



Systems for dehumidification, hydro-phobation, thermal-acoustic insulation, waterproofing

From Project to Jobsite



Certified Quality System since **FEBRUARY 1993**

TECNOLITE HS – HEAT SHIELD

SUPER LIGHT-WEIGHT RENDER WITH THERMAL INSULATION, FIRE RETARDING, NOISE ABSORBING AND DEHUMIDIFICATION PROPERTIES

HEAT SHIELD: CLASS 0 (INCOMBUSTIBLE)(according Norm UNI EN ISO 1182-95)
REI 115 - RE 180 (according memorandum n. 91 and D.M. 30/11/83) with 30 mm thickness

Description TECNOLITE HS a mineral insulating render composed out of reactive micro-silica, special binders, and hydraulic lime, for application on masonry.

The typical properties are:

- *HEAT SHIELD*

Resistance to fire **Class 0 according the Norm UNI EN ISO 1182-95 : INCOMBUSTIBLE**

- *THERMAL INSULATION*

Due to the specific composition, the product shall contribute to the thermal capacity of the masonry wall and allows elimination of calorie loss due to cold bridges, improves the thermal distribution, and permeability of the wall. Application thickness between 30 and 60 mm according the specified thermal insulation for the project.

- *DAMP CONTROLLING-DEHUMIDIFICATION*

The insulating properties and the high degree of permeability, make TECNOLITE HS extremely suited to solve condensation problems, superficial mould growth, etc. In the case of very high humidity it is advisable to apply the dehumidification system MACROPORE as first layer (1-2 cm), and than TECNOLITE HS.

- *NOISE REDUCING*

Thanks to the particular structure, the product has the capacity to absorb a big percentage of the rumours in a fixed frequency range.

Method of use Clean the substrate by removing damaged parts, dust, greases or dirt. Make the substrate thoroughly wet (saturation) in hot conditions, or exposed to sunlight with this result that all suction is neutralised, and that there is no free standing water on the surface.

Incorporate a net where different types of substrate have to be treated.

For optimal adhesion:

- Prepare a key coat (for instance using sand/cement mix or our mortar BS 37).

RECOMMENDED MIXING PROCEDURE:

Empty the complete bag of Component B (1 big bag of 100 litre) and Component A (1 bag of 21 kg) in a suitable vertical axes mixer and mix dry. Once homogeneous, add about 26 litres water, and mix for 3 minutes till a smooth lump free paste is obtained. Allow the mix to rest for 2 minutes, and remix again for 2 minutes. Minor adjustments of the liquid demand are possible, depending on the ambient conditions (eventually 3 additional litres of water to reach to a total of 29 litres). Mix for another 3 minutes. Control the wet density with a graduated beaker. A litre of product weights about 700 g/litre.

APPLICATION:

Do not apply where there is free water. Apply by hand or by spraying. The advised layer thickness is 2 cm for each layer. After about 24 hours, the consecutive layer can be applied, till the final level is reached. **LEAVE THE PRODUCT TO CURE IN A ROUGH FINISH WITHOUT CRUSING.** After about 24 hours, the TECNOLITE HS is sufficiently cured for smoothing and finishing with RASTUCCO RASATURA.

Finish, after curing, if required with silane-silicate paint SILPAINT.



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- Remark**
- Do not use admixtures.
 - Protect against rain, and do not apply when temperature is below 5°C.

Storage: 12 months in original packaging, unopened, kept dry and protected in temperatures between +5°C and +35°C.

Do not use the contents of open bags if you notice agglomeration of the powder.

Packaging Comp. A bag of 21 Kg
Comp. B bag of 100 lt

Consumption Approximately 8÷12 units/m³*

* In order to control the consumption optimally, the mixing procedure has to be followed correctly (see 'Method of use'). This point requires maximum attention as the consumption on the jobsite can vary drastically if the mixing equipment if procedure are not correct. It is advisable to perform a wet density measurement on the jobsite with a graduated beaker: on litre must weight less or exactly 700 g/l (corresponding to a 'dry' volumetric weight of about 420 gr/litre or 420 Kg/m³).

Technical characteristics (typical values)

- Reaction to fire:

INCOMBUSTIBLE - class 0 according Norm UNI EN ISO 1182-95

Parameter	Value measured on TECNOLITE	Value requested for a product class 0
Duration of persisting flame	0 sec	< 20 sec
Increase of temperature in the centre of the sample	0 °C	< 50 °C
Increase of the temperature at the surface of the sample	0 °C	< 50 °C
REI characteristics according to n.91 of D.M. 30/11/83: R = Load bearing capacity E= Integrity I = Insulation Certification C.S.I. 127 FR of 18/09/06 30 mm of TECNOLITE HS applied on the following non-bearing structure:		
Type of bricks with lateral holes:	Blocks with 10 chambers and 3 ribs of 6-8mm	
Dimensions of the bricks:	80x240x240 mm	
Average weight of a brick:	2,65kg	
Number of blocks/m ² :	16	
Percentage air in the bricks:	63%	
Render on NON exposed side (to fire):	Type M3	
Thickness render on NON - exposed side (to fire):	10 mm	
Total thickness of the wall:	90 mm	
<i>Principal characteristics of this protective system:</i>		
Type of protection:	Fireproof render	
Commercial name:	TECNOLITE HS – HEAT SHIELD	
Composition:	Mineral mixture of two components TECNOLITE HS comp. A	

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Calcium hydroxide, hydraulic calcium, reactive micro silica, special binders.
TECNOLITE HS comp. B
Natural silicate complex of aluminium; sodium, potassium (not treated chemically)

Minimal application thickness: 30 mm

Only 30 mm of TECNOLITE HS has lead to the following result, after a rise of temperature until 1000-1100°C on the side exposed to the fire of R.E.I. 115 – R.E. 180

REI 115 = 115 minutes for the side not exposed to fire to rise with 150°C
RE 180 = stability until a maximum temperature rise of 180°C

The table below shows the values REI obtainable according to the thickness of TECNOLITE HS applied:

Cm in thickness required for the class below						
R.E.I. 15	R.E.I. 30	R.E.I. 45	R.E.I. 60	R.E.I. 90	R.E.I. 120	R.E.I. 180
0	1,25	1,75	2,25	2,50	3,25	5,00

This emphasizes the fact that the values REI / RE are essential for the designer but always refer to the complete package and not just the applied mortar.

- Consumption: 0,12÷0,14 packaging/cm/m²
- Thermal conductivity λ: **From 0,1006 W/mK for a dry density of 420 Kg/m³** (as rendering: thermal insulation, fire cut off, noise absorbing)
(0,1006 WATT=0,0865 Kcal/h)
To 0,055 W/mK for a dry density of 240 Kg/m³
(0,055 WATT = 0,0473 Kcal/h)
- Resistance to vapour diffusion μ: 5,5
- Compressive strength: 0,5 ÷ 1,0 N/mm²
- Application thickness: 3 - 5 cm (or more depending on the situation)
- Incombustible: Does not burn or propagates fire.
Melts > 1150°C
- Rotting processes : Does not contain degradable substances
- pH: 12 ÷ 12,5

The surfaces must be floated only without exercising any compressive action.

Precautions Binder systems, based on cement have an alkaline effect. It is advised to wear protective gloves, goggles, respiratory and skin protection. Handle the product like all normal cement based products. Remove dust on skin and in the eyes immediately by abundantly washing with water.

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



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The above data are based on our actual and practical experience 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.