

# CLIMAPLUS FIBERPLUS THC 405

## FIBER REINFORCED, CEMENT BASED ADHESIVE - PLASTER

FIBERPLUS THC 405 is a one-component, cement-based mortar modified with polymer additives. It is a specialized product recommended for bonding and plastering of thermal insulating plates like expanded polystyrene (EPS), extruded polystyrene (XPS) and mineral wool, in External Thermal Insulation Composite Systems (ETICS) for buildings. It consists of cement, quartz sand, limestone fillers and special additives. FIBERPLUS THC 405 presents a very strong attachment on all the usual substrates, high elasticity, resistance to frost and humidity. It is suitable to use both indoors and outdoors. It is categorized as a CS IV category mortar that meets the EN 998 European standard. The fiber-reinforced mortar FIBERPLUS THC 405 is part of the CLIMAPLUS external thermal insulation systems, which are CE-certified in accordance with the specifications of the EAD EAD 040083-00-0404.



### Advantages:

- Produced with quartz sand.
- Single material for attachment and plastering of thermal insulating plates.
- Local reinforcement of surfaces that develop cracking tensions.
- Strong resistance to elastic deformation.
- Strong adhesion.
- Strong resistance – rapid application.
- Resistance to humidity and frost.
- Excellent workability.
- Complies with EN 13499 & ETAG 004 European standards.



## TECHNICAL CHARACTERISTICS



### Packaging:

Valve paper bags  
• 25kg



### Application:

Adhesive for thermal insulating plates and base layer plaster for ETICS systems. On substrates of concrete, lightweight concrete, bricks, cement blocks, aerated concrete, mortars etc.



### Shades:

Available in white and grey.



### Storage:

On wooden pallets and in a dry environment with temperature above 0° C for 12 months from the production date.



### Consumption:

The consumption of FIBERPLUS THC 405 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. It depends on the type of thermal insulating plates, the tools and the method of application.

## FIELDS OF APPLICATION

FIBERPLUS THC 405 is used as an adhesive as well as a basic layer for thermal insulating plates for the outdoor thermal façade system CLIMAPLUS of THRAGON.

For strong bonding of:

- Extruded polystyrene (XPS)
- Expanded polystyrene (EPS)
- Hard glass wool
- Cork

On substrates of:

- Concrete
- Lightweight concrete
- Bricks
- Cement blocks
- Aerated concrete (YTONG)
- Self-levelling floors
- Mortars
- Level masonry with filled joints

FIBERPLUS THC 405 adhesive can be used in combination with glass fiber mesh in order to cover the joints of different types of masonry and the conduits made by electricians and plumbers, to reinforce the edges of the openings (in doors and windows) in order to avoid future cracking.

## SUBSTRATE PREPARATION

The application substrate must be even, free from frail and foreign parts, like residues of mud, plaster, color, oils and free from large crevices. Additionally, the substrate must be stable and free from shrinkage and deformation tensions. It also must not accept any vibrations. Place the plates' guides and supports wherever it is necessary.

## APPLICATION TEMPERATURE

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. Application is not recommended when there is a frost forecast for the following 24 hours, under wet conditions (rain) or on masonries directly exposed to intense solar radiation or warm substrates. After the mortar dries completely, we apply the final decorative plaster using one of the decorative coats of THRAGON.

## APPLICATION

In a clean container we add 6.0 liters of clean water and we gradually empty the content of a 25 kg of FIBERPLUS THC 405, 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 shall lead to a decrease of its resistances and to an increase of its shrinkage.

### Application as adhesive

#### Application on level surfaces

FIBERPLUS THC 405 is spread on the thermal insulating plate using the even side of the spatula and the adhesive layer is then combed evenly with its toothed side.

#### Application on uneven surfaces

FIBERPLUS THC 405 is spread with a towel around the perimeter of the thermal insulating plate and on the center 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 adhesive is applied. 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 the mesh in order to reinforce the edges of the openings. Then, we spread a uniform 2-4 mm thick layer of the FIBERPLUS THC 405 mortar on the thermal insulating plates using the "American Style Spatula" and we immediately install the glass fiber mesh, in a way that it covers the plates connections and overlaps the previous mesh by 10-15 cm. We press it using the spatula in order to integrate it in the adhesive layer and using the spatula, we add another thin layer of mortar 0.5-4 mm, in a way that it completely covers the mesh and provides an even surface.

## PRECAUTIONS

FIBERPLUS THC 405 contains cement and reacts with water to produce 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 product's Technical Brochure before use. Wear appropriate protective clothing and gloves. The product's Safety Sheet is available to professionals upon request.

Technical characteristics	Units	Standard	Value
Appearance			Dry powder
Color			Grey/White
Application thickness	mm		10
Temperature resistance	°C		-30 to +90
Density	kg/m <sup>3</sup>		1.4
Maximum grain size	mm		0.5
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
Compressive strength	N/mm <sup>2</sup>	EN 998	>14
Flexural strength	N/mm <sup>2</sup>	EN 998	>5
Resistance to the detachment of the adhesive from the EPS plate	N/mm <sup>2</sup>	EN 13494	>0.08
Resistance to the detachment of the adhesive from the EPS plate (attached with adhesive only)	N/mm <sup>2</sup>	EN 13494	>0.25
Resistance to the detachment of the adhesive from the substrate (attached with adhesive only)	N/mm <sup>2</sup>	EN 1542	>20
Water vapor permeability of base coat plaster	g/m <sup>2</sup> d	EN 7783-2	<0.5
Liquid-water transmission rate of base coat plaster	kg/m <sup>2</sup> min <sup>0.5</sup>	EN 1062-3	0.5
Resistance to impact	2 J	EN 13497	I2
	10 J		I10
Resistance to perforation	>200 N	EN13498	PE200
	>500 N		PE500
Ready to use	h		15-20

Technical characteristics	Units	Standard	Value
Hydrothermal behavior	bubbles		None
	quantity of cracks	EN 13961-2	Category – 3
	size of cracks	EN 13961-4	Category – 2
	quantity of flakes	EN 13961-5	Category – 3
	size of flakes		Category – 2
Behavior in frost-heat cycles			Optimum
Ready to use	as adhesive	h	15-20
	as base coat	days	5-7
Consumption	kg/m <sup>2</sup>		3.5 – 4.0
Water demand (per 100 g of dry mortar)	ml water		24

\*Note: The measurements were taken in laboratory environment under a temperature of +230C, 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 substrate.

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.

Version F: 01/08/2025