

Approval body for construction products  
and types of construction

Bautechnisches Prüfamt

An institution established by the Federal and  
Laender Governments



## European Technical Assessment

ETA-18/0707  
of 21 June 2019

English translation prepared by DIBt - Original version in German language

### General Part

Technical Assessment Body issuing the  
European Technical Assessment:

Deutsches Institut für Bautechnik

Trade name of the construction product

"Supafil Cavity Wall", "Supafil Loft Plus", "Supafil Timber  
Frame", "Supafil Max Frame"

Product family  
to which the construction product belongs

Thermal insulation made of loose mineral wool

Manufacturer

Knauf Insulation GmbH  
Heraklithstraße 8  
84359 Simbach am Inn  
DEUTSCHLAND

Manufacturing plant

Knauf Insulation  
Rue de Maestricht 95  
4600 Visé, Belgium

This European Technical Assessment  
contains

8 pages including 1 annex which form an integral part of  
this assessment

This European Technical Assessment is  
issued in accordance with Regulation (EU)  
No 305/2011, on the basis of

EAD 040729-00-1201

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## Specific Part

### 1 Technical description of the product

The European Technical Assessment applies to the thermal insulation product made of loose, synthetic mineral wool with the designation:

"Supafil Cavity Wall", "Supafil Loft Plus", "Supafil Timber Frame" and "Supafil Max Frame"

The mineral fiber products are manufactured without binding agents.

"Supafil Cavity Wall", "Supafil Loft Plus", "Supafil Timber Frame" and "Supafil Max Frame" are manufactured with an additional hydrophobic agent during the manufacturing process.

"Supafil Cavity Wall" is manufactured with an additional dust binding agent during the manufacturing process.

"Supafil Loft Plus" can be coated on the surface with a waterglass-based (sodium silicate) binder.

The European Technical Assessment has been issued for the products on the basis of agreed data/ information, deposited with Deutsches Institut für Bautechnik, which identifies the product that has been assessed. The European Technical Assessment applies only to products corresponding to this agreed data/information.

### 2 Specification of the intended use in accordance with the applicable European Assessment Document

The thermal insulation material serves for the production of insulation layers, not exposed to compression loads, by means of machine processing at the place of use. The machine processing is carried out in dry conditions.

The thermal insulation product "Supafil Loft Plus" can be used for the following intended uses:

- Exposed insulation on horizontal or moderately pitched areas ( $\leq 10^\circ$ ) (e. g. on the ceiling or between beams)

The thermal insulation products "Supafil Timber Frame" and "Supafil Max Frame" can be used for the following intended uses:

- Space-filling insulation in closed cavities of external and interior walls of timber frame constructions and similar structures
- Insulation in closed cavities between rafters and timber beams as well as in cavities of corresponding structures

The thermal insulation product "Supafil Cavity Wall" is usable as follows:

- Double wall masonry with core insulation (Cavity completely filled)

The performances given in Section 3 are only valid if the thermal insulation product is installed according to the manufacture's installation instructions, used in compliance with the specifications and conditions given in Annex A and if they are protected from precipitation, wetting or weathering in built-in state and during transport, storage and installation.

The design value of the thermal conductivity shall be laid down according to relevant national provisions.

English translation prepared by DIBt

### 3 Performance of the product and references to the methods used for its assessment

For sampling, conditioning and testing the provisions of the EAD No. 040729-00-1201 "Thermal insulation made of loose mineral wool".

#### 3.1 Mechanical resistance and stability (BWR 1)

Not applicable

#### 3.2 Safety in case of fire (BWR 2)

Essential characteristic	Performance
Reaction to fire	Class A1 In accordance with EC decision 96/603/EC
Organic content test acc. to EN 13820:2003	≤ 0,60 M.-%
Propensity to undergo continuous smouldering test acc. to EN 16733:2016	Test passed – The products show no propensity to undergo continuous smouldering

#### 3.3 Hygiene, health and the environment (BWR 3)

Not applicable

#### 3.4 Safety and accessibility in use (BWR 4)

Not applicable

#### 3.5 Protection against noise (BWR 5)

Not applicable

#### 3.6 Energieeinsparung und Wärmeschutz (BWR 6)

Essential characteristic	Performance
Thermal conductivity at mean reference temperature of 10 °C test acc. to EN 12667:2001 in accordance with EN 14064-1:2010	Declared value for a moisture content of the insulation material at 23 °C and 50 % relative humidity: <sup>1</sup> Supafil Loft Plus: $\lambda_{D(23,50)} = 0,037 \text{ W/(m} \cdot \text{K)}$  Supafil Timber Frame and Supafil Max Frame: $\lambda_{D(23,50)} = 0,034 \text{ W/(m} \cdot \text{K)}$  Supafil Cavity Wall: $\lambda_{D(23,50)} = 0,034 \text{ W/(m} \cdot \text{K)}$
Conversion of humidity acc. to EN ISO 10456:2007+AC:2009 moisture conversion factor (23 °C/50 % rel. humidity to 23 °C/ 80 % rel. humidity):	$F_m = 1,00$

<sup>1</sup> The declared value is representative for at least 90 % of the production with a confidence level of 90 % and applies to the above-named density range. For the admissible deviation of an individual value of the thermal conductivity from the declared value the method described in EN 13172:2012, annex F, applies.

Essential characteristic	Performance
Short term water absorption	$W_p \leq 1,0 \text{ kg/m}^2$ (WS acc. to EN 14064-1)
Long term water absorption	No performance assessed
Bulk density	
In case of free placing (exposed insulation) ("Supafil Loft Plus")	20 kg/m <sup>3</sup> to 23 kg/m <sup>3</sup>
In case of use in closed cavities (space-filling) ("Supafil Timber Frame" und "Supafil Max Frame")	30 kg/m <sup>3</sup> to 40 kg/m <sup>3</sup>
In case of use as core insulation ("Supafil Cavity Wall")	30 kg/m <sup>3</sup> to 40 kg/m <sup>3</sup>
Water repellency water absorption after 4 h water absorption after 28 d	1,0 kg/m <sup>2</sup> 3,0 kg/m <sup>2</sup>
Water vapour diffusion resistance coefficient	$\mu = 1$
Settlement	
Settling under impact excitation in the case of free placing (e. g. on the ceiling or between beams)	"Supafil Loft Plus" without binding agents: $\leq 9 \%$ at a minimum bulk density of 20 kg/m <sup>3</sup> and a maximum thickness of 330 mm "Supafil Loft Plus" with binding agents: $\leq 11 \%$ at a minimum bulk density of 20 kg/m <sup>3</sup> and a maximum thickness of 330 mm "Supafil Timber Frame" and "Supafil Max Frame": $\leq 2 \%$ at a minimum bulk density of 30 kg/m <sup>3</sup> and a maximum thickness of 330 mm
Settling under vibration in wall cavity and between beams	SC 0 acc. to EN 15101-1:2013 ( $\leq 1 \%$ ) at a minimum bulk density of 30 kg/m <sup>3</sup> and a maximum thickness of 240 mm
Settling under defined climatic conditions	No performance assessed
Airflow resistance <sup>2</sup> test acc. To EN 29053:1993, Method A	
"Supafil Loft Plus"	$\geq 10,0 \text{ kPa}\cdot\text{s/m}^2$ at a minimum bulk density of 20 kg/m <sup>3</sup>
"Supafil Timber Frame" und "Supafil Max Frame"	$\geq 15,0 \text{ kPa}\cdot\text{s/m}^2$ at a minimum bulk density of 30 kg/m <sup>3</sup>
"Supafil Cavity Wall"	$\geq 20,0 \text{ kPa}\cdot\text{s/m}^2$ at a minimum bulk density of 30 kg/m <sup>3</sup>

**3.7 Sustainable use of natural resources (BWR 7)**

For the sustainable use of natural resources no performance was investigated for this product.

**4 Assessment and verification of constancy of performance (AVCP) system applied, with reference to its legal base**

In accordance with the European Assessment Document EAD No. 040729-00-1201, the applicable European legal act is: 1999/91/EC.

The system to be applied is: 3

In addition, with regard to reaction to fire (including propensity to undergo continuous smouldering) the applicable European legal act is: 1999/91/EC (in accordance with the decision 96/603/EC).

The system to be applied is: 4

**5 Technical details necessary for the implementation of the AVCP system, as provided for in the applicable EAD**

Technical details necessary for the implementation of the AVCP system are laid down in the control plan deposited with Deutsches Institut für Bautechnik.

Issued in Berlin 21 June 2019 by Deutschen Institut für Bautechnik

Maja Tiemann  
p. p. Head of Department

*beglaubigt:*  
Meyer

**"Supafil Cavity Wall", "Supafil Loft Plus", "Supafil Timber Frame", "Supafil Max Frame"**

**ANNEX A**

The performances of the thermal insulation products given in Section 3 are valid if the following will be considered concerning installation and use:

- Densities at built-in stage:

Area of application	Density [kg/m <sup>3</sup> ]
Exposed insulation on horizontal or moderately pitched areas ( $\leq 10^\circ$ ) (e. g. on the ceiling or between beams) ("Supafil Loft Plus")	20 – 23
Space-filling insulation in closed cavities of external and interior walls of timber frame constructions and similar structures ("Supafil Timber Frame" and "Supafil Max Frame")	30 – 40
Insulation in closed cavities between rafters and timber beams as well as in cavities of corresponding structures ("Supafil Timber Frame" and "Supafil Max Frame")	30 – 40
Double wall masonry with core insulation (Cavity completely filled) ("Supafil Cavity Wall")	30 – 40

- The density is determined by calculation as a quotient from the mass of the material brought in and the full volume.
- The thermal insulation layer has a constant installation thickness taking account of the nominal thickness. For that purpose suitable height marks are arranged by the executing company in sufficient distances before the processing. The executing company check the installation thickness and the density.
- When calculating the thermal resistance of the construction elements, the nominal thickness of the thermal insulation layer is applied as follows:

Processing of the insulation material	Nominal thickness
Exposed insulation on horizontal or moderately pitched areas ( $\leq 10^\circ$ ) (e. g. on the ceiling or between beams)	installation thickness of the insulation material without binding agent minus 9 % installation thickness of the insulation material with binding agent minus 11 %
Space-filling insulation in closed cavities of external and interior walls of timber frame constructions and similar structures	clear span of the filled cavity
Insulation in closed cavities between rafters and timber beams as well as in cavities of corresponding structures	clear span of the filled cavity
Double wall masonry with core insulation (Cavity completely filled)	clear span of the filled cavity

- The requirements concerning ventilation openings and the ventilation section above the thermal insulation layer are considered.
- In case of installation on pitched or arched areas slipping of the thermal insulation product is prevented by suitable measures.
- In case of use as space-filling thermal insulation in closed cavities it is made sure by appropriate measures (e. g. control drillings) that the cavity is completely filled with the thermal insulation product.

- In case of installation as core insulation it is checked in advance that the facing wall is in a proper condition and has no moisture penetration. Cracks or imperfections in the masonry joints are to be repaired before installing the insulation.
- The thermal insulation products are only processed by companies stated in a list of the manufacturer which have adequate experience in installing the material. Concerning this matter the manufacturer has trained these companies.
- The executing company issue a certificate which contains the following information with reference to this European Technical Assessment for each application place:
  - Thermal insulation product made of loose mineral wool
  - trade names
  - executing company
  - building project and building component
  - date of installation
  - installation thickness