

Promat

PROMASPRAY®-F5

Vermiculite Cement Based Wet Mix Spray

www.promat-tunnel.com



Advantages

- Structures protected with PROMASPRAY®-F5 can provide fire resistance for up to 240 minutes.
- Does not release toxic or hazardous fumes, and presents no known health hazards either before, during or after application.
- The surface may either be spray textured, roller or float finished.

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.

Introduction

PROMASPRAY®-F5 is a spray applied, single package factory controlled cement based premix, based on vermiculite and Portland cement.

PROMASPRAY®-F5 produces a monolithic coating able to withstand the thermal shocks experienced in a high intensity hydrocarbon fire. Concrete structures in particular, will be protected from explosive spalling when coated with PROMASPRAY®-F5. Although low in density, thus significantly reducing dead load, PROMASPRAY®-F5 is highly durable and will not crack or spall under mechanical impact.

PROMASPRAY®-F5 is used for application on construction elements such as concrete or individual steel sections. It is also used extensively for the refurbishment or upgrading of existing tunnel structures.

Properties and Performances

Colour and finish	Off-white, monolithic, spray texture. May be floated or roller finished
Minimum practical thickness	8mm when unreinforced, 15mm when reinforced
Theoretical coverage	62m ² /tonne at 25mm thickness
Cure	By hydraulic set
Initial set	2 to 6 hours at 20°C and 50% RH
Density (Nominal)	775kg/m ³ ± 15% (when dry and in place)
Combustibility	Non-combustible to BS476: Part 4
Smoke generation	Does not contribute to smoke generation
Thermal conductivity	0.19 W/mK at 20°C
Corrosion resistance	Does not promote corrosion of steel. However, a primed substrate is recommended for long term corrosion resistance, particularly when the structure is to be fully exposed to the elements. See Preparation
pH value	12.0 - 12.5
Sound absorption	Noise reduction coefficient (NRC) 0.35
Fire resistance	Concrete and steel structures protected with PROMASPRAY®-F5 have undergone extensive fire resistance tests at approved independent laboratories to recognised standards throughout the world, including: UK (BS 476: Parts 20-21: 1987 Appendix D) Germany (DIN 4102) International Standard ISO 834 Netherlands, RWS (Fire Test procedures for tunnels GT-98036-1a) France, Hydrocarbon Modified HCM Italy (UNI 11076) USA (ASTM E119, UL263 and UL1709 - Design No. XR719) 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 requirements on request.

Preparation

Typical substrates	Concrete and steel
Substrate preparation	The substrate must be clean, dry and free from visible moisture (including condensation), concrete laitance, formwork release oils, loose millscale, loose rust and any other condition preventing good adhesion. Concrete curing agents should not be used.
Mesh reinforcement	Most fire tests conducted have been carried out without mesh reinforcement, to demonstrate the ability of PROMASPRAY®-F5 to stay in place under the most severe fire conditions. However, for maximum long term in service durability, the use of lightweight mesh reinforcement is recommended for exterior work and for interior use where vibration or mechanical damage and the possibility of subsequent de-bonding exist.

Application

Initial steps	Application of PROMASPRAY®-F5 must be carried out by an applicator recognised by Promat and applied in accordance with the installation guide available from Promat.
Methods	Mix PROMASPRAY®-F5 with potable water in a suitable mixer and apply by a spraying machine approved by Promat. PROMASPRAY®-F5 may also be float or roller finished or left with PROMASPRAY®-F5T. A hand applied patching mix is available for minor repairs. Please refer to product data sheet of PROMASPRAY®-F5T
Limitations	PROMASPRAY®-F5 may be applied when the substrate and air temperatures are at least 2°C and rising, but should not be applied if the substrate or air temperatures are less than 4°C and falling. Maximum substrate and air temperature is 50°C. Substrate temperature should be at least 2°C above dew point temperature.

Top coating

Top coating systems may be used as protection from frequent wash down, long term chemical spills, or for improved resistance to fungal, algal and bacterial growth. Please consult Promat for guidance.

Packaging

20kg bags.

Storage

Off the ground and kept dry until ready for use.

Shelf life

Maximum 12 months.

Environmental

- Do not discharge into drains, watercourses or soil.
- Not readily biodegradable.
- Not expected to bioaccumulate.
- Not expected to be toxic to aquatic life except at high concentrations.

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.



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