

## INTUMEX - FC Cement

Various Penetration Seals



## FIRE CEMENT (FC)

## 1. Product identification of substance/ material

White powdery cement pack in 20kg paper bag.

## 2. Composition

## CAS No.

Gypsum plaster	-
Perlite aggregates	-

## 3. Hazard identification

Low toxicity. Under normal conditions of use adverse health effects are not anticipated.

## 4. First aid measures

**Eye contact:** Flush gently with running water for at least 20 minutes. Seek medical attention if irritation develops.

**Skin contact:** Removed contaminated clothing and gently flush affected areas with water. Seek medical attention if irritation develops. Launder clothing before reuse.

**Inhalation:** If over exposure occurs leave exposure area immediately. If other than minor symptoms are displayed seek immediate medical attention.

**Ingestion:** If poisoning occurs, seek immediate medical attention. Do not induce vomiting.

**Information:** Show this document (MSDS) to the doctor or the casualty department.

## 5. Fire fighting measures

**Fire and explosion:** The product is non-flammable. Evacuate area and contact emergency services. Toxic gases may be evolved when heated. Remain upwind and notify those downwind of hazard.

## 6. Accidental release measures

**Spillage:** Clean up and reuse where possible. No special precautions are required.

## 7. Handling and storage

**Storage:** Keep in cool, dry, well ventilated area. Removed from oxidising agents, acids and food. Label packages adequately and protect from physical damage. Sealed when not in use.

## 8. Exposure controls/ personal protection

**Eyes:** Safety glasses suitable for protection of dust.

**Skin:** It is good practice to avoid skin contact; wear protective gloves; normal protective working overalls are adequate.

**Inhalation:** If engineering controls and work practice are not effective in controlling dust emissions then wear suitable, approved personal protective equipment; a mask with dust filter type P2 (for fine dust) may be appropriate. Filters have an expiry date and may need replacement. Read the suppliers' information.

**Workplace layout:** No specific requirements. The work area should be well ventilated if dust is generated during work.

## 9. Disposal considerations

**Waste disposal:** Handle as construction industry waste and dispose in accordance with local legislation.

## 10. Transport information

Product is not classified as dangerous. No special requirements.



## 11. Physical and chemical properties

Appearance: Free flowing dry mix of coarse and fine particles.

pH: N/A

Melting point (°C): N/A

Boiling point (°C): N/A

Flash point (°C): N/A

Flammability: N/A

Auto ignition: N/A

Explosive limits: N/A

Colour: White

Water solubility: Insoluble

Fat solubility: N/A

Odour: Odourless

Additional information: N/A

N/A = Not applicable

## 12. Stability and reactivity

Stable and inert.

## 13. Toxicological information

**Routes of exposure:** Lungs, gastro-intestinal tract, and eyes.

**Short term effects:**

**Eyes:** Irritant. Direct contact may result in lacrimation, pain, redness and conjunctivitis.

**Skin:** Irritant. Prolonged and repeated contact with skin may result in mild irritation.

**Inhalation:** Irritant. Over exposure at high levels may result in mucous membrane irritation of the nose and throat with coughing.

**Ingestion:** Low toxicity. Large doses ingestion may cause obstruction in the stomach. Symptoms may include stomach pain and distress.

**Long term effects:** Prolonged inhalation of high concentrations of the dust may cause respiratory conditions.

## 14. Ecological information

The main component/s of this product occurs naturally in the earth crust. It is not anticipated to cause any adverse effects to plants or animals.

## 15. Regulatory information

OCCUPATIONAL EXPOSURE STANDARD (OES)/ MAXIMUM EXPOSURE LIMITS (MEL)

**Mica:** OES 10mg/m<sup>3</sup> total dust, 1mg/m<sup>3</sup> respirable dust, 8 hour time weighted averages.

**Cellulose:** OES 10mg/m<sup>3</sup> total dust, 5mg/m<sup>3</sup> respirable dust, 8 hour time weighted averages.

**General dust:** OES 10mg/m<sup>3</sup> total dust, 5mg/m<sup>3</sup> respirable dust, 8 hour time weighted averages.

## 16. Other information

**Fields of application:** Board for use in the construction industry.

**Restriction of application:** None anticipated.

**Requirements concerning special training:** No special training necessary. The worker shall be fully instructed in the conduct of the job and be informed of the contents of this document (MSDS). The requirements of the COSHH Regulations should be met.

**Residual Components:** Quartz is used in the manufacture and a small proportion may remain in the board. The amount is such that exposure to mixed dust from the board at the OES of 5mg/m<sup>3</sup> is not likely to lead to an exposure to quartz in excess of the MEL which for quartz is 0.3mg/m<sup>3</sup> of respirable dust (8 hour time weighted average).

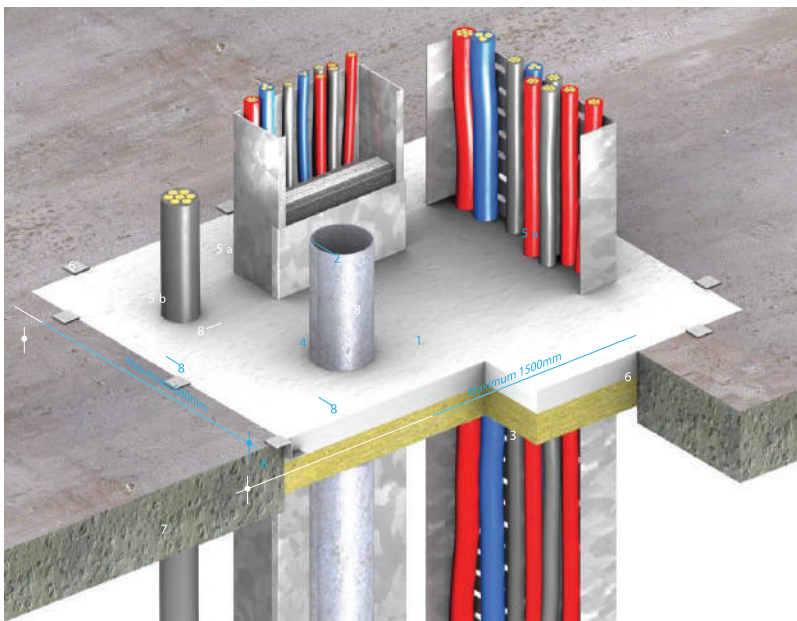
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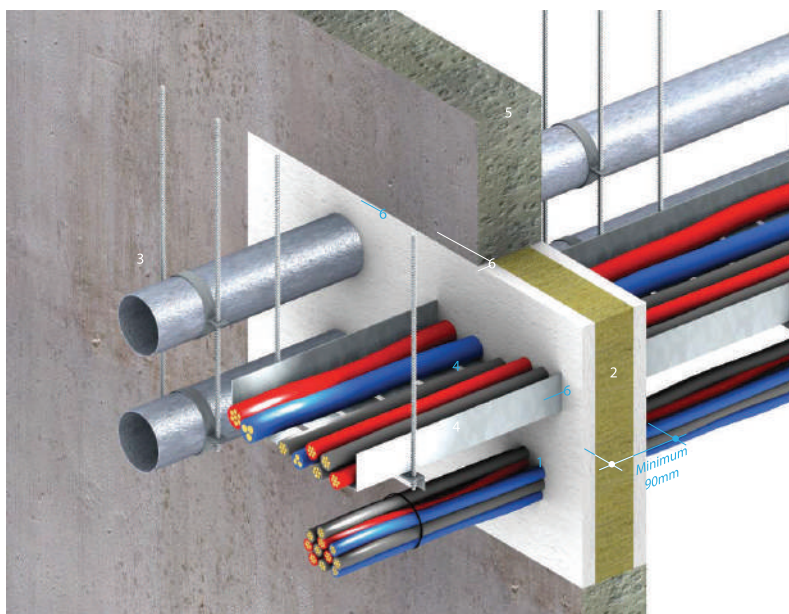
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- 1 INTUMEX® FC Cement 30mm thick for up to -/120/120 fire resistance or 40mm thick for up to -/240/240 fire resistance
- 2 PROMASEAL® Electrical Junction Seal (please consult Promat for details)
- 3 Mineral wool 50mm thick x 80kg/m<sup>3</sup>
- 4 Non combustible metal pipes
- 5a Electrical cables supported with cable tray or steel trunking
- 5b Electrical cables with Armaflex covering
- 6 Steel Z-clips 25mm wide at nominal 300mm centres
- 7 Fire resistant concrete/masonry floors
- 8 All joints and contact points caulked with INTUMEX® SB



- 1 INTUMEX® FC Cement 25mm thick for up to -/120/120 fire resistance or 50mm thick for up to -/240/240 fire resistance
- 2 Mineral wool 50mm thick x 140kg/m<sup>3</sup>
- 3 Non combustible metal pipes with appropriate support
- 4 Electrical cables with or without supporting cable tray/steel trunking
- 5 Fire resistant concrete/masonry walls
- 6 All joints and contact points caulked with INTUMEX® SB

INTUMEX® FC Cement is a lightweight fire resistant cement supplied as a dry powder and to be mixed with water for on-site preparation. This fine grade cement powder is white in colour for ease of identification and has a quick setting time.

When the cement product is set, it presents a hard surface finish and does not shrink regardless of temperature change. It is readily drilled for post installation of services.

INTUMEX® FC Cement has been tested up to a 240 minute fire resistance with various penetration seals in concrete/masonry floors and walls (with an equal or greater fire resistance level). It is not applicable in lightweight partitions.

For floor applications, INTUMEX® FC Cement can provide some degree of loadbearing capability depending on the thickness of the cement layer applied. Please consult Promat to determine the thickness to meet a specific loadbearing performance requirement.

### Packaging

INTUMEX® FC Cement is white in colour and is supplied in convenient 20kg bags.

### Guide to coverage and mixing

When mixed with 15 to 19 litres/kg of clean water, a 20kg bag will produce approximately 25 litres of mix which will cover an area approximately 1m<sup>2</sup> at 25mm deep or 0.5m<sup>2</sup> at 50mm deep. This equates to approximately 1.3 x 20kg bags per m<sup>2</sup> of clear opening at 30mm deep or 1.7 x 20kg bags at 40mm deep. Other usage depths may be calculated directly from these figures as a general guidance. The final yield will depend upon the volume of water used.

INTUMEX® FC Cement can be mixed to a consistency to suit the application. For floors, if services are close together, a wetter, "pourable" mix is preferred. For walls, it is always preferable to use a dry, "packing" mix. The amount of water used will also depend on ambient weather conditions at the time of mixing, but do not use a ratio of less than 2 : 1.

"Packing" mix, add 2kg of cement compound to 1.35 litres of water.

"Pourable" mix, add 2kg of cement compound to 1.8 litres of water.

For best surface finish use a ratio of 2 : 1.33 (cement : water). Note should be taken that the order of mixing cement compound and water is important as it will affect the consistency of the mix. Always add cement compound into water and not the opposite.

The mix will remain useable for approximately 30 minutes but this will depend upon the weather conditions and amount of water used. Do not attempt to remix by adding water after setting has commenced.

In some applications it may be necessary to provide bond breakers around services that may move as a result of natural building or thermal movement; this can be achieved using PROMASEAL® IBS™. Always apply a bead of PROMASEAL®-A Acrylic Sealant at the junction of the services and the cement as this will provide a smoke, water and movement seal.

### Applications

#### Openings in concrete/masonry floors and walls

Maximum dimensions of openings for INTUMEX® FC Cement without the need to provide joints in the system are:

- 1500mm wide x 600mm for floors
- 600mm wide x 400mm for walls

#### Penetration seal in concrete/masonry floors

For loadbearing capabilities, an unpenetrated floor opening of 1000mm x 500mm with 100mm thick reinforced INTUMEX® FC Cement can achieve up to 360 minute fire resistance performance after which it successfully supports 1000kg of loading.

An unpenetrated floor opening of 1000mm x 600mm with 50mm mineral wool and 40mm thick unreinforced INTUMEX® FC Cement will support 7.56KN of loading. Similarly, 70mm thick unreinforced INTUMEX® FC Cement will support 10.21KN of loading. However, these are non fire tested and non penetrated specimens.

Due to the likelihood of building movement, it is advisable to place a steel or equivalent reinforcement over the barrier where foot traffic is expected and a visible warning sign near all barriers to identify its characteristics/inherent properties, with wording similar as follows:

WARNING: THIS IS A FIRE RESISTANT BARRIER. DO NOT DISTURB. DO NOT WALK OR PLACE ANY LOADS ON OR AGAINST THE BARRIER. IF THE BARRIER IS DAMAGED CONTACT ..... (name of installer) IMMEDIATELY.

#### Penetration seal in concrete/masonry walls

Where the aperture is within a hollow block or cavity wall, the cavities must be backfilled all round with INTUMEX® FC Cement.



