

# Promat



#### Applications include:

- Fire protection to structural steelwork
- Fire protection upgrade of concrete floor slabs



# Promat VERMICULUX®

Rebated Edge Fire Protection System for Structural Steelwork

## INTRODUCTION

Promat VERMICULUX® is a lightweight non-combustible board specially designed to provide fire protection to structural steelwork. Up to 240 minutes fire resistance can be achieved depending on the thickness of material used, the dimensions of the beam or column being protected and the limiting temperature of the steel section.

It is easy to work using normal woodworking tools and is supplied with two rebated edges to allow cross joints to be made without the need for noggings, cover strips or adhesives. Fixed by edge screwing boards together, Promat VERMICULUX® is fast and economic to install.

## DESCRIPTION

Promat VERMICULUX® is a low density calcium silicate board containing vermiculite and reinforced with selected fibres and fillers. It is formulated without any inorganic fibres.

Promat VERMICULUX® is moisture resistant and can be used in sheltered semi-exposed areas.

Promat VERMICULUX® is off-white in colour with a sanded finish on both faces. It can be left undecorated or can be easily painted. It is resistant to moisture, will not disintegrate, warp or swell and can be installed at any time during the building programme, even before external walls have been completed and the building closed in.

Moisture will not dissolve out soluble materials and the fire performance characteristics are not degraded by age or moisture. Untreated surfaces will absorb water and cause some loss of strength, which is fully recovered on drying.

Promat VERMICULUX® is rigid and robust but edges and corners should be protected where impact damage may occur.

Promat VERMICULUX® is supplied in the sizes shown in the table below. The boards are rebated on the same side along two opposite edges, to provide a 16mm wide half-lap which eliminates the need for noggings, cover strips or adhesives. The large range of thicknesses available allows selection of the most economic board to meet given periods of fire resistance.

| Nominal Sizes                          |                                      |
|--|--------------------------------------|
| Thicknesses (mm)                       | 20, 25, 30, 35, 40, 45, 50, 55 or 60 |
| Length x width (mm)                    | 1220 x 1220                          |
| Nominal Weight (kg/mm/m <sup>2</sup> ) | 0.55                                 |

## TYPICAL APPLICATIONS

Promat VERMICULUX® is designed to provide fire protection to structural steelwork without the use of adhesives or the need to prime or clean the steel. Four sided protection to columns is achieved by forming a box around the column which is fixed by simply edge screwing the boards together. When casing a beam or column exposed on two or three sides, the Promat VERMICULUX® is fixed to steel angles.

Full details of constructions and the thicknesses of Promat VERMICULUX® required to provide given periods of fire protection to particular structural sections are available from Promat UK Technical Services Department.



# Promat VERMICULUX®

## Rebated Edge Fire Protection System for Structural Steelwork

### PERFORMANCE

#### Fire

Non-combustible to BS 476: Part 4 1970; Euroclass A1 in accordance with BS EN 13501: 1; Class 1 surface spread of flame to BS 476: Part 7: 1987; Class 0 to the Building Regulations.

Promat VERMICULUX® can provide up to 240 minutes fire protection to structural steelwork depending on the thickness of material used and the A/V factor. This is calculated from the fire exposed perimeter and the sectional area of the steelwork to be protected.

Minimal emission of toxic smoke or gases in the event of a fire.

#### Effect of Moisture

Excellent dimensional stability. Resistant to high humidities. It will absorb water causing some loss of strength but this is fully recovered on drying.

Moisture has no permanent effect on the performance of the board as it will not degrade the board or dissolve out any ingredients. It does not cause efflorescence.

Promat VERMICULUX® can be fixed at any time in the building programme even before external walls have been completed and the building made weather tight.

#### Thermal

Coefficient of linear expansion  $4 \times 10^{-6}$  per °C. Thermal conductivity 0.13 W/mK.

#### Biological

Resistant to attack by insects or vermin. Rot resistant.

#### Chemical

Unaffected by brine and chlorine, resistant to low concentrations of most acids and alkalis. Surface pH value 7–10.

#### Compatibility

Compatible with all common building materials; non-caustic and will not promote corrosion; will not affect bituminous compounds; when in contact with unanodised aluminium the latter should be protected.

### QUALITY

The manufacturing and production systems for Promat VERMICULUX® are independently certified as complying with ISO 9001: 2008.

### HEALTH AND SAFETY

A safety data sheet is available from 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 so no special provisions are required regarding the carriage and disposal of the product to landfill. They can be placed in an on-site skip with other general building waste which should be disposed of by a registered contractor.

### TECHNICAL INFORMATION

For full details of applications, properties, cutting, fixing and decoration contact Promat UK Technical Services Department. Telephone: 01344 381 400, Fax: 01344 381 401.

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