



Systems
thermal
insulation

From Project to jobsite



Certified Quality System since **FEBRUARY 1993**

HFE-tec® SB 80

MULTIFUNCTIONAL SHOTCRETE FOR PROTECTION AGAINST FIRE CONCRETE STRUCTURES IN RENOVATION

Descrizione HFE-tec® SB 80 is a multifunctional spray concrete used for the protection against fire or as protective repair layer for deteriorated concrete structures or as protective repair layer on deteriorated by prepared concrete. The product will be applied in one layer with a thickness of 3-6 cm, without the necessity for steel reinforcement. HFE-tec® SB80 protects the existing structure against aggressive substances such as gas and de-icing salts as well as against the thermal stress related to fire. The formation of cracks, which is typical for cement based materials, is prevented due to the addition of a sophisticated cocktail of highly performing polymer fibres; these fibres also guarantee the very high resistance to fire of HFE-tec® SB 80. Melting at high temperature, the fibres will create a pore system, which allow the passage of vaporized water without any damage. The adhesion between HFE-tec® SB 80 and the concrete is assured by the addition of a polymer resin, which eliminates the risk of delamination. The specific weight of HFE-tec® SB 80 reduces the thermal conductivity which contributes to the protection of the concrete structure against harmful thermal stresses. For the final resistance against damage by fire, HFE-tec® SB 80 is protected with a sacrificial layer of STABIL-tec® FIRE, which completes the protective function of HFE-tec® SB 80.

- Metodo d'uso**
- **Note:** The adhesion to the substrate is a fundamental characteristic for the durability and the structural cooperation between the structure and the repair and resurfacing mortar. It is advisable to consult the brochure: *“Assessment and preparation of substrates for the optimal adhesion of repair and resurfacing mortars – recommendations for correct finishing”*, and *“Assessment and preparation of substrates for the repair and resurfacing of concrete pavements”*.
 - A proper substrate preparation is always required, using scarification, sand blasting, or high pressure water jetting etc., in order to obtain the maximum adhesion to the substrate. Best results are obtained by high pressure water jetting. Expose the steel reinforcement in case of disrupting corrosion. Remove the rust from the steel (preferably by dry sand blasting). Apply Mucis® PROTEZIONE FERRO (see Technical Datasheet) on the exposed steel reinforcement, before any other application.
 - Mix HFE-tec® SB 80 with an efficient mechanical mixer (advisable are vertical axes mixer). The mixing must be continued till a homogeneous and lump free paste is obtained without any lumps, and with a density of the fresh paste of about 1.9 kg/l (about 6 minutes is vertical axes mixer).
 - Add always, during mixing, the powder component (Component A 25 kg) to the liquid (Resin RMB 6 Kg), till the desired consistency is obtained, and than add component C (bag of 17 kg) and next the fibres (comp D bag of 0,375 kg). In the case an application is required with a mortar with higher constancy and cohesion, the liquid can be decreased slightly. In the case, a more fluid mix is desired; increase the mixing liquid “RESINA PER MALTE BICOMPONENTI” slightly.
 - Prepare only that amount of mortar that can be applied in 30-45 minutes after mixing. Do not re-use after this time, or add additional liquid, as the product already started to harden.
 - The applied mortar hardens well, even in cold temperature, and can be finished shortly after application.
 - Avoid especially applications below +3°C, and in very hot conditions.



Systems
thermal
insulation

From Project to jobsite



Certified Quality System since **FEBRUARY 1993**

Remarks Information according to 2003/53/CE:

Storage: Product can be kept for 12 months in the unopened original packaging, stored in dry and protected area, at normal ambient temperatures between +5°C and +35°C. Do not use any damaged or opened bags if they contain already lumps of the product. Avoid frost of the liquid B component.

Packaging 1 bag of 25 Kg (component A)
1 can of 6 Kg. of resin RMB (component B)
1 bag of 17 Kg (component C)
1 bag fibres of 0,375 kg (component D)
(upon request packaging of 400/1000 Kg)

Technical characteristics (typical values)	• Compressive strength (UNI EN 196/1)	N/mm ²	42 (28 d.)
	• Flexural strength (UNI EN 196/1)	N/mm ²	9,5 (28 d.)
	• Modulus of elasticity (UNI 6556)	N/mm ²	18.400 (28 d.)
	• Fracture energy	N/m	1.180 (28 d.)
	• Adhesion to concrete	N/mm ²	> 2 (28 d.)
	• Pull-out	N/mm ²	> 15 (28 d.)
	• Density	g/l	1840
	• Bleeding		none
	• Thermal conductivity λ:	W/mK	< 1,1
	• T.D.I (difference in temperature measured in depth between 1 cm and 3 cm during the exposure to fire)	-	35%
	• Frost/Thaw resistance (EN 104-840-3)		>50 cycles
	• Type of mortar		Thixo mortar
	• Number of components		4
	• Thickness advised	cm	3÷6
	• Application		Hand/spray
• Wet curing		NO	
• Protected curing		SE	
• Typical application		VHDRS/AED/MuCis	
• Setting		normal	
• Hardening		normal	
• Shrinkage compensation		SI++	
• Consumption	Kg/m ² /mm	1,8	

1N/mm² = 1MPa = 10,19 Kg/cm²

* Questi prodotti possono essere confezionati anche con l'aggiunta di inibitori di corrosione MuCis®

① Resistenza gelo-disgelo in presenza di sale - SIA 162/1/91 gr/mq, (< 600 gr/mq = molto alta = requisito per cordoli autostradali)

② Permeabilità ai cloruri - Coulomb FHWA/RD/81 (100+1000 Coulomb = molto bassa)

SE In funzione delle condizioni applicative (pioggia - sole - temperatura - umidità - ecc...)



Very High Durability Repair & Prevention Systems



Sistemi di riparazione e prevenzione anticorrosione ad elevatissima durabilità



Very High Durability Reinforced Concretes

Calcestruzzi armati anticorrosione ad elevatissima durabilità



Multiple Corrosion Inhibiting Synergies
Sinergie multiple per l'inibizione della corrosione delle barre d'acciaio nei calcestruzzi armati



Altissima Energia di Deformazione

Safety indications

Read carefully the safety indications on the packaging, or consult the relevant Material Safety Datasheet of this product.

The above data are based on our actual and most experienced practical and laboratory knowledge and the results are collected from application of the product in different situations. Tecnochem Italiana does not assume any responsibility regarding inadequate or negative performance as a result of improper use of the product or for defects deriving from factors or elements other than the quality of the product including improper storage. The technical characteristics and performance mentioned in this datasheet are updated periodically. The revision dates and number of revision of the datasheets are listed in the table below. Eventual variations are traceable on our website www.tecnochem.it where the most updated datasheets can be retrieved.

Edition: 01/2007

Data revision : 08/2010

Nr. rev: 1

HFE-tec® SB 80

pag. 2/2

TECNOCHEM ITALIANA S.p.A.
24030 BARZANA (BERGAMO) ITALY – VIA SORTE 2/4,
TEL. **39 035 55.48.11 – TELEFAX **39 035 55.48.16
E-mail: info@tecnochem.it t- www.tecnochem.it