

## THC 410

### FIBER REINFORCED BASIC COAT FOR THERMAL INSULATING PLATES

ACCORDING TO  
EN13499 &  
ETAG 004

#### DESCRIPTION

The THC 410 product is a fiber-reinforced mortar of cement basis, one-component modified with polymer additives. It is a specialized product recommended for bonding and plastering thermal insulating plates like expanded polystyrene (EPS), extruded polystyrene (XPS) and rock wool. It consists of cement, quartz sand with 0.5mm maximum granule, polypropylene fibers, lime stone fillers and

special additives. The THC 410 product shows a very strong adhesion on the surfaces of thermal insulating plates high elasticity, resistance to frost and humidity. It is suitable to use both indoors and outdoors. The **THC 410** product is also available coarse grained with a maximum granulometry of 1.5mm with commercially label of **THC 410C**. It meets EN 13499 and ETAG 004 European standards.

#### FIELDS OF APPLICATION

THC 410 product is used as an adhesive and as a basic layer plaster for thermal insulating plates for the outdoor thermal façade system (ETICS) of THRAKON.

For the strong bonding of:

- extruded polystyrene (XPS)
- expanded polystyrene (EPS)
- hard glass wool
- cork

The **THC 410/THC 410C** adhesives can be used in combination with fiber glass mesh in order to cover the connections between different types of masonry (aerated concrete with concrete, bricks with aerated concrete, etc.), to cover the conduits on the masonry made by electricians and plumbers, to reinforce the edges of openings (in doors and windows) in order to avoid future cracking, etc..

#### ADVANTAGES - CHARACTERISTICS

- It is produced with quartz sand
- A single material for attachment and plastering of thermal insulating plates
- It is reinforced with polypropylene fibers
- Suitable for the local reinforcement of the surfaces that develop strong cracking tensions during plastering.
- Strong resistance to elastic deformation
- Strong adhesion
- Strong resistance – Rapid application
- Resistance to humidity and frost
- Excellent workability
- It complies with EN 13499 and ETAG 004 European standards.

#### SUBSTRATE PREPARATION

The application substrate must be even, free from frail and foreign parts, like e.g. residues of mud, plaster, colour, oils, etc. and without

large cracks. Additionally, the substrate must be stable and free from shrinkage and deformation tensions and it must not receive vibrations.

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## APPLICATION

In a clean container we add

- 5.5 litres of clean water for adhesion of thermal insulating plates
- 6.0 litres of clean water and we gradually empty the content of a 25 Kg bag of the THC 410 product while mixing continuously with an electrical agitator, in order to produce a homogenous mortar mass. Allow the produced mixture to mature for 5 minutes and briefly reagitator. The mixture is ready to use within the next 4 hours. After the preparation of the mixture do not add additional water to correct the workability of the mortar. This will result to a decrease of its strengths and to an increase of its shrinkage.

#### Application as adhesive

Application on level surfaces:

THC 410/410C is spread on the thermal insulating plate using the even side of the spatula and the adhesive layer is then combed uniformly with its toothed side.

Application on uneven surfaces:

THC 410/410C is spread with a trowel around the perimeter of the thermal insulating plate and on the centre point. We press the thermal insulating plate firmly on the wall in order to ensure the uniform contact of the adhesive. The final surface must be completely levelled. The open time is 15 minutes after the application of the adhesive. Any surplus adhesive must be removed from

the joints. If the adhesive dries before the thermal insulating plate is applied, remove it and apply a fresh layer.

#### Application as coating

After the adhesive has dried, we add the mechanical supports (plastic or metallic plugs) wherever it is necessary. We putty the plug holes, the plates' joints and we install the corner beads and parts of mesh in order to reinforce the edges of the openings. Then, using the "American type spatula" we spread a uniform THC 410/410C mortar layer with a thickness of

2-4mm on the thermal insulating plates, and we immediately install the glass fiber mesh, in a way that it covers the plates connections and overlaps the previous mesh by 10-15cm. We press it using the spatula in order to integrate to the adhesive layer and using the spatula we add another thin mortar layer 0.5-4mm, in a way that the mesh is completely covered and an even surface is provided. During the application and also during the following 24 hours the ambient and the substrate temperature must be between +5 °C and +35 °C. The adhesive can be cleaned with water while it is still moist. After it hardens, it is removed mechanically. After the mortar has dried completely, we apply the final decorative plaster using one of the decorative coats of THRAKON.

## CONSUMPTION

The consumption for:

- **THC 410** is approximately 3,5 – 4,0 kg/m<sup>2</sup> for application as an adhesive and 3,5 – 4,0 kg/ m<sup>2</sup> for application as a coat (1,5kg/m<sup>2</sup> per 1mm coat).
- **THC 410C** is approximately 3,4 – 3,8 kg/m<sup>2</sup> for application as an adhesive and 3,0 – 3.5 kg/ m<sup>2</sup> for application as a coat (1,3-1,4kg/m<sup>2</sup> per 1mm coat).

It depends on the type of thermal insulating plates, the tools and the method of application.

## PACKAGING - STORAGE

The product is packaged in 25Kg in a dry environment with temperature above 0°C for 12 months from the production date.

## NOT RECOMMENDED

- When there is a frost forecast for the 24 hours following the application of the product.
- Under wet conditions (like rain).
- On masonries directly exposed to intense solar radiation or on warm substrates.

## CLEANING OF TOOLS AND MACHINES

With plenty of water immediately after use.

## PRECAUTIONS

THC 410/410C contains cement and reacts with water, producing an alkaline solution. For this reason protect your eyes and skin. In case of contact rinse with plenty of water. In case of contact with eyes seek medical advice immediately.

Read the information on the label and in the Technical Leaflet of the product before use. Wear appropriate protective clothing and gloves. The product's Safety Sheet is available to professionals upon request.



ACCORDING TO EUROPEAN STANDARDS EN 13499 & ETAG 004

TECHNICAL CHARACTERISTICS	UNITS	STANDARD	VALUE
Appearance			Dry powder
Color			Grey/white
Application thickness	(mm)		10
Temperature resistance	(°C)		-30 to +90
Maximum grain size	THC 410	(mm)	0,5
	THC 410C		1,5
Maturing time	(min)		5
Workable time	(h)	EN 1015-9	1,5
Correction time	(min)	EN 1015-9	>15
Open time	(min)	EN 1015-9	15
Resistance to the detachment of the adhesive from the substrate	(N/mm <sup>2</sup> )	EN 13494	>0,08
Resistance to the detachment of the adhesive from the substrate (attached with adhesive only)	(N/mm <sup>2</sup> )	EN 1542	>0,08
Water vapor permeability of the base coat plaster	(g/ m <sup>2</sup> d)	EN 7783-2	>0,25
Liquid-water transmission rate of the base coat plaster	(kg/ m <sup>2</sup> *min <sup>0,5</sup> )	EN 1062-3	>20
Resistance to impact	(2J)	EN 13497	I2
	(10J)		I10
Resistance to perforation	(>200N)	EN 13498	PE200
	(>500N)		PE500
Hydrothermal behavior	bubbles	EN 13961-2 EN 13961-4 EN 13961-5	None
	quantity of cracks		Category – 3
	size of cracks		Category – 2
	quantity of flakes		Category – 3
	size of flakes		Category – 2
Behavior in frost-heat cycles			Optimum
Ready to use	(as an adhesive)	(h)	15-20
	(as a base coat plaster)		
Consumption			15
Water demand			24-28

**Note:** The measurements were taken in laboratory environment under a temperature of +23°C, Relative humidity 50 % and without ventilation. It is possible for them to vary depending on the conditions prevailing at the worksite, such as temperature, humidity, ventilation, absorbability of the sub-layer and of the tile.

The technical information and instructions contained in the present brochure and referring to the application and end use of Thrakon products are based on the up to now know-how and experience of the Company with regards to the products and are provided in good faith as long as such products are stored, used and applied as per Thrakon recommendations. Due to the inability, on our part, to directly inspect the conditions prevailing at the worksite as well as the application procedures of the product, the Company does not provide any guarantee with regards to the adequacy of its products for specific purpose while the Company shall not bear any legal responsibility based on the information stated in the present brochure or any other written, oral, or otherwise provided recommendations and instructions. The users of the products are advised to perform a limited surface testing of the products adequacy for the eventual application and use intentions. Thrakon reserves the right to modify the features of its products without prior notification. All orders shall be approved only following acceptance of the above and under the eventual Commercial Policy terms of the Company. The issuance of the present brochure voids any prior version.