

Promat

Cafco FENDOLITE®-MII
Vermiculite Cement Based Wet Mix Spray

www.promat-tunnel.com



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.

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

Cafco FENDOLITE®-MII is a spray applied, single package factory controlled cement based 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 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 Cafco FENDOLITE®-MII 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 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 de-bonding 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 Cafco FENDOLITE® TG. A hand applied patching mix 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.

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.

Head Office

Promat International N.V.

Bormstraat 24
2830 Tiselt
Belgium
Tel: +32 15 718 100
Fax: +32 15 718 109
Email: info@promat-international.com
www.promat-international.com
www.promat-tunnel.com
www.promat-marine.com
www.promat-oilandgas.com

Asia Pacific Headquarters, Malaysia

Promat International (Asia Pacific) Ltd.

Unit 19-02-01 -Level 2 PNB Damansara
No.19 Lorong Dungun - Damansara Heights
50490 Kuala Lumpur
Tel: +60 3 2095 5111
Fax: +60 3 2095 6111
Email: info@promat-ap.com
www.promat-ap.com

Australia

Promat Australia Pty. Ltd.

1 Scotland Road
SA 5031 Mile End South
Tel: 1800 Promat (776 628)
Fax: +61 8 8352 1014
Email: mail@promat.com.au
www.promat-ap.com

Austria

Promat GmbH

St.-Peter-Straße 25
4021 Linz
Tel: +43 732 - 6912 - 0
Fax: +43 732 - 6912 - 3740
Email: office@promat.at
www.promat.at

Belgium

Promat Belgium

Bormstraat 24
2830 Tiselt
Tel: +32 15 719 351
Fax: +32 15 718 229
Email: info@promat.be
Email: techniek@promat.be
www.promat.be

China

Promat China Ltd.

Room 506, Block A, Qi Lin Plaza
13-35 Pan Fu Road
510180 Guangzhou
Tel: +86 20 8136 1167
Fax: +86 20 8136 1372
Email: info@promat.com.cn
www.promat.com.cn

Czech Republic

Promat s.r.o.

Kkalova 22/784
16000 Praha 6 - Bubeneč
Tel: +420 2 2439 0811
Fax: +420 2 3333 3576
Email: promat@promatpraha.cz
www.promatpraha.cz

Denmark

Promat Nordic

Kometvej 36
6230 Rødskro
Tel: +45 7366 1999
Fax: +45 7466 1020
Email: info@promat.nu
www.promat.nu

France

Promat S.A.S.

BP 66 Rue de L'Ammandier
78540 Vernouillet
Tel: +33 1 3979 6160
Fax: +33 1 3971 1660
Email: info@promat.fr
www.promat.fr

Germany

Promat GmbH

Scheifenkamp 16
40878 Ratingen
Tel: +49 2102 493 0
Fax: +49 2102 493 111
Email: mail@promat.de
www.promat.de

Hong Kong

Promat International (Asia Pacific) Ltd.

Room 1010, C.C. Wu Building
302-308 Hennessy Road, Wanchai
Tel: +852 2836 3692
Fax: +852 2834 4313
Email: apromath@promat.com.hk
www.promat.com.hk

India

Promat (Malaysia) Sdn. Bhd. (India Representative Office)

610-611, Ansal Imperial Tower
C-Block, Community Centre
Naraina Vihar, Naraina
110028 New Delhi
Tel: +91 11 2577 8413
Fax: +91 11 2577 8414
Email: info-india@promat-asia.com
www.promat-ap.com

Italy

Promat Italy S.p.A.

Via Perlasca 14
27010 Vellezzo Bellini (PV)
Tel: +39 0382 4575 200
Fax: +39 0382 926 900
Email: info@promat.it
www.promat.it

Japan

Promat Japan Corporation

Pacific Marks Shinjuku 4-15-7
Nishi-Shinjuku, Shinjuku-Ku
160-0023 Tokyo

Malaysia

Promat (Malaysia) Sdn. Bhd.

Unit 19-02-01 - Level 2 PNB Damansara
No.19 Lorong Dungun
Damansara Heights
50490 Kuala Lumpur
Tel: +60 3 2095 8555
Fax: +60 3 2095 2111
Email: info@promat-ap.com
www.promat-ap.com

Netherlands

Promat B.V.

Vleugelboot 22
3991 CL Houten
PO Box 475
3990 GG Houten
Tel: +31 30 241 0770
Fax: +31 30 241 0771
Email: info@promat.nl
www.promat.nl

Poland

Promat TOP Sp. z o. o.

ul. Przeclawska 8
03 879 Warszawa
Tel: +48 22 212 2280
Fax: +48 22 212 2290
Email: top@promatop.pl
www.promatop.pl

Russia

Promat

Pr. Vernadskogo 84/2
119606, Russia
Tel: +7 (495) 246 01 01
Fax: +7(495) 246 01 92
Email: sales@promat.ru
www.promat.ru

Singapore

Promat Building System Pte. Ltd.

10 Science Park Road
#03-14 The Alpha - Singapore Science Park II
117684 Singapore
Tel: +65 6776 7635
Fax: +65 6776 7624
Email: info@promat.com.sg
www.promat-ap.com

South East Europe Headquarters, Slovenia Promat d.o.o.

Trata 50
4220 Škofja Loka, Slovenia
Tel: +386 4 51 51 451
Fax: +386 4 51 51 450
Email: info@promat-see.com
www.promat-see.com

South Korea

Promat International (Asia Pacific) Ltd.

(Korea Branch Office)
Room 406, 811-2 - Yeoksam-dong
Gangnam-gu
135080 Seoul
Tel: +82 70 7794 8216
Email: apromath@promat.com.hk
www.promat-ap.com

Spain

Promat Ibérica S.A.

C/Velazquez, 47 - 6° izda
28001 Madrid
Tel: +34 91 781 1550
Fax: +34 91 575 1597
Email: info@promat.es
www.promat.es

Switzerland

Promat AG

Stationsstrasse 1
8545 Rickenbach-Sulz
Tel: +41 52 320 9400
Fax: +41 52 320 9402
Email: office@promat.ch
www.promat.ch

United Arab Emirates

Promat Fire Protection LLC

Plot no. 597-921,
Dubai Investment Park 2
PO Box 123945, Dubai
Tel: +971 4 8850 3070
Fax: +971 4 8853 588
www.promatfp.ae

United Kingdom

Promat UK Ltd.

The Sterling Centre, Eastern Road,
Bracknell
RG12 2TD Berkshire, Great Britain
Tel: +44 1344 381 300/400
Fax: +44 1344 381 301
Email: marketinguk@promat.co.uk
www.promat.co.uk

USA

Promat Inc.

1731 Fred Lawson Drive
TN 37801 Maryville
Tel: +1 865 681 0155
Fax: +1 865 681 0016
Email: sales@promat.us
www.promat.us