

Approval body for construction products
and types of construction

Bautechnisches Prüfamt

An institution established by the Federal and
Laender Governments



European Technical Assessment

ETA-18/1023
of 28 September 2022

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

"Fillrock KD Plus", "Fillrock KD", "Fillrock RG Plus" and
"Fillrock RG"

Product family
to which the construction product belongs

Thermal insulation made of loose mineral wool

Manufacturer

DEUTSCHE ROCKWOOL GmbH & Co. KG
Rockwool Straße 37-41
45966 Gladbeck
DEUTSCHLAND

Manufacturing plant

ROCKWOOL Operations
GmbH & Co. KG
Rockwool Straße 37-41
45966 Gladbeck
GERMANY

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:

"Fillrock KD Plus", "Fillrock KD", "Fillrock RG Plus" and "Fillrock RG"

The thermal insulation material is made of resin-bonded rock wool and is manufactured with an additional hydrophobic agent during the manufacturing process.

"Fillrock RG Plus" and "Fillrock RG" can be manufactured with the addition of a water-soluble, inorganic binder (binder content ≤ 15 wt.%).

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. Deviating from this, a water-soluble, inorganic binder can be added when processing "Fillrock RG Plus" and "Fillrock RG".

The thermal insulation products "Fillrock RG Plus" and "Fillrock RG" 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)
- Space-filling insulation in closed cavities of external and interior walls of timber frame constructions and similar structures

The thermal insulation products "Fillrock KD Plus" and "Fillrock KD" can be used for the following intended uses:

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

The performances given in Section 3 are only valid if the thermal insulation product is installed according to the manufacturer'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.

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 Safety in case of fire (BWR 2)

Essential characteristic	Performance
Reaction to fire test acc. to EN ISO 1716:2010 and EN ISO 1182:2010	Class A1 acc. to EN 13501-1:2007+A1:2009
Propensity to undergo continuous smouldering test acc. to EN 16733:2016	Test passed – The products show no propensity to undergo continuous smouldering

3.2 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: ¹ "Fillrock KD Plus", "Fillrock RG Plus" $\lambda_D = 0,034 \text{ W}/(\text{m} \cdot \text{K})$ "Fillrock KD", "Fillrock RG" $\lambda_D = 0,037 \text{ W}/(\text{m} \cdot \text{K})$
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):	$F_m = 1,00$
Short term water absorption	$W_p \leq 1,0 \text{ kg}/\text{m}^2$ (WS acc. to EN 14064-1)
Long term water absorption	"Fillrock KD Plus" and "Fillrock KD" $W_{lp} \leq 3,0 \text{ kg}/\text{m}^2$
Bulk density	
In case of free placing (exposed insulation) "Fillrock RG" "Fillrock RG Plus"	45 kg/m ³ to 65 kg/m ³ 45 kg/m ³ to 55 kg/m ³
In case of use in closed cavities (space-filling) "Fillrock RG" "Fillrock RG Plus"	65 kg/m ³ to 95 kg/m ³ 65 kg/m ³ to 100 kg/m ³
In case of use as core insulation "Fillrock KD" "Fillrock KD Plus"	80 kg/m ³ to 120 kg/m ³ 65 kg/m ³ to 100 kg/m ³

¹ The declared value is representative for at least 90 % of the production with a confidence level of 90 % and applies to the density ranges mentioned in annex A.

Essential characteristic	Performance
Water repellency water absorption after 4 h water absorption after 28 d	"Fillrock KD Plus" and "Fillrock KD" 1,0 kg/m ² 4,0 kg/m ²
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)	"Fillrock RG" und "Fillrock RG Plus" $\leq 10 \%$ at a minimum bulk density of 45 kg/m ³ 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 65 kg/m ³ and a maximum thickness of 240 mm
Settling under cyclical temperature and cyclic humidity	S1 acc. to EN 14064-1:2019 ($\leq 1 \%$) at a minimum bulk density of 40 kg/m ³
Airflow resistance ² test acc. To EN 29053:1993, Method A	
"Fillrock KD"	$\geq 23 \text{ kPa}\cdot\text{s}/\text{m}^2$ at a minimum bulk density of 80 kg/m ³
"Fillrock KD Plus"	$\geq 24 \text{ kPa}\cdot\text{s}/\text{m}^2$ at a minimum bulk density of 65 kg/m ³
"Fillrock RG"	$\geq 7 \text{ kPa}\cdot\text{s}/\text{m}^2$ at a minimum bulk density of 45 kg/m ³
"Fillrock RG Plus"	$\geq 10 \text{ kPa}\cdot\text{s}/\text{m}^2$ at a minimum bulk density of 45 kg/m ³

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 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: 1

² Also relevant in terms of BWR 5

English translation prepared by DIBt

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 28 September 2022 by Deutschen Institut für Bautechnik

Frank Iffländer
Head of Section

beglaubigt:
Meyer

"Fillrock KD Plus", "Fillrock KD", "Fillrock RG Plus" and "Fillrock RG"

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 ³]
Exposed insulation on horizontal or moderately pitched areas ($\leq 10^\circ$) (e. g. on the ceiling or between beams) "Fillrock RG" "Fillrock RG Plus"	45 – 65 45 – 55
Space-filling insulation in closed cavities of external and interior walls of timber frame constructions and similar structures "Fillrock RG" "Fillrock RG Plus"	65 - 95 65 - 100
Double wall masonry with core insulation (Cavity completely filled) "Fillrock KD" "Fillrock KD Plus"	80 - 120 65 - 100

- 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 minus 10 %
Space-filling insulation in closed cavities of external and interior walls of timber frame constructions and similar 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 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