

# Wall-ACE

## Deliverable

### D2.8: Technical datasheets of the developed materials

<b>WP</b>	<b>2</b>	High efficient mineral indoor insulation envelopes
<b>Task</b>	<b>2.7</b>	Examination and testing phases

<b>Dissemination level<sup>1</sup></b>	PU	<b>Due delivery date</b>	24
<b>Nature<sup>2</sup></b>		<b>Actual delivery date</b>	24 (draft) Revisions on 09/09/2019

<b>Lead beneficiary</b>	VIMARK
<b>Contributing beneficiaries</b>	TOUPRET

Document Version	Date	Author	Comments <sup>3</sup>
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7	07/09/2019	Valentina Marino - VIMARK	Check and close
8	09/09/2019	Tina Oertel – Quick-Mix Laurence Lapôtre – Wavestone	Final check/validation

<sup>1</sup> Dissemination level: **PU** = Public, **PP** = Restricted to other programme participants (including the Commission services), **RE** = Restricted to a group specified by the consortium (including the Commission services), **CO** = Confidential, only for members of the consortium (including the Commission services)

<sup>2</sup> Nature of the deliverable: **R** = Report, Document, **DEM** = Demonstrator, Prototype, pilot, **DEC** = Websites, patent filings, **O** = Other

<sup>3</sup> Creation, modification, final version for evaluation, revised version following evaluation, final

## Deliverable abstract

The deliverable aims at describing the technical content that will be part of the technical datasheets of the insulating products for the indoor envelope.  
 Final graphic template of the technical datasheets will follow the normal practice of VIMARK's and TOUPRET's products.

## Deliverable Review

Reviewer #1: Valentina Marino			Reviewer #2: Tina Oertel		
Answer	Comments	Type*	Answer	Comments	Type*

Is the deliverable in accordance with

the Description of Action?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> M <input type="checkbox"/> m <input type="checkbox"/> a	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> M <input type="checkbox"/> m <input type="checkbox"/> a
the international State of the Art?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> M <input type="checkbox"/> m <input type="checkbox"/> a	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> M <input type="checkbox"/> m <input type="checkbox"/> a

Is the quality of the deliverable in a status

that allows it to be sent to European Commission?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> M <input type="checkbox"/> m <input type="checkbox"/> a	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> M <input type="checkbox"/> m <input type="checkbox"/> a
that needs improvement of the writing by the originator of the deliverable?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		<input type="checkbox"/> M <input type="checkbox"/> m <input type="checkbox"/> a	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		<input type="checkbox"/> M <input type="checkbox"/> m <input type="checkbox"/> a
that needs further work by the Partners responsible for the deliverable?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		<input type="checkbox"/> M <input type="checkbox"/> m <input type="checkbox"/> a	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		<input type="checkbox"/> M <input type="checkbox"/> m <input type="checkbox"/> a

\* Type of comments: M = Major comment; m = minor comment; a = advice

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## **1. Organization of the content for VIMARK's technical datasheet**

The technical datasheet has the function of describing the product, the installation procedure, packaging and storage, to provide specific recommendations and to clearly express characteristics and performances of the products as well as reference norms, standards and labels mandatory and non-mandatory for the country of commercialization.

It is proposed the following content list:

- Product description
- Composition
- Mixing and application
- Indicative amounts required
- Colour
- Packaging
- Storage
- Warnings
- Product data
- Environment, health, and safety (REACH)
- Legal notes

The technical datasheet for both aerogel based thermal plaster and thermal coating finish is proposed in English language, suitable for VIMARK's international market.

## **2. Organization of the content for the TOUPRET's aerogel based thermal patching filler**

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The technical datasheet has the function of describing the product, the installation procedure, packaging and storage, to provide specific recommendations and to clearly express characteristics and performances of the products as well as reference norms, standards and labels mandatory and non-mandatory for the country of commercialization.

It is proposed the following content list:

- Description
- Composition
- Substrate preparation
- Mixing and application
- Tool cleaning
- Yield/consumption
- Colour
- Packaging
- Expiration/Conservation
- Warnings
- Product data
- Application data
- Technical data
- Environment, health, and safety (REACH)

The technical datasheet for the aerogel based thermal patching filler is proposed in English language, suitable for TOUPRET's international market.

### 3. Annex 1: Wall-ACE Thermal Plaster technical datasheet by VIMARK

Vimark®

Wall-ACE



# THERMAL PLASTER

*Lightweight thermal insulation plaster mortar containing aerogel*



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## DESCRIPTION

## COMPOSITION

## SUBSTRATE PREPARATION / PRE-TREATMENT

## MIXING AND APPLICATION

# THERMAL PLASTER

Edition: September 2019 © Vimark



**THERMAL PLASTER** is a ready to use premixed plaster mortar, based on special binders and aerogel, with excellent thermal insulation properties that merge in a single product the features of a plaster and a thermal insulating product. It is designed for manual or mechanical installation on internal walls.

Thanks to its excellent performances, it can be used for thermal insulation solutions for walls and ceilings, reduction of thermal bridges and protection from humidity penetration. The product is permeable to water vapour diffusion and due to its full mineral composition, it is particularly suitable for applications that require the use of mineral coatings. Specifically, in the case of bio-architecture, green construction systems and every time comfort and health of users is prioritised. It is also indicated for repairs and insulation of historical buildings and where it is needed to combine improvements of thermal performances and preservation of the cultural value of buildings.

**THERMAL PLASTER** is a premixed plaster mortar based on natural hydraulic lime and special cement, specific aerogel in granules and powder, and additives that improve the performance in terms of workability, permeability and adhesion to substrates.

**THERMAL PLASTER** can be used on any kind of masonry: brick, blockwork, expanded or lightweight concrete, brick-cement, mineralized wooden boards, scrim or metal lath, old plaster, etc.

The surfaces must be resistant, clean, fixed, free from brittle parts, dust, bacterial proliferation, saline efflorescence, oils, grease, wax, residues of previous work, etc. If necessary, clean the surface by sandblasting or pressure washing. Smooth concrete or non-absorbent and compact surfaces need to be treated first by applying a layer of **MICROGIRP** to improve plaster mortar adhesion to supports. Plaster has to be applied after 2 hours from the application of the primer coat.

Use **THERMAL PLASTER** for the preparation and application of intermediate layers. If wooden or metal battens are used, remove them immediately after applying the thermal insulation render mortar, filling the gaps with **THERMAL PLASTER**.

Prepare corner beads, level guides, etc. before applying the plaster layer on the wall. The edges and openings for doors and windows can be previously prepared with the installation of steel corner beads fastened by screw or plastered in. You can also use wooden battens for edges but with less effective results. In case you need to reinforce the edges obtained, apply on coating layer the **PARASPIGOLO CAPPOTTO PVC**.

**THERMAL PLASTER** can be applied by mechanical spraying, using a plastering machine for pre-mixed products, or by hand.

For manual application, mix the product by adding approx. 30 litres of clean water per bag. Pour water into the cement mixer then add the powder. Mix the product for about 5 minutes until the mixture is smooth and free of lumps. The mixed product is usable within 80 minutes after mixing with water. Use a large trowel to install the product in several layers, until the desired thickness is obtained.

For application by mechanical spray, set up the plastering machine with a large blade helical mixer of a rotor/stator group specific for lightweight products. Apply an initial layer of about 10 mm of product to the whole surface. Wait for it to set before proceeding with the next layer of thickness (from 4 to 24 hours depending on the conditions of application). To achieving the desired thickness, proceed with the application of successive layers between 20 and 30 mm thickness. Level out and finish the plaster layer with an aluminium screed bar. Any smudges or excess product is to be eliminated by scraping and sanding the supports. The prepared surfaces are then suitable for treating with finishing products.

Some undesired effect may also occur, such as the cracking of the first coat or of the intermediate layers but, note that they will not affect thermal and mechanical performances of the product. Cracking may be due to the water absorption by the substrate, that was not properly treated before installation, or to the warm and dry air of the indoor room that speeds up evaporation and induces shrinkage of the product.

Wait at least 10 days before proceeding with final coating. In order to guarantee a proper adhesion of the coats, a period of curing is necessary to allow the evaporation of 90% of excess water, present in the plaster mortar.

When the coating is applied to early, a web shape cracking may happen as well as the detachment of the coating from the plaster, due to the release of the moisture content of **THERMAL PLASTER**, and the stress caused by the handmade levelling.

The coating shall be applied to the whole area with a metal trowel in a even thickness of 3 mm minimum. Primed and certified fibreglass **ARMANET 4x4** mesh with alkali treatment shall be needed to reinforce the surface. Apply the mesh from top to bottom of the wall, taking care of overlapping strips by at least 10 mm. Once the layer has set, apply a second coat to make the entire surface uniform.

For the interiors, gypsum-based coating can be used. Products having a low breathability are not recommended. The indicated maximum thickness respects the maximum bearing capacity of the **THERMAL PLASTER** layer, and avoids risks of detachment from the support.

The application of a coating finish is also recommended as mechanical protection in case of collisions or as base for the aesthetics finishing layer, chosen by the customer.



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## THERMAL PLASTER

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### TOOL CLEANING

Clean all equipment and tools with water immediately after use. The hardened material can only be removed by physical scraping.

### YIELD / CONSUMPTION

10 L per m<sup>2</sup> per cm of thickness.  
1 m<sup>2</sup> per 3 cm of thickness @1 bag of 30 L

### COLOR

Pale beige.

### PACKAGING

30 L kg bags on disposable pallets of 1800 L (60 bags) protected by plastic stretch wrap.

### EXPIRATION / CONSERVATION

12 months from the date of production.  
Keep the product in its original packaging, intact and protected from moisture and frost.

### WARNINGS:

Do not apply at temperature below +5°C or above +30°C. Do not apply with strong wind, rain and under the direct sunlight. Do not apply on frozen, dusty, uneven and inconsistent surfaces. Product thickness should be from 2 to 12 cm per layer. Thickness of plaster layers should never be less than 20 mm. Avoid application on masonry damaged by water infiltration or on basement retaining walls without waterproofing membrane towards soil. Avoid application on waterproof surfaces or on those previously treated with paint products. Avoid application on gypsum-based substrates or mineral and organic insulating panels. Protect the applied product from frost, or rapid drying for the first 24 hours after application.

### PRODUCT DATA

• <i>Appearance</i>	Powder	
• <i>Colour</i>	Pale beige	
• <i>Dry bulk density</i>	~ 135 kg/m <sup>3</sup>	EN 1015-10
• <i>Maximum aggregate size</i>	≤ 1.3 mm	

### APPLICATION DATA

• <i>Water content of mix</i>	100-105%
• <i>Mixing ratio</i>	1 bag + 30-31.5 litres of water
• <i>Minimum application temperature</i>	+ 5°C
• <i>Maximum application temperature</i>	+ 30°C
• <i>Working time</i>	~ 60 minutes

### TECHNICAL DATA

• <i>Bulk density of the fresh mortar</i>	~ 450 kg/m <sup>3</sup>	EN 1015-6
• <i>Water vapour permeability coefficient</i>	μ 1.77	EN 1015-19
• <i>Compressive strength</i>	0.05 N/mm <sup>2</sup>	EN 1015-11
• <i>Thermal conductivity</i>	0.027 W/mK	EN 12687
• <i>Adhesion on brick</i>	0.007 N/mm <sup>2</sup>	EN 1015-12
• <i>Adhesion on coated brick</i>	0.004 N/mm <sup>2</sup>	EN 1015-12
• <i>Sound absorption coefficient</i>	α 0.4	ISO 354-1
• <i>Reaction to fire</i>	Class A1	EN 13501-1
• <i>Durability</i>	Evaluation based on the provisions valid in the intended place of use of the mortar	EN 998-1
• <i>Hazardous substances</i>	See MSDS	EN 998-1
• <i>VOC French regulation</i>	Class A+	
• <i>VOC German AgBB</i>	Suitable for indoor use	

### ENVIRONMENT, HEALTH, AND SAFETY(REACH)

For further information and advice on the handling, storage and safe disposal of the material, the user must consult the latest version of the Safety Data Sheet (SDS) available on the VIMARK's website, at [www.vimark.com](http://www.vimark.com), which contains information on the physical characteristics, ecological and toxicological products, together with other safety information. Product complies with the provisions of the Regulation (EC) no. 1907/2006 (REACH) and Annex XVII, item 47 and subsequent amendments and additions.

**PRODUCT FOR PROFESSIONAL USE.**

### LEGAL NOTES



Co-funded by the Horizon 2020 programme of the European Union



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## THERMAL PLASTER

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The research was developed within the framework of the **EU Horizon 2020 project Wall-ACE** under Grant Agreement Number 723574. Responsibility for the information and views set out in this technical data sheet lies entirely with the authors. The data and prescriptions shown in this sheet, based on the best practical and laboratory experience, refer to laboratory tests and are to be considered in any case as indicative. The information and, in particular, the instructions concerning the application and final use of Vimark products are provided in good faith based on the current knowledge and experience of Vimark on the products provided they are properly stored, handled and used under normal conditions and observing Vimark's recommendations. Considering the different conditions of use and external factors that are independent of Vimark (support, environmental conditions, laying technique directions, etc.), those wishing to use them must therefore decide whether or not the product is suitable for use. Our warranty guarantee is therefore limited to the quality and consistency of the same with regard to the finished product, and exclusively for the above reported data. The company Vimark reserves itself the right to make technical changes without prior notice. Users must always refer to the latest version of the local data sheet relating to the product in question, copies of which will be provided upon request. This technical sheet cancels and replaces all previous editions. Any updates are published on the website [www.vimark.com](http://www.vimark.com).



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## 4. Annex 2: Wall-ACE Thermal Coating technical datasheet by VIMARK

Vimark®

Wall-ACE



# THERMAL COATING

*Lightweight thermal insulation coating containing aerogel*



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## THERMAL COATING

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### DESCRIPTION

**THERMAL COATING** is a pre-mixed coating mortar, made up of special binders and aerogel. Due to its excellent insulating performance, it is suitable for insulation of internal walls and ceilings, contributing to energy efficiency strategies for buildings. It allows a fast and efficient restoration of internal walls without major inconvenience for occupants. The product prevents mould and fungi development and growth and helps maintaining a healthy home environment. Its application reduces heat losses through walls and ceilings, corrects thermal bridges, increases the surface temperature, thus inhibiting the formation of surface condensation, and reduces the cold sensation of occupants in the room.

### COMPOSITION

**THERMAL COATING** is a pre-mixed coating mortar made up of special hydraulic binders, specific aerogel powder or grains and additives that improve the quality of the product in terms of workability, insulation, mechanical strength and adhesion to substrates.

### SUBSTRATE PREPARATION / PRE-TREATMENT

**THERMAL COATING** can be applied to any traditional mineral surface: traditional lime plaster, pre-mixed plaster, lime-cement mortar, plasterboard, painted surfaces, or traditional supports.

The surfaces to be treated must be smooth, stable, clean, consistent, free of dust, bacteria proliferation, efflorescence, salt, oil, grease, wax, residue of previous work etc. Before applying **THERMAL COATING** make sure that the surface is solid, sufficiently resistant and seasoned and it is not subject to movement or shrinking. Smooth and humid surfaces must be cleaned with specific products according to the type of material on the substrate or properly sanded.

A layer of **MONOGRIP** is recommended to prepare the surface. The primer must be applied to the whole surface at least 12 hours before the installation of **THERMAL COATING**.

### MIXING AND APPLICATION

Mix a 30 litres bag of **THERMAL COATING** with approx. 30-31 litres of clean water using an electric mixer until the blend is smooth and free of lumps. Let set for 3 minutes and mix again before applying. The product can be used within the next 60 minutes. Do not add water or mix to use the product after this period.

It is advisable to apply the first coat of **THERMAL COATING** using an 8x8 mm or a 10x10 mm trowel with rivets. Apply a thin layer first using the flat side of the trowel to the surface, then proceed to apply the successive coating with the riveted side of trowel. Setting phase completed, apply a second hand of coating to unify the whole surface. For the final layer, an even thickness and smoothness is reached by using a stainless steel trowel. Suggested coating thicknesses are between 5 and 10 mm. After 72 hours the surface will be ready for one of the Vimark's finishes.

### TOOL CLEANING

Clean all equipment and tools with water immediately after use. The hardened material can only be removed by physical scraping.

### YIELD / CONSUMPTION

10 L per m<sup>2</sup> per cm of thickness.  
6 m<sup>2</sup> per 5 mm of thickness @1 bag of 10 L

### COLOR

Pale beige.

### PACKAGING

30 L kg bags on disposable pallets of 1800 L (60 bags) protected by plastic stretch wrap.

### EXPIRATION / CONSERVATION

12 months from the date of production.  
Keep the product in its original packaging, intact and protected from moisture and frost.

### WARNINGS:

Do not apply at temperature below +5°C or above +30°C. Do not apply on frozen, dusty, uneven and inconsistent surfaces. Product thickness should be from 3 to 30 mm per layer. Thickness should never be less than 3 mm. Avoid application on masonry damaged by water infiltration and/or ground water raise. Avoid application on waterproof surfaces or on those previously treated with paint products. Avoid application on gypsum-based substrates or mineral and organic insulating panels. Protect the applied product from frost and rapid drying for the first 24 hours after application.

### PRODUCT DATA

▪ <i>Appearance</i>	Powder	
▪ <i>Colour</i>	Pale beige	
▪ <i>Dry bulk density</i>	~ 135 kg/m <sup>3</sup>	EN 1015-10
▪ <i>Maximum aggregate size</i>	≤ 0.6 mm	

### APPLICATION DATA

▪ <i>Water content of mix</i>	100-105%
▪ <i>Mixing ratio</i>	1 bag + 30-31.5 litres of water
▪ <i>Minimum application temperature</i>	+ 5°C
▪ <i>Maximum application temperature</i>	+ 30°C
▪ <i>Working time</i>	~ 60 minutes



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## THERMAL COATING

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### TECHNICAL DATA

▪ <i>Bulk density of the fresh mortar</i>	~ 450 kg/m <sup>3</sup>	EN 1015-6
▪ <i>Water vapour permeability coefficient</i>	μ 2.69	EN 1015-19
▪ <i>Compressive strength</i>	0.06 N/mm <sup>2</sup>	EN 1015-11
▪ <i>Thermal conductivity</i>	0.028 W/mK	EN 12667
▪ <i>Adhesion on brick</i>	0.01 N/mm <sup>2</sup>	EN 1015-12
▪ <i>Sound absorption coefficient</i>	α 0.4	ISO 354-1
▪ <i>Reaction to fire</i>	Class A1	EN 13501-1
▪ <i>Durability</i>	Evaluation based on the provisions valid in the intended place of use of the mortar	EN 998-1
▪ <i>Hazardous substances</i>	See MSDS	EN 998-1
▪ <i>VOC French regulation</i>	Class A+	
▪ <i>VOC German AgBB</i>	Suitable for indoor use	

### ENVIRONMENT, HEALTH, AND SAFETY(REACH)

For further information and advice on the handling, storage and safe disposal of the material, the user must consult the latest version of the Safety Data Sheet (SDS) available on the Internet, at [www.vimark.com](http://www.vimark.com), which contains information on the physical characteristics, ecological and toxicological products, together with other safety information.

Product complies with the provisions of the Regulation (EC) no. 1907/2006 (REACH) and Annex XVII, item 47 and subsequent amendments and additions.

#### PRODUCT FOR PROFESSIONAL USE.

### LEGAL NOTES



Co-funded by the Horizon 2020 programme of the European Union

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## 5. Annex 3: Wall-ACE Thermal Patching Filler technical datasheet by TOUPRET

# THERMAL FILLER

*Lightweight thermal insulation filler containing aerogel*

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## THERMAL FILLER

Edition: March 2019 © TOUPRET



<b>DESCRIPTION</b>	<b>AEROGEL BASED THERMAL PATCHING FILLER</b> is a white powder coating, highly breathable with high insulating capacity for restoration and insulation of internal walls and ceilings. The product contributes to optimizing energy efficiency in buildings thanks to its insulation and breathable properties.																														
<b>COMPOSITION</b>	<b>AEROGEL BASED THERMAL PATCHING FILLER</b> is made up of plaster-natural hydraulic lime, Kwark® aerogel, special hydrophobic mass and specific additives that improve the quality of the product in terms of workability, breathability, insulation strength and adhesion to substrates.																														
<b>SUBSTRATE PREPARATION</b>	<b>THERMAL FILLER</b> can be applied on any internal substrate either unpainted or painted, Gypsum plaster, plaster tiles, plasterboards, Old painted surfaces, Cement, concrete, cellular concrete, Breeze blocks, bricks, stones, Primed wood. Substrates to be prepared as per the current trade practices. Substrates must be hard, cohesive, clean, sound and dry.																														
<b>MIXING AND APPLICATION</b>	<b>THERMAL FILLER</b> can be applied manually with a coating knife, smoothing blade or trowel. Mix a 15 l of Aerogel based thermal patching filler with approx. 5.7 – 5.9 liters of clean water using an electric mixer until smooth and free of lumps. Leave it for about 3 minutes and mix again before applying. The prepared product is usable for about 45 minutes. Do not add water or mix to use again after this period. Should be over coated by any TOUPRET standard filler.																														
<b>TOOL CLEANING</b>	The product residues are to be rubbed off when dry. Water cleaning is unnecessary.																														
<b>YIELD / CONSUMPTION</b>	0.172 kg powder allows to fill a volume of 1 litre																														
<b>COLOR</b>	Off White																														
<b>PACKAGING</b>	15 L kg bags on disposable pallets of 900 L (60 bags) protected by plastic stretch wrap.																														
<b>EXPIRATION / CONSERVATION</b>	Product guaranteed 12 months, from the original purchase invoice date as evidence, in its original sealed packaging and stored away from humidity.																														
<b>WARNINGS:</b>	Do not apply on polystyrene, nor on adhesive coverings nor on exterior substrates. <ul style="list-style-type: none"> <li>• Do not apply under a temperature &lt; 8 °C and &gt; 35 °C nor under an hygrometry rate over 70%.</li> <li>• Do not apply on warm/overheated surfaces.</li> <li>• Do not apply on damp surfaces.</li> <li>• Do not mix the paste any longer once it has begun to set.</li> </ul>																														
<b>PRODUCT DATA</b>	<table border="1"> <tr> <td>▪ Characterization</td> <td>Family III class 3</td> <td>NFT 36-005</td> </tr> <tr> <td>▪ Codification</td> <td>G3S2V0W0A0C0R0</td> <td>EN 16-566</td> </tr> <tr> <td>▪ Application thickness</td> <td>no thickness limitation</td> <td></td> </tr> <tr> <td>▪ Second coat</td> <td>once the filler is dry</td> <td></td> </tr> <tr> <td>▪ Overcoating</td> <td>once the filler is dry</td> <td></td> </tr> <tr> <td>▪ Appearance</td> <td>Powder</td> <td></td> </tr> <tr> <td>▪ Colour</td> <td>Off White</td> <td></td> </tr> <tr> <td>▪ Dry bulk density</td> <td>~ 172 kg/m<sup>3</sup></td> <td>EN 1015-10</td> </tr> <tr> <td>▪ Maximum aggregate size</td> <td>≤ 500µ</td> <td></td> </tr> <tr> <td>▪ I.A.Q. class</td> <td>A+</td> <td></td> </tr> </table>	▪ 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	Off White		▪ Dry bulk density	~ 172 kg/m <sup>3</sup>	EN 1015-10	▪ Maximum aggregate size	≤ 500µ		▪ I.A.Q. class	A+	
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## THERMAL FILLER

Edition: March 2019 © TOUPRET



### APPLICATION DATA

▪ <i>Water content of mix</i>	220-230%	
▪ <i>Mixing ratio</i>	1 bag + 5,7L – 5,9L litres of water	
▪ <i>Minimum application temperature</i>	+ 5°C	
▪ <i>Maximum application temperature</i>	+ 30°C	
▪ <i>Working time</i>	~ 45 minutes	
▪ <i>French DTU</i>	59.1 Building paint works	NFP 74-201
▪ <i>French DTU</i>	59.4 Setting up of wall papers and wall coatings	NFP 74-204

### TECHNICAL DATA

▪ <i>Adhesion</i>	≥ 0.5 MPa	EN 16-556
▪ <i>Compressive strength</i>	0.04 N/mm <sup>2</sup>	EN 1015-11
▪ <i>Flexural strength</i>	unmeasurable	EN 1015-11
▪ <i>Water vapour permeability coefficient</i>	≤ μ (in progress)	EN 16-556
▪ <i>Thermal conductivity</i>	0.034 W/mK	EN 12667
▪ <i>Specific heat capacity</i>	Not concerned (kJ/kgK)	EN 1745, A.12
▪ <i>Reaction to fire</i>	A1* Class (*estimated)	EN 13501-1

### ENVIRONMENT, HEALTH, AND SAFETY(REACH)

No danger tag. Safety data sheets available on [www.toupret.com](http://www.toupret.com) or on [www.quickfds.fr](http://www.quickfds.fr)

The data sheet information, especially the guidelines relevant to the application and final use are provided in good faith and result from the knowledge of the products and experience of TOUPRET company.

The product is required to be used as per the trade practices rules book and in reference to our recommendations.

The information provided is relevant to applications processed under a temperature of 20°C, a hygrometry rate of 50 % and on normal-absorbent substrates. The times mentioned are only indicative and depend on the substrate, the coat thickness, and the ambient conditions.

For further information and advice on the handling, storage and safe disposal of the material, the user must consult the latest version of the Safety Data Sheet (SDS) available on the TOUPRET's website, at [www.toupret.com](http://www.toupret.com), which contains information on the physical characteristics, ecological and toxicological products, together with other safety information.

### LEGAL NOTES



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The research was developed within the framework of the **EU Horizon 2020 project Wall-ACE** under Grant Agreement Number 723574. Responsibility for the information and views set out in this technical data sheet lies entirely with the authors. The data and prescriptions shown in this sheet, based on the best practical and laboratory experience, refer to laboratory tests and are to be considered in any case as indicative. The information and, in particular, the instructions concerning the application and final use of TOUPRET products are provided in good faith based on the current knowledge and experience of TOUPRET on the products provided they are properly stored, handled and used under normal conditions and observing TOUPRET's recommendations. Considering the different conditions of use and external factors that are independent of TOUPRET (support, environmental conditions, laying technique directions, etc.), those wishing to use them must therefore decide whether or not the product is suitable for use. Our warranty guarantee is therefore limited to the quality and consistency of the same with regard to the finished product, and exclusively for the above reported data. The company TOUPRET reserves itself the right to make technical changes without prior notice. Users must always refer to the latest version of the local data sheet relating to the product in question, copies of which will be provided upon request. This technical sheet cancels and replaces all previous editions. Any updates are published on the website [www.toupret.com](http://www.toupret.com).

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