

# Wall-ACE

## Wall Insulation Novel Nanomaterials Efficient Systems

### TOUPRET Patching Filler

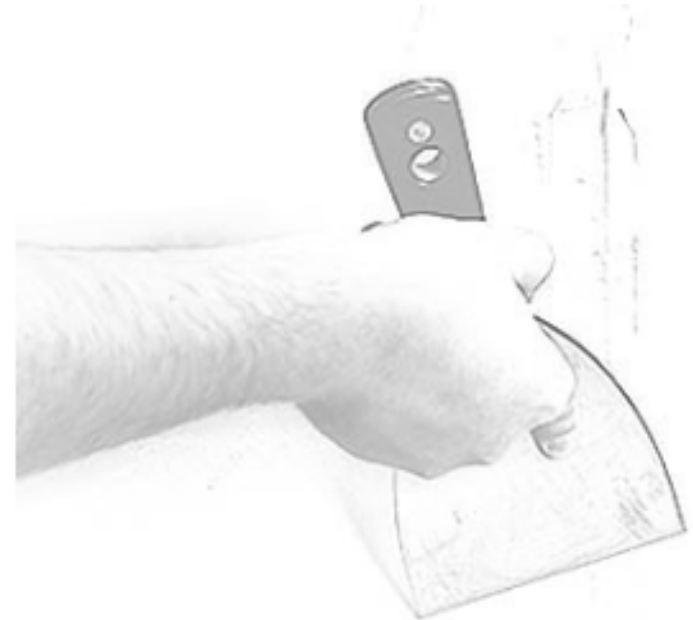
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## Objectives of the product:

➔ Develop a filler enabling to repair walls – holes and cracks without damaging the thermal performance of the insulation system.

### *Characteristics of the filler:*

- Low Lambda  $<0.3$  W/mK
- Easy to mix
- Easy to apply
- With no or little shrinkage.



## Formulation base on advanced material:

In order to reach such performance, DOE has been implemented to enable to mix:

- Kwark Aerogel for thermal Resistance
- Cement based compounds for resistance
- Resins and additives for application and durability

A large orange arrow pointing to the right, highlighting the text.

A delicated balance to get in order to keep benefits of filler

## Insulating interior patching filler (Toupret)

- Aerogel based thermal patching filler
- Prevents interior thermal bridges or degradation of the wall thermal performance
- Low thermal conductivity ( $\lambda < 0.065 \text{ W/mK}$ ): almost 2 times more efficient than standard
- Short hardening times and good workability
- No depth limitation



*Application of the Patching filler on wall cracks*

- The product was successfully transfer to industrial Pilot (70l)
- Application internally shows good results, installation to be done in INCAS in February



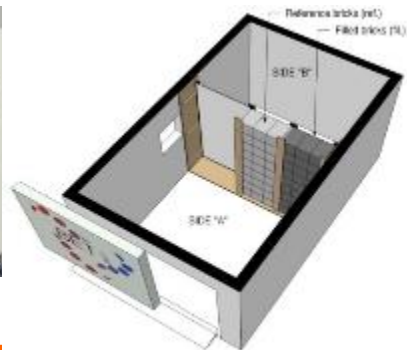
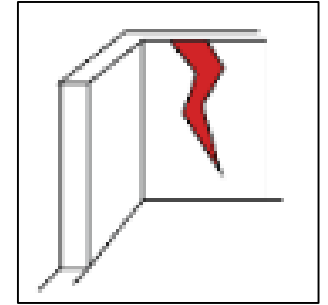
Developed by



## External test and validation:



- ➔ In situ validation on going in INES France.
- ➔ On going product evaluation in Polito and USTUTT.



# Product Characteristics:



## THERMAL FILLER

Lightweight thermal insulation filler containing aerogel

- COLOR**
- PACKAGING**
- EXPIRATION / CONSERVATION**
- WARNINGS:**

### PRODUCT DATA

### APPLICATION DATA

### TECHNICAL DATA

White

15 L kg bags on disposable pallets of 900 L (60 bags) protected by plastic stretch wrap.

Product guaranteed 12 months, from the original purchase invoice date as evidence, in its original sealed packaging and stored away from humidity.

- Do not apply on polystyrene, nor on adhesive coverings nor on exterior substrates.
- Do not apply under a temperature < 8 °C and > 35 °C nor under an hygrometry rate over 70%.
  - Do not apply on warm/overheated surfaces.
  - Do not apply on damp surfaces.
  - Do not mix the paste any longer once it has begun to set.

Characterization	Family III class 3	NFT 36-005
Codification	G3S2V0W0A0C0R0	EN 16-566
Application thickness	no thickness limitation	
Second coat	once the filler is dry	
Overcoating	once the filler is dry	
Appearance	Powder	
Colour	White	
Dry bulk density	~ 183 kg/m <sup>3</sup>	EN 1015-10
Maximum aggregate size	≤ 300µ	
I.A.Q. class	A+	
Water content of mix	189%	
Mixing ratio	1 bag + 5,2L litres of water	
Minimum application temperature	+ 5°C	
Maximum application temperature	+ 30°C	
Working time	~ 30' - 45 minutes	
French DTU	59.1 Building paint works	NFP 74-201
French DTU	59.4 Setting up of wall papers and wall coatings	NFP 74-204
Adhesion	≥ 0.5 MPa	EN 16-556
Compressive strength	≥ N/mm <sup>2</sup>	EN 1015-11
Flexural strength	≥ N/mm <sup>2</sup>	EN 1015-11
Water vapour permeability coefficient	≤ µ	EN 16-556
Thermal conductivity	0.038 W/mK	EN 12667
Specific heat capacity	kJ/kgK	EN 1745, A.12
Reaction to fire	Class	EN 13501-1

**Thank you for your  
attention!**

## ACKNOWLEDGMENTS

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