

Uniclass L673	EPIC F732
CI/SfB	V (M2)+(P2)

Promat



# CAFCOTHERM®

*Mineral Wool Cement Mix Spray*

construction applications



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

## CAFCOTHERM®

### Mineral Wool Cement Mix Spray

#### INTRODUCTION

CAFCOTHERM® is a dry spray applied, single pack factory controlled premix, based on a mixture of mineral wool and cement binders, for internal use or when protected from direct exposure to the weather.

CAFCOTHERM® is used for application on steel and concrete frames, concrete soffits, metal decks and return air plenums.

The application of CAFCOTHERM® provides an economical and joint-free barrier to thermal transmission and offers excellent sound absorption. Building types that will benefit from the use of CAFCOTHERM® include a wide range of educational, leisure and entertainment centres or commercial projects, including the thermal insulation of ground floor car parks.

Properties and performance	
Colour and finish	Off-white. Surface can be textured or tamped
Minimum practical thickness	10mm
Theoretical coverage	103m <sup>2</sup> /tonne at 65mm thickness
Number of coats	One or more as required
Cure	By hydraulic set
Initial set	6 to 8 hours at 20°C and 50% RH
Density	200kg/m <sup>3</sup> ± 15% for fire resistance and sound absorption 145kg/m <sup>3</sup> ± 15% for thermal insulation
Combustibility	Non-combustible to BS476: Part 4: 1970
Flame spread	Class 0 as defined by the Building Regulations
Thermal conductivity	0.036W/mK at a density of 145kg/m <sup>3</sup>
Smoke generation	Does not contribute to smoke generation
pH value	12.0 - 12.5
Sound absorption	Noise reduction coefficient (NRC) 0.85, see <b>TABLE 2</b>
Fire resistance	Structures protected with CAFCOTHERM® have been assessed for up to 120 minutes fire resistance as defined in BS476: Part 8 for cellulosic fires 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 ratings on receipt of beam and column section details

#### ADVANTAGES

Durable, lightweight coating that offers combined thermal and acoustic properties in addition to fire protection. Can be sprayed around any complex shape.

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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. Use [TABLE 1](#) ascertain the thickness of CAFCOTHERM® that meets the required period of fire resistance.

A/V	Thickness for the required fire resistance			
	30 min	60 min	90 min	120 min
30	13mm	13mm	13mm	17mm
50	13mm	13mm	13mm	18mm
70	13mm	13mm	13mm	25mm
90	13mm	13mm	16mm	35mm
110	13mm	13mm	22mm	40mm
130	13mm	13mm	26mm	42mm
150	13mm	13mm	27mm	43mm
170	13mm	13mm	29mm	44mm
190	13mm	13mm	31mm	46mm
210	13mm	14mm	35mm	46mm
230	13mm	16mm	35mm	47mm
250	13mm	17mm	36mm	47mm
270	13mm	18mm	36mm	48mm
290	13mm	20mm	39mm	49mm
310	13mm	21mm	42mm	52mm

TABLE 1 CAFCOTHERM® thicknesses for I-section beams (3-sided exposure). Critical temperature 550°C.

### SOUND INSULATION THICKNESS

CAFCOTHERM® 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 2](#), figures are also given for 125 Hz as this represents the pitch of the average male voice and has relevance to office design.

Thickness	Substrate	Air void below substrate	Frequency						NRC rating
			125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	
			Absorption coefficient						
10mm	Solid	-	0.08	0.19	0.37	0.61	0.79	0.78	0.50
13mm	Solid	41mm	0.38	0.20	0.57	0.73	0.75	0.74	0.60
19mm	Metal lath	41mm	0.49	0.65	0.88	0.93	0.90	0.87	0.85
25mm	Solid	41mm	0.59	0.50	0.71	0.91	0.91	0.88	0.75
25mm*	Solid	-	0.06	0.24	0.78	0.95	0.93	0.97	0.72

TABLE 2 CAFCOTHERM® thicknesses at density of 200kg/m³ and sound absorption

\*All thicknesses are established by Western Electro Acoustic except 25mm established by University of Salford.



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### THERMAL INSULATION THICKNESS

The thermal insulation requirement for a building can be expressed as a U-value. Part L of the Building Regulations provides guidance according to building type.

Promat is able to calculate the thickness of CAFCOTHERM® required in order to achieve the specified U-value of a construction. In order to do so the following information is required:

- Specified U-value to be achieved.
- Detailed section showing the build up of the construction to be insulated.
- Please consult Promat Technical Department for further information.

### PREPARATION

<b>Typical substrates</b>	Concrete soffits, metal decks, steel and concrete structural frames, and return air plenums
<b>Substrate preparation</b>	The substrate shall be clean, dry and free from dust, loose millscale, loose rust, oil and any other conditions preventing good adhesion All surfaces should be prepared by the application of Cafco BONDSEAL®

### APPLICATION

<b>Initial steps</b>	Application of CAFCOTHERM® must be carried out by an applicator recognised by Promat and applied in accordance with the installation guide available from Promat
<b>Methods</b>	CAFCOTHERM® is mixed with potable water at the nozzle of a spraying machine approved by Promat
<b>Limitations</b>	CAFCOTHERM® 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



# CAFOTHERM®

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### 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.

### 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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