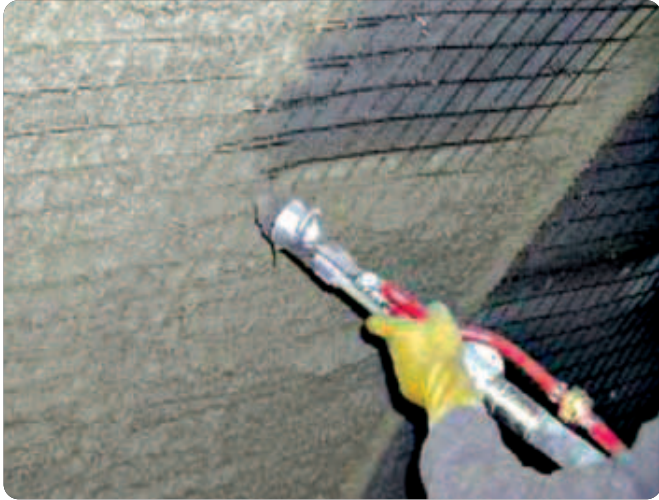


Data sheet

# FireMaster® FireBarrier™ 135

ENGLISH



## Description

**FireMaster FireBarrier products are cementitious materials designed for a variety of fire protection applications requiring strong and weather resistant exterior finishes.**

FireBarrier 135 is available in two different dry powder versions used for either sprayed or cast application. The dry powder is mixed with water, either in a spray machine for sprayed application, or directly when cast into shapes. The cast version allows linings to be pre-formed when spray application is not convenient or practical.

Consisting of a unique formulation of Morgan Thermal Ceramics refractory technology. FireMaster FireBarrier when mixed with water can be applied by spray equipment to a variety of substrates.

FireMaster FireBarrier 135 is suitable for cellulosic and hydrocarbon fires and has been fire tested in high-rise hydrocarbon fires of up to 1350°C (2462°F).

FireMaster FireBarrier 135 has been successfully fire tested to IMO A 754(18), ISO 834, RABT, Hydrocarbon modified (HCM) and RWS fire curves.

## Features

- 2 versions available: one for sprayed application and one for cast application
- Very low spraying wastage during installation – less than 1% of weight
- Fast and easy to install - one, single layer application
- High adhesion strength - eight times greater than product weight
- High quality surface finish that can be painted
- FireBarrier 135 (\*Patent No. 98830682.5)
- Refractory product capable of repeated exposure to 1350°C (2462°F).  
Comprehensively fire tested in over 11 fire tests for fire protection of tunnels  
EU MED approved A60 steel floating floor system

## Applications

- Tunnel fire protection (concrete linings, escape refuges, ventilation shafts)
- A60 floating floors in ships

## Data sheet

# FireMaster® FireBarrier™ 135

## General properties

|  | Standard | Cast  |
|--|----------|-------|
| Temperature, °C  | 1350     | 1350  |
| Weight of dry material/m <sup>3</sup> required of construction, kg   | 1050     | 1210  |
| Installed density, kg/m <sup>3</sup>                                 | 1550     | -     |
| Long term density, kg/m <sup>3</sup>                                 | 1180     | 1235  |
| Dry density, kg/m <sup>3</sup>                                       | 1100     | 1065  |
| Cold crushing strength ASTM C-133, after 3 days curing, MPa          | 3.0      | 5.4   |
| Cold crushing strength ASTM C-133, after 3 days curing + drying, MPa | 4.0      | 4.2   |
| Water to mix, %  | 50       | 38-40 |

## Fire protection properties

- Class A1 Reaction to Fire in accordance with EN 13501-1 : 2002
- CSI Registration No. 0202/04
- Non combustible material According to IMO RES. A.799 (19) IMO RES. MSC61 (67)-FTP code, IMO MSC/Circ.1120
- MED B 520509CS

## Physical properties

|                                       |                     |       |
|---------------------------------------|---------------------|-------|
| Adhesion strength, ASTM E-736/06. KPa | on steel surface    | >49.5 |
|                                       | on concrete surface | >45.1 |
| Modulus of elasticity, MPa            | after setting       | 4.05  |
|                                       | after 28 days       | 4.05  |

## High temperature performances

| Thermal conductivity, ISO 8302:1991, at mean temperature of |   |       |
|---|---|-------|
|   | W/m•K: 100°C  | 0.165 |
|   | W/m•K: 200°C  | 0.179 |
|   | W/m•K: 300°C  | 0.192 |
|   | W/m•K: 400°C  | 0.206 |
|   | W/m•K: 500°C  | 0.219 |
|   | W/m•K: 600°C  | 0.233 |
|   | W/m•K: 700°C  | 0.246 |
| Specific heat, EN 821-2                                     | j/g•K: 30°C   | 0.89  |
|   | j/g•K: 500°C  | 1.21  |
|   | j/g•K: 800°C  | 1.69  |
| Chemical composition, %                                     | SiO <sub>2</sub>  | 28.2  |
|   | Al <sub>2</sub> O <sub>3</sub>                          | 43.5  |
|   | CaO Total   | 24.4  |
|   | Fe <sub>2</sub> O <sub>3</sub>                          | 1.5   |
|   | TiO <sub>2</sub>  | 0.8   |
|   | MgO + K <sub>2</sub> O + Na <sub>2</sub> O <sub>3</sub> | 1.6   |

## Availability and packaging

In bags of 25kg weight supplied to site and ready to mix with water. Also available in large 1000kg bags supplied shrink-wrapped on pallets. Pallet dimensions 1390mm x 1090mm x 1000mm. Gross weight of pallet 1030kg.

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**SUPERWOOL®** is a patented technology for high temperature insulation wools which have been developed to have a low bio persistence (information upon request). **SUPERWOOL®** products may be covered by one or more of the following patents, or their foreign equivalents:

**SUPERWOOL® PLUS** and **SUPERWOOL® HT** products are covered by patent numbers:  
US5714421 and US7470641, US7651965, US7875566, EP1544177 and EP1725503 respectively.

A list of foreign patent numbers is available upon request to Morgan Advanced Materials plc.

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