

Promat



Cafco FENDOLITE[®] MII

Vermiculite & Portland Cement Based Wet Mix Spray

tunnel applications



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INTRODUCTION

Cafco FENDOLITE® MII is a spray applied, single package factory controlled premix, based on vermiculite and Portland cement.

Cafco FENDOLITE® MII 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 Cafco FENDOLITE® MII.

Although low in density, thus significantly reducing dead load, Cafco FENDOLITE® MII is highly durable and will not crack or spall under mechanical impact.

Cafco FENDOLITE® MII 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 performance	
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	Minimum 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	0.19W/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	<p>Concrete and steel structures protected with Cafco FENDOLITE® MII have undergone fire resistance tests at approved independent laboratories to recognised standards throughout the world, including:</p> <ul style="list-style-type: none"> • UK (BS476: 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. XR704) <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 requirements on request.</p>

ADVANTAGES

- Structures protected with Cafco FENDOLITE® MII 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.

FIRE PROTECTION THICKNESS

Fire protection thickness requirements are often specified in the owner operator's engineering codes of practice. Alternatively, please consult Promat Technical Department.

QUALITY ASSURANCE

Promat operates a quality system in accordance with ISO 9001: 2000 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.



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Preparation	
Typical substrates	Concrete and steel
Substrate preparation	The substrate shall be clean, dry and free from visible moisture (including condensation), concrete laitance, formwork release oils, loose mill scale, 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 Cafco FENDOLITE® MII 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 loss of adhesion exist.
Application	
Initial steps	Application of Cafco FENDOLITE® MII must be carried out by an applicator recognised by Promat and applied in accordance with the installation guide available from Promat.
Methods	Mix Cafco FENDOLITE® MII with potable water in a suitable mixer and apply by a spraying machine approved by Promat. Cafco FENDOLITE® MII may also be float or roller finished or left with a spray texture. Hand applied patching mix, Cafco FENDOLITE® TG is available for minor repairs. Please refer to product data sheet of Cafco FENDOLITE® TG.
Limitations	Cafco FENDOLITE® MII 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.

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.

TOP COATING

Under certain circumstances, decorative top coating systems maybe 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 details.

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.

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