

|                    |              |
|--------------------|--------------|
| Uniclass<br>L68117 | EPIC<br>F814 |
| CI/SfB             | Vu4 (K3)     |



# PROMASPRAY® F250

*Mineral Wool Cement Based Dry Mix Spray*

construction applications



[www.promat-spray.com](http://www.promat-spray.com)

## PROMASPRAY® F250

### Mineral Wool Cement Based Dry Mix Spray

#### INTRODUCTION

PROMASPRAY® F250 is a spray applied single package factory controlled premix, based on a mixture of mineral wool and cement binders, for internal use.

PROMASPRAY® F250 will not crack or spall under normal conditions of structural movement or where deflections are within 1/250 of the span. It will also resist dusting and erosion due to high velocity air movement in plenum chambers.

PROMASPRAY® F250 is therefore used for application on steel and concrete frames, metal decks and return air plenums, and can be sprayed around any complex shape.

Commercial projects will benefit from the use of PROMASPRAY® F250.

| Properties and performance  |   |
|-----------------------------|---|
| Colour and finish           | Off-white textured surface. May be tamped/cuffed or rolled for a smoother finish or oversprayed with a recommended hard setting finish  |
| Minimum practical thickness | 10mm  |
| Theoretical coverage        | 210m <sup>2</sup> /tonne at 18mm thickness  |
| Cure                        | By hydraulic set  |
| Initial set                 | 24 hours at 20°C and 50% RH   |
| Density                     | 180-300 kg/m <sup>3</sup> depending on application  |
| Bond impact                 | No cracks or delamination   |
| Air erosion resistance      | No erosion  |
| Deflection effect           | No cracks or delamination within normal code limits   |
| Cohesion/adhesion           | 19.1kPa   |
| Combustibility              | Non-combustible   |
| Smoke generation            | Does not contribute to smoke generation   |
| Thermal conductivity        | 0.043W/mK at 24°C   |
| Corrosion resistance        | Does not promote corrosion of steel   |
| pH value                    | 10  |
| Sound absorption            | Noise reduction coefficient (NRC) 0.75  |
| Fire resistance             | Structures protected with PROMASPRAY® F250 have undergone extensive fire resistance tests in approved independent laboratories to recognised standards throughout the world, including: <ul style="list-style-type: none"> <li>• UK (BS 476: Parts 20-21: 1987 Appendix D)</li> <li>• France (August 1999 Ministry Decree)</li> <li>• Belgium (NBN S21-202)</li> <li>• USA (ASTM E119)</li> </ul> <p>The fire resistance test results relate solely to the constructions tested and test conditions imposed. Promat provides computer based thickness calculations to meet specific fire resistance on receipt of details</p> |

#### ADVANTAGES

- A durable, lightweight coating that offers fire protection for up to 240 minutes.
- A very effective thermal insulator, particularly when applied to the underside of a floor.
- An efficient sound absorbing material.

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### FIRE PROTECTION THICKNESS

The thickness of the fire protection for a given period of fire resistance in a cellulosic type fire, relates to the A/V ratio of the section. A/V is the ratio of the heated perimeter exposed to fire to the cross-sectional area of steel.

All column and beam sections have their own specific A/V ratio. Please consult Promat to establish the A/V ratio for a particular beam or column section. TABLES 1 and 2 ascertain the thickness of PROMASPRAY® F250 that meets the required period of fire resistance for I-section beams and H-section columns.

These tables show the thickness requirements for PROMASPRAY® F250 under French testing standards. Thickness requirements under other testing standards are available from Promat on request.

For advice on thickness calculations for hollow sections, cellular beams, castellated sections, composite floors, upgrading of concrete slabs and more complex situations, please contact Promat.

| A/V | Thickness for the required fire resistance |        |        |         |         |         |
|-----|--|--------|--------|---------|---------|---------|
|     | 30 min                                     | 60 min | 90 min | 120 min | 180 min | 240 min |
| 30  | 15mm                                       | 15mm   | 15mm   | 15mm    | 25mm    | 35mm    |
| 50  | 15mm                                       | 15mm   | 15mm   | 18mm    | 32mm    | 42mm    |
| 70  | 15mm                                       | 15mm   | 15mm   | 20mm    | 37mm    | 45mm    |
| 90  | 15mm                                       | 15mm   | 15mm   | 23mm    | 40mm    | 49mm    |
| 110 | 15mm                                       | 15mm   | 17mm   | 25mm    | 42mm    | 50mm    |
| 130 | 15mm                                       | 15mm   | 20mm   | 27mm    | 44mm    | 60mm    |
| 150 | 15mm                                       | 15mm   | 20mm   | 30mm    | 45mm    | 60mm    |
| 170 | 15mm                                       | 15mm   | 22mm   | 33mm    | 48mm    | –       |
| 190 | 15mm                                       | 15mm   | 23mm   | 35mm    | 52mm    | –       |
| 210 | 15mm                                       | 17mm   | 24mm   | 37mm    | 55mm    | –       |
| 230 | 15mm                                       | 18mm   | 27mm   | 39mm    | 57mm    | –       |
| 250 | 15mm                                       | 19mm   | 28mm   | 42mm    | –       | –       |
| 270 | 15mm                                       | 19mm   | 30mm   | 43mm    | –       | –       |
| 290 | 15mm                                       | 20mm   | 32mm   | 44mm    | –       | –       |
| 310 | 15mm                                       | 22mm   | 34mm   | 47mm    | –       | –       |
| 330 | 15mm                                       | 23mm   | 35mm   | 48mm    | –       | –       |

**TABLE 1 PROMASPRAY® F250 thicknesses for I-section beams (3-sided exposure). Critical temperature 620°C, continuous concrete topping.**

| A/V | Thickness for the required fire resistance |        |        |         |         |         |
|-----|--|--------|--------|---------|---------|---------|
|     | 30 min                                     | 60 min | 90 min | 120 min | 180 min | 240 min |
| 30  | 15mm                                       | 15mm   | 15mm   | 20mm    | 30mm    | 48mm    |
| 50  | 15mm                                       | 15mm   | 15mm   | 22mm    | 38mm    | 52mm    |
| 70  | 15mm                                       | 15mm   | 17mm   | 24mm    | 42mm    | 55mm    |
| 90  | 15mm                                       | 15mm   | 20mm   | 27mm    | 44mm    | –       |
| 110 | 15mm                                       | 15mm   | 22mm   | 30mm    | 47mm    | –       |
| 130 | 15mm                                       | 17mm   | 24mm   | 35mm    | 50mm    | –       |
| 150 | 15mm                                       | 18mm   | 25mm   | 37mm    | 53mm    | –       |
| 170 | 15mm                                       | 18mm   | 27mm   | 38mm    | 57mm    | –       |
| 190 | 15mm                                       | 19mm   | 30mm   | 40mm    | –       | –       |
| 210 | 15mm                                       | 20mm   | 32mm   | 43mm    | –       | –       |
| 230 | 15mm                                       | 22mm   | 33mm   | 44mm    | –       | –       |
| 250 | 15mm                                       | 23mm   | 34mm   | 47mm    | –       | –       |
| 270 | 15mm                                       | 24mm   | 37mm   | 48mm    | –       | –       |
| 290 | 15mm                                       | 24mm   | 37mm   | 48mm    | –       | –       |
| 310 | 15mm                                       | 26mm   | 40mm   | 52mm    | –       | –       |
| 330 | 15mm                                       | 27mm   | 43mm   | 57mm    | –       | –       |

**TABLE 2 PROMASPRAY® F250 thicknesses for H-section columns (4-sided exposure). Critical temperature 550°C.**



# PROMASPRAY® F250

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### SOUND INSULATION THICKNESS

PROMASPRAY® F250 has been extensively tested and used as a medium for absorbing sound, and being spray applied presents a monolithic surface.

The noise reduction coefficient (NRC) is the average absorption of sound in the 250-2000 Hertz (Hz) range. In TABLE 3, figures are also given for 125 Hz as this represents the pitch of the average male voice and has relevance to office design.

TABLE 3 PROMASPRAY® F250 thicknesses at density of 285kg/m<sup>3</sup> and sound absorption.

| Thickness | Substrate     | Frequency              |        |        |         |         |         | NRC rating |
|-----------|---------------|------------------------|--------|--------|---------|---------|---------|------------|
|           |               | 125 Hz                 | 250 Hz | 500 Hz | 1000 Hz | 2000 Hz | 4000 Hz |            |
|           |               | Absorption coefficient |        |        |         |         |         |            |
| 13mm      | Steel beam    | 0.25                   | 0.58   | 0.77   | 0.98    | 1.10    | 1.13    | 0.85       |
| 19mm      | Concrete slab | 0.08                   | 0.16   | 0.52   | 0.87    | 1.08    | 1.07    | 0.65       |

### PREPARATION

|                              |   |
|------------------------------|---|
| <b>Typical substrates</b>    | Primed and unprimed steel, concrete structures, metal decks and return air plenums  |
| <b>Substrate preparation</b> | The substrate must be clean, dry and free from dust, loose millscale, loose rust, oil and any other condition preventing good adhesion<br>PROMASPRAY® F250 can be applied to unprimed and primed steelwork. Prior to the application, primed steel and concrete should be prepared by the application of Promat BONDSEAL® used as a keycoat |

### APPLICATION

|                      |   |
|----------------------|---|
| <b>Initial steps</b> | Application of PROMASPRAY® F250 must be carried out by an applicator recognised by Promat   |
| <b>Methods</b>       | Mix PROMASPRAY® F250 with potable water at the nozzle of a spraying machine approved by Promat<br>PROMASPRAY® F250 may be tamped/cuffed or rolled for a smoother finish or left with a spray texture  |
| <b>Limitations</b>   | PROMASPRAY® F250 may be applied when the substrate and air temperatures are at least 4°C and rising, and must be maintained for 24 hours before, during and 24 hours after application. Maximum substrate and air temperature is 50°C<br>Substrate temperature should be at least 2°C above dew point temperature |



# PROMASPRAY® F250

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## Mineral Wool Cement Based Dry Mix Spray

### QUALITY ASSURANCE

Promat operates a quality system in accordance with BS EN ISO 9001: 2008 and has received full accreditation to these 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.

### HEALTH AND SAFETY

Adequate ventilation must be provided during use. Avoid contact with the skin and eyes by using eye protection, gloves, barrier cream and a face mask.

If the product comes into contact with the skin, wash immediately with soap and water. If the eyes are affected, flush with plenty of water and seek medical attention immediately.

A safety data sheet is available from Promat upon request.

Promat activities are conducted with due regard to all statutory requirements with appropriate safeguards against exposing employees and the public to health and safety risks.

### PACKAGING

20kg bags.

### STORAGE

Above ground and kept dry.

### SHELF LIFE

Maximum 12 months.

### ENVIRONMENTAL

Do not discharge into drains, watercourses or soil.

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