ship Repair / Refurbishment**

PROMARINE® laminated panels, together with all necessary joining profiles, mineral wool slabs etc., can be dispatched within 48 hours for clients who require materials on site urgently.

Laminates available for this option are illustrated in the ‘European Collection’, which is provided as an addition to this PROMARINE® brochure. The range of finishes include woodgrains, plain colours and patterns. All laminates have been successfully tested to the IMO FTP Code, Annex 1, Parts 2 and 5.

**Working and Handling**

PROMARINE® can be cut and or drilled using standard joinery tools, although dust extraction equipment is recommended if using power tools. Panels do not require any specialised handling equipment and should be stored indoors on the pallet until required.

Health and safety data sheets are available from the Promat Technical Services Department and, as with any other materials, should be read before working with the board. The board is not classified as a dangerous substance and no special provisions are required regarding the carriage and disposal of the product.
## PHYSICAL PROPERTIES

<table>
<thead>
<tr>
<th></th>
<th>PROMARINE® 640</th>
<th></th>
<th>PROMARINE® 450</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Plain</td>
<td>Laminated (0.8mm HPL)</td>
<td>Plain</td>
<td>Laminated (0.8mm HPL)</td>
</tr>
<tr>
<td>Nominal Dry Density (kg/m³)</td>
<td>640</td>
<td>-</td>
<td>450</td>
<td>-</td>
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<tr>
<td>Density Tolerance (%)</td>
<td>10</td>
<td>-</td>
<td>10</td>
<td>-</td>
</tr>
<tr>
<td>Nominal Weight (kg/m²)</td>
<td>31.8mm</td>
<td>20.4</td>
<td>22.8</td>
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<tr>
<td></td>
<td>25.4mm</td>
<td>16.3</td>
<td>18.7</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>22.2mm</td>
<td>14.2</td>
<td>16.6</td>
<td>-</td>
</tr>
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<td></td>
<td>19.1mm</td>
<td>12.2</td>
<td>14.6</td>
<td>-</td>
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<tr>
<td></td>
<td>19mm</td>
<td>-</td>
<td>-</td>
<td>8.6</td>
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<td>16mm</td>
<td>-</td>
<td>-</td>
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<td>15.9mm</td>
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<td>12.6</td>
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</tr>
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<td>12.7mm</td>
<td>8.1</td>
<td>10.5</td>
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<td></td>
<td>9.5mm</td>
<td>6.1</td>
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<td>Tolerances (mm) Length</td>
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<td>-0, +5</td>
<td>+0, -5</td>
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<td>-0, +5</td>
<td>+, -2</td>
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<td>+0, -0.8</td>
<td>+0, -0.8</td>
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<td>Thermal conductivity</td>
<td>0.134</td>
<td>N/A</td>
<td>0.109</td>
<td>N/A</td>
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<td>Thermal conductance (W/m²K)</td>
<td>7.0 (19.1mm)</td>
<td>7.6 (20.6mm)</td>
<td>5.7 (19mm)</td>
<td>5.8 (20.6mm)</td>
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<tr>
<td>Alkalinity (pH)</td>
<td>7-10</td>
<td>7-10</td>
<td>7-10</td>
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<td>Moisture Content (ex works) (%)</td>
<td>8-12</td>
<td>8-12</td>
<td>8-12</td>
<td>8-12</td>
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<td>Coefficient of Thermal Expansion (m/mK)</td>
<td>6 x 10⁶</td>
<td>6 x 10⁶</td>
<td>5.5 x 10⁶</td>
<td>5.5 x 10⁶</td>
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<td>Modulus of Rupture (Av., 2 directions) (N/mm²)</td>
<td>4.4</td>
<td>23.4</td>
<td>3.2</td>
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<td>Modulus of Elasticity (Av., 2 directions) (N/mm²)</td>
<td>2000</td>
<td>4500</td>
<td>1200</td>
<td>2700</td>
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<td>Tensile Strength (N/mm²) (perpendicular to board surface)</td>
<td>1.9</td>
<td>5.8</td>
<td>1.1</td>
<td>5.3</td>
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<td>Compressive Strength (1% deformation) (N/mm²)</td>
<td>2.4</td>
<td>2.2</td>
<td>2.5</td>
<td>2.3</td>
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</table>

**NOTE:** All physical property values are averages based on standard production. The figures can change dependent on the test methods used. If a particular value is of prime importance for a specification, please contact Promat Technical Services Department.

### FIXING INFORMATION (19mm LAMINATED PROMARINE®-450)

<table>
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<tr>
<th>Fixing</th>
<th>Fixing Pull Out (kg)</th>
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<tbody>
<tr>
<td>No.10 Self Tapping Screws (17mm Penetration)</td>
<td>33.3</td>
</tr>
<tr>
<td>M4 Threaded Sleeve</td>
<td>137.8</td>
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<tr>
<td>M6 Through Bolt</td>
<td>168.2</td>
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PROMARINE® panels have good screwholding qualities. However, we recommend that, where possible, normal wall fixtures, such as bookcases, shelves, lights etc. are attached to the panel steelwork. If fixing directly into the panel, decorative laminate face should be drilled approximately 2mm larger than screw to prevent laminate cracking.

It is also recommended that the screw threads be coated with PVA glue, prior to final fitting. Where aesthetically acceptable, wall and ceiling fittings should be bolted through – heavier items such as wash hand basins, handrails, ceiling fans etc. can also be adequately fastened with the aid of inserts and dowels. The panel laminate face should also be ‘overdrilled’ with this option.

All above fixtures, fittings and fasteners can be supplied directly with all deliveries of PROMARINE® panels and profiles.
AVAILABILITY AND PACKAGING

PROMARINE® panels are supplied ex-factory either as plain panels, ready for laminating by the client, or as tailor-made laminated panels, bonded with the client’s choice of approved surface coatings e.g. HPL, stainless or galvanised steel, aluminium sheets, vinyl, wallpaper etc.

Laminated panels can be cut, and packed, to clients’ specification using our optimisation computer-cutting programme, which minimises material wastage and eliminates time-consuming, on-site handling.

<table>
<thead>
<tr>
<th>PROMARINE®-640 Plain Finish</th>
<th>Thickness (mm)</th>
<th>Nominal Dry Weight (kg/m²)</th>
<th>No. per Standard Pallet</th>
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<tbody>
<tr>
<td>9.5</td>
<td>6.1</td>
<td>80</td>
<td></td>
</tr>
<tr>
<td>12.7</td>
<td>8.1</td>
<td>60</td>
<td></td>
</tr>
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<td>15.9</td>
<td>10.2</td>
<td>50</td>
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</tr>
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<td>19.1</td>
<td>12.2</td>
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<td>22.2</td>
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<td>25.4</td>
<td>16.3</td>
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<td>31.8</td>
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<tr>
<th>PROMARINE®-640 Laminated with 0.8mm HPL</th>
<th>Thickness (mm)</th>
<th>Nominal Dry Weight (kg/m²)</th>
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<tr>
<td>9.5</td>
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<th>PROMARINE®-450 Plain Finish</th>
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<th>No. per Standard Pallet</th>
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<tr>
<td>16</td>
<td>7.2</td>
<td>55</td>
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<thead>
<tr>
<th>PROMARINE®-450 Laminated with 0.8mm HPL</th>
<th>Thickness (mm)</th>
<th>Nominal Dry Weight (kg/m²)</th>
<th>No. per Standard Pallet</th>
</tr>
</thead>
<tbody>
<tr>
<td>16</td>
<td>9.6</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>11.0</td>
<td>40</td>
<td></td>
</tr>
</tbody>
</table>
SPECIALIST SERVICES

Material Take Off
Promat Marine Division can produce a detailed material take off (Bill of Quantities) upon receipt of general arrangement drawings either via e-mail or as hard copies. Marked up drawings are then returned with our full commercial quotation. This service is offered free of charge.

Postforming
PROMARINE® panels can be postformed to produce both internal and external corners. This can greatly increase the aesthetic appeal of any interior design while maintaining fire integrity.

Available with various radii and leg lengths to suit most situations, postformed corners are viable alternatives to steel sections. PROMARINE® panels can also be supplied as non-combustible vanity units and worktops, postformed with either half round or full round edges.

Toilet Cubicles
PROMARINE® panels can be supplied as toilet cubicles, complete with all necessary fixtures and fittings, including doors, hinges, locks etc.

Galley Linings
PROMARINE® panels can be bonded with all grades of stainless steel, making it ideal for the lining of galleys, store rooms and refrigeration spaces.

Access Hatches
PROMARINE® panels can be supplied complete with all necessary framework as ‘C’ class hatches for access to services located behind fire rated bulkheads and ceilings. Access hatches can be supplied in any dimension, and finished in matching laminate to surroundings.
FIRE RESISTANT GLASS

Fire Rated Glass Partitions and Doors

PROMARINE®.SYSTEMGLAS is a fire rated full height seamless glass partition and door system for marine and offshore use.

Ideally suited for duty free areas, restaurants, bars or general viewing areas, PROMARINE®.SYSTEMGLAS is available clear, tinted or etched, or as a combination of all options.

To provide full transparency, any vertical and/or horizontal joints between the glass are filled with PROMASEAL® translucent fire rated mastic.

The perimeter framework of the partition utilises slender 50mm x 20mm steel hollow sections which can be powder coated to match surroundings.

PROMARINE®.SYSTEMGLAS doors can be supplied as either single or double leaf opening, with closures surface or floor mounted. Frames are of steel hollow section and can be powder coated to match the partition framework.

PROMARINE®.SYSTEMGLAS has been strenuously fire tested far beyond existing marine standards and is available with a 'B15' class fire rating. It should be noted that PROMARINE®.SYSTEMGLAS can potentially be a long lead time product, therefore early discussions regarding customer requirements are recommended.
FIRE STOPPING PRODUCTS

Range of Fire Stopping Systems
PROMASEAL® is a comprehensive range of fire stopping products designed to be cost effective, simple to install and offering outstanding fire performance.

PROMASEAL® Unicollar
PROMASEAL® Unicollar is a unique, patented method of protecting plastic pipes that pass through fire rated bulkheads and ceilings. This is achieved by an intumescent reaction that prevents the passage of fire and smoke through openings that form if plastic pipes are exposed to fire, maintaining fire integrity. The system is supplied in a continuous strip and is simply cut to length to suit required pipe diameter.

PROMASEAL® Sealant
PROMASEAL® Sealant can be supplied in either intumescent or silicone forms, and is used to seal gaps and small holes around fire rated bulkheads and ceilings.

PROMASEAL® Pillows
PROMASEAL® Pillows are used to maintain integrity of fire rated bulkheads and ceilings, when services are subject to change and alteration, i.e. during vessel re-fit.

PROMASEAL® Fire Curtain
PROMASEAL® Fire Curtain is used to form vertical barriers in the void space between the ceiling and underdeck in accommodation areas to prevent the passage of fire, and perhaps more importantly, stop the spread of smoke reaching adjacent areas.

PROMASEAL® Fire Curtain is a white, plain weave fabric, woven from glass fibre yarns and post treated with silicone based coatings, and is available in 25m x 1.55m rolls.

A comprehensive PROMASEAL® brochure is available upon request.
<table>
<thead>
<tr>
<th>Profile Type</th>
<th>Length</th>
<th>Thickness</th>
<th>Weight</th>
<th>Finish</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>PJ-1A C Spline</td>
<td>2500mm</td>
<td>0.8mm</td>
<td>0.44kg/m</td>
<td>Zintec</td>
<td>Install with flat face toward decorative side of panel.</td>
</tr>
<tr>
<td>RJ-29-S Double Omega</td>
<td>2500mm</td>
<td>0.8mm</td>
<td>0.66kg/m</td>
<td>Zintec</td>
<td>Supplied complete with fixing screws.</td>
</tr>
<tr>
<td>RJ-28-US Single Omega with 'U' Channel</td>
<td>2500mm</td>
<td>0.8mm Omega 1.2mm Channel</td>
<td>0.68kg/m</td>
<td>Zintec</td>
<td>Supplied complete with fixing screws.</td>
</tr>
<tr>
<td>PC-17-G Top Channel</td>
<td>2500mm</td>
<td>1.5mm</td>
<td>1.41kg/m</td>
<td>Zintec</td>
<td>Available with self-adhesive anti-vibration gasket.</td>
</tr>
<tr>
<td>PC-15-E Bottom Channel</td>
<td>2500mm</td>
<td>1.5mm</td>
<td>0.7kg/m</td>
<td>Zintec</td>
<td>Available with self-adhesive anti-vibration gasket.</td>
</tr>
</tbody>
</table>
### PA-30-B / PV-05 Internal Angle c/w Cover Strip
- **Length:** 2500mm
- **Thickness:** 0.8mm
- **Weight:** 0.51kg/m
- **Finish:** White, Beige
- **Note:** Install using only No.6 x 16mm long countersunk screws supplied.

### PA-50-B / PV-06 External Angle c/w Cover Strip
- **Length:** 2500mm
- **Thickness:** 1.2mm
- **Weight:** 1.16kg/m
- **Finish:** White, Beige
- **Note:** Install using only No.8 x 16mm long panhead screws supplied.

### PA-5-B / PA-10-B Equal Angles
- **Length:** 2500mm
- **Thickness:** 1.5mm
- **Weight:**
  - 0.56kg/m PA-5-B
  - 1.15kg/m PA-10-B
- **Finish:** Zintec, Powder coated, Stainless steel
- **Note:** Also available with various lengths and angles.

### SK-01 / SK-02 Skirting
- **Length:** 2500mm / 5000mm
- **Thickness:** 1.5mm
- **Weight:** 0.2kg/m
- **Finish:** Dark Grey, Dak Brown
- **Note:** Other colours available, subject to minimum order quantities.

### PV-03 / PV-04 / PS-24 Omega Cover Strips
- **Length:** 2500mm
- **Thickness:**
  - 1.2mm PV-03 / PV-04
  - 0.8mm PS-24
- **Weight:**
  - 0.7kg/m PV-03 / PV-04
  - 0.17kg/m PS-24
- **Finish:** White / Beige PV-03 / PV-04
  - Zintec / Powder coated / Stainless steel PS-24
- **Note:** PV-04 supplied with matching laminate insert.
### PC-30-T Perimeter Channel
- **Length:** 2500mm
- **Thickness:** 1.2mm
- **Weight:** 0.94kg/m
- **Finish:** Zintec
- **Note:** Supplied pre-pierced for ease of installation.

### PC-40-U Main Channel
- **Length:** 2500mm
- **Thickness:** 1.2mm
- **Weight:** 0.88kg/m
- **Finish:** Zintec
- **Note:** Main channels can also be supplied as noggins at pre-determined lengths.

### RJ-28-S Single Omega
- **Length:** 2500mm
- **Thickness:** 0.8mm
- **Weight:** 0.33kg/m
- **Finish:** Zintec Powder coated Stainless steel
- **Note:** Omega cover strips PV-03, PV-04 or PS-24 should be fitted after installation.

### PA-30-B / PV-05 Internal Angle c/w cover strip
- **Length:** 2500mm
- **Thickness:** 0.8mm
- **Weight:** 1.51kg/m
- **Finish:** White Beige
- **Note:** Install using No.6 x 16mm long (wall), No.6 x 25mm Lg (ceiling) countersunk screws supplied.

### H300 Hanger Angle
- **Length:** 2500mm
- **Thickness:** 1.5mm
- **Weight:** 0.5kg/m
- **Finish:** Zintec
- **Note:** For voids up to 300mm. Other lengths available to suit various void spaces. Tack weld or bolt to underdeck.
PROMARINE® - CEILING PROFILES

**CB-2-40 Straight Connector**
- Length: –
- Thickness: 0.8mm
- Weight: 0.074kg each
- Finish: Zintec
- Note: Install using standard pilers.

**CB-3-40 Three Way Joint**
- Length: –
- Thickness: 0.8mm
- Weight: 0.038kg each
- Finish: Zintec
- Note: Install using standard pilers.

**CB-4-40 Four Way Joint**
- Length: –
- Thickness: 0.8mm
- Weight: 0.076kg each
- Finish: Zintec
- Note: Install using standard pilers.

**HA-40 Adjustable Hanger Assembly**
- Length: –
- Thickness: –
- Weight: 0.06kg each
- Finish: Zintec
- Note: Anti-vibration gasket can be installed to minimise possible sound transmission.

Adjustable hanger comprises:
1. **PC-105**
   - Pre-drilled channel c/w 2 screws
2. **HB-40**
   - Hanger Bracket
3. **SB-55**
   - M6 Spindle Bolt c/w Nyloc Nut
4. **UN-15**
   - ‘U’-nut c/w locking screw
5. Anit-vibration gasket