Promat

Kornerstone
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PROMARINE®-640
Fire Rated Decorative Panel

www.promat-marine.com

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Introduction

PROMARINE®-640 is a non-combustible autoclaved calcium silicate board, reinforced with selected minerals and fibres and has a nominal dry density of 640kg/m^3. It is formulated without inorganic fibres and does not contain formaldehyde. The board is off-white in colour and has smooth sanded surfaces The board can easily be finished with high pressure laminates. It is resistant to the effects of moisture and will not physically deteriorate when used in damp or humid conditions.

Advantages

- Non-combustible according to IMO A799 (19)
- Impact & moisture resistant
- Durable
- Easy to install

Applications

- A, B & C Class constructions
- Bulkheads
- Linings
- Non-combustible furnitures

Quality Assurance

Promat products are manufactured to stringent quality control systems to assure that our customers receive materials made to the highest standards.

Operating to these standards means that all activities, which have a bearing upon quality, are set out in written procedures.

Systematic and thorough checks are made on all materials and their usage. Test equipment is subjected to regular checks and is referred back to national standards.

The information given in this data sheet is based on actual tests and is believed to be typical of the product. No guarantee of results is implied however, since conditions of use are beyond our control.

Physical and technical properties

Thickness (mm)	9.5, 12.7, 15.9, 19.1, 22.2, 25.4, 31.8
Width x Length (mm)	1220 x 2440 1220 x 3050
Tolerances on length and width (mm) (plain boards)	-0 / +5
Tolerances on thickness (mm) (plain boards)	-0.8 / +0
Dry Density (kg/m^3)	640 -/+ 10%
Thermal Conductivity (W/mK)	0.134
Alkalinity (pH value)	7 - 10
Coefficient of thermal expansion (20-100°C) (x10^{-6} m per °C)	6
Moisture content : Ex works (%)	8 - 12
Modulus of rupture (N/mm^2) Average, 2 directions (minimum)	3.0
Tensile strength (N/mm^2)	1.9
Compression strength (N/mm^2, 1% deformation)	2.4

Working characteristics

The combination of moisture resistance, mechanical strength and fire protection cannot be matched by boards using other binder systems. The board is rigid and robust. It is easy to handle and can be worked with normal woodworking tools.

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.

Chemical properties

PROMARINE®-640 panels are unaffected by brine or chloride and are chemically inert. The panels are resistant to attack by insects or vermin and will not nourish growth of mould or bacteria.

The panels will not disintegrate or swell if immersed in water. A temporary loss of strength will occur when panels are full saturated, but normal strength is regained when panels dry out.

All physical and mechanical values are averages based on standard production and tested according to internal procedures. The typical values are given for guidance. The figures can change dependent on the test methods used. If a particular value is of prime importance for a specification, please consult Promat Technical Department.

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Working and handling

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

PROMARINE® boards 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 board, 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 a wash hand basins, handrails, ceiling fans etc can also be adequately fastened with the aid of inserts and dowels. The board laminate face should also be 'overdrilled' with this option. All above fixtures, fittings and fasteners can be supplied directly with all deliveries of PROMARINE® boards and profiles.

PROMARINE®-640, plain or laminated boards 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. 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. The panels and HPL should be stored and conditioned prior to laminating. 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.

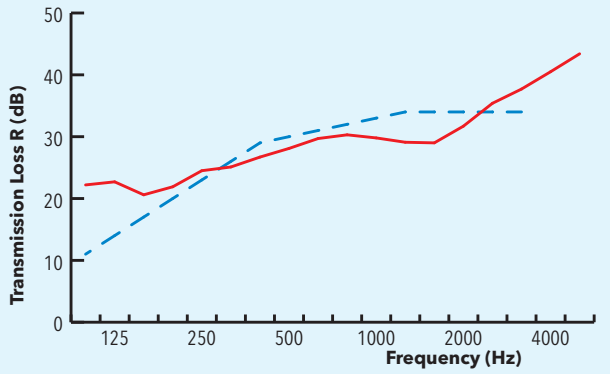
Health and safety

A safety data sheet is available from the Promat Technical Services Department and, as with any other materials, should be read before working with Promat PROMARINE®-640. It is not classified as a dangerous substance and so no special provisions are required regarding the carriage and disposal of the product to landfill. PROMARINE®-640 boards can be placed in an on-site skip with other general building waste which should be disposed of by a registered contractor.

Acoustic Performance

PROMARINE®-640, 16mm thickness

Area sample (m^2): 2.88 - Weight (kg/m^2): 10.20



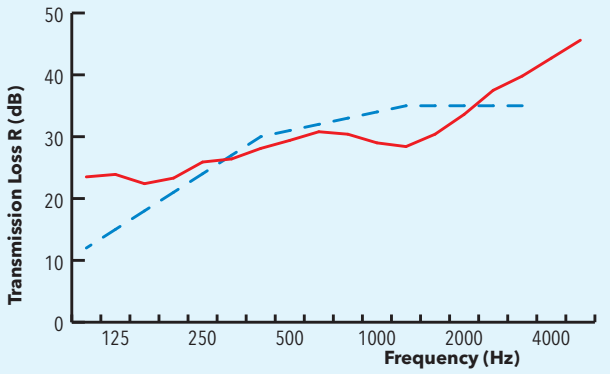
Frequency (Hz)	R (dB)	Frequency (Hz)	R (dB)
100	22.2	**800**	30.3
125	22.7	**1000**	29.8
160	20.6	**1250**	29.1
200	21.9	**1600**	29.0
250	24.5	**2000**	31.7
315	25.1	**2500**	35.4
400	26.7	**3150**	37.7
500	28.1	**4000**	40.5
630	29.7	**5000**	43.4

R_w = 30dB

Evaluation according to ISO curve 717-1

PROMARINE®-640, 19mm thickness

Area sample (m^2): 1.06 - Weight (kg/m^2): 12.20



Frequency (Hz)	R (dB)	Frequency (Hz)	R (dB)
100	23.5	**800**	30.4
125	23.9	**1000**	29.0
160	22.4	**1250**	28.4
200	23.3	**1600**	30.4
250	25.9	**2000**	33.6
315	26.4	**2500**	37.5
400	28.1	**3150**	39.8
500	29.4	**4000**	42.7
630	30.8	**5000**	45.6

R_w = 31dB

Evaluation according to ISO curve 717-1