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Promat



CAFCO® 300

Vermiculite Gypsum Based Wet Mix Spray

construction applications



www.promat-spray.com

CAFCO® 300

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INTRODUCTION

CAFCO® 300 is a spray or trowel applied, single package factory controlled premix, based on vermiculite and gypsum, for internal use.

CAFCO® 300 is a lightweight coating that provides very efficient fire resistance with minimal thickness to steel and concrete frames, metal floor and roof decks, and to return air plenums.

Structures protected with CAFCO® 300 can provide fire resistance for up to 240 minutes.

Building types that will benefit from the use of CAFCO® 300 include a wide range of educational, leisure and entertainment centres, and commercial projects.



Properties and performance	
Colour and finish	Off-white with a monolithic spray texture
Theoretical coverage	217m ² /tonne at 15mm thickness
Number of coats	One or more as required
Cure	By hydraulic set
Initial set	10 to 15 hours at 20°C and 50% RH without accelerator
Density	310kg/m ³ ± 15% without accelerator, approximately 10% less with accelerator
Bond impact	No cracks or delamination to ASTM E760
Air erosion resistance	No erosion to ASTM E859
Compressive strength	1.22kg/cm ² to ASTM E761
Deflection effect	No spalling, delamination or cracking to ASTM E759
Flame spread	Class 0 as defined by the Building Regulations
Thermal conductivity	0.078W/mK
Corrosion resistance	Does not promote corrosion of steel. However, a primed substrate is recommended for long term corrosion resistance. See Preparation
pH value	8.0 - 8.5
Fire resistance	Structures protected with CAFCO® 300 have undergone extensive fire resistance tests up to 240 minutes in approved independent laboratories to recognised standards throughout the world, including: <ul style="list-style-type: none"> • UK (BS 476: Part 21) • USA (ASTM E119) • France (August 1999 Ministry Decree) • Belgium (NBN S21-202) • Germany (DIN 4102:1977-09 and DIN EN 1363-1:1999-10) • European Standard ENV 13381: Part 4 The fire resistance test results relate solely to the constructions tested and test conditions imposed

QUALITY ASSURANCE

Promat operates a quality system in accordance with BS EN 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.

CAFCO® 300

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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.

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 CAFCO® 300 that meets the required period of fire resistance for I-section beams and H-section columns.

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.

TABLE 1 CAFCO® 300 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	10mm	10mm	10mm	11mm	16mm	21mm
40	10mm	10mm	10mm	13mm	19mm	25mm
50	10mm	10mm	12mm	15mm	22mm	28mm
60	10mm	10mm	13mm	17mm	24mm	32mm
70	10mm	10mm	14mm	18mm	26mm	34mm
80	10mm	10mm	15mm	19mm	28mm	36mm
90	10mm	11mm	16mm	20mm	29mm	38mm
100	10mm	11mm	16mm	21mm	31mm	40mm
110	10mm	12mm	17mm	22mm	32mm	42mm
120	10mm	12mm	17mm	23mm	33mm	43mm
130	10mm	13mm	18mm	23mm	34mm	44mm
140	10mm	13mm	18mm	24mm	35mm	46mm
150	10mm	13mm	19mm	24mm	36mm	47mm
160	10mm	14mm	19mm	25mm	36mm	48mm
170	10mm	14mm	20mm	25mm	37mm	49mm
180	10mm	14mm	20mm	26mm	38mm	49mm
190	10mm	14mm	20mm	26mm	38mm	50mm
200	10mm	14mm	20mm	27mm	39mm	51mm
210	10mm	15mm	21mm	27mm	39mm	51mm
220	10mm	15mm	21mm	27mm	40mm	52mm
230	10mm	15mm	21mm	27mm	40mm	53mm
240	10mm	15mm	21mm	28mm	40mm	53mm
250	10mm	15mm	22mm	28mm	41mm	54mm
260	10mm	15mm	22mm	28mm	41mm	54mm
270	10mm	15mm	22mm	28mm	41mm	54mm
280	10mm	16mm	22mm	29mm	42mm	55mm
290	10mm	16mm	22mm	29mm	42mm	55mm
300	10mm	16mm	22mm	29mm	42mm	56mm
310	10mm	16mm	23mm	29mm	43mm	56mm



CAFCO® 300

Vermiculite Gypsum Based Wet Mix Spray

TABLE 2 CAFCO® 300 thicknesses for H-section columns (4-sided exposure). Critical temperature 550°C.

A/V	Thickness for the required fire resistance					
	30 min	60 min	90 min	120 min	180 min	240 min
30	10mm	10mm	10mm	12mm	18mm	23mm
40	10mm	10mm	11mm	15mm	21mm	28mm
50	10mm	10mm	13mm	17mm	24mm	32mm
60	10mm	10mm	14mm	19mm	27mm	35mm
70	10mm	11mm	16mm	20mm	29mm	38mm
80	10mm	12mm	16mm	21mm	31mm	41mm
90	10mm	12mm	17mm	23mm	33mm	43mm
100	10mm	13mm	18mm	24mm	34mm	45mm
110	10mm	13mm	19mm	24mm	36mm	47mm
120	10mm	14mm	19mm	25mm	37mm	48mm
130	10mm	14mm	20mm	26mm	38mm	50mm
140	10mm	14mm	20mm	27mm	39mm	51mm
150	10mm	15mm	21mm	27mm	40mm	52mm
160	10mm	15mm	21mm	28mm	40mm	53mm
170	10mm	15mm	22mm	28mm	41mm	54mm
180	10mm	15mm	22mm	29mm	42mm	55mm
190	10mm	16mm	22mm	29mm	42mm	56mm
200	10mm	16mm	23mm	29mm	43mm	56mm
210	10mm	16mm	23mm	30mm	43mm	57mm
220	10mm	16mm	23mm	30mm	44mm	58mm
230	10mm	16mm	23mm	30mm	44mm	58mm
240	10mm	17mm	24mm	31mm	45mm	59mm
250	10mm	17mm	24mm	31mm	45mm	59mm
260	10mm	17mm	24mm	31mm	46mm	60mm
270	10mm	17mm	24mm	31mm	46mm	60mm
280	10mm	17mm	24mm	32mm	46mm	61mm
290	10mm	17mm	25mm	32mm	47mm	61mm
300	10mm	17mm	25mm	32mm	47mm	62mm
310	10mm	17mm	25mm	32mm	47mm	62mm

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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PREPARATION

Typical substrates	Unprimed and primed steel, concrete structural frames and return air plenums
Substrate preparation	The substrate shall be clean, dry and free from dust, loose millscale, loose rust, oil and any other condition preventing good adhesion Steelwork and concrete substrates should be covered with Cafco BONDSEAL®, an adhesive/keycoat, prior to the application of CAFCO® 300

APPLICATION

Initial steps	Application of CAFCO® 300 must be carried out by an applicator recognised by Promat
Methods	Mix CAFCO® 300 with potable water in a suitable mixer and apply by a spraying machine approved by Promat CAFCO® 300 may also be float finished using conventional hand tools or spray textured
Limitations	CAFCO® 300 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 45°C Substrate temperature should be at least 2°C above dew point temperature

PACKAGING

20kg bags.

STORAGE

Protect from frost, excessive heat (above 45°C) and strong radiant sunlight.

SHELF LIFE

Maximum 6 months.

ENVIRONMENTAL

Do not discharge into drains, watercourses or soil.



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