Deutsches Institut für Bautechnik

Approval body for construction products and types of construction

Bautechnisches Prüfamt

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European Technical Assessment

ETA-04/0080 of 10 March 2020

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General Part

Technical Assessment Body issuing the European Technical Assessment:	Deutsches Institut für Bautechnik
Trade name of the construction product	DÄMMSTATTs CI 040, KLIMA-TEC-FLOCK, biocell, DÄMMSTATTs CI Dämmschüttung, DÄMMSTATTs CI 040 bf, KLIMA-TEC-FLOCK bf, biocell bf, DÄMMSTATTs CI Dämmschüttung bf, DAEMMSTATT D, Isocell D, Trendisol D, Dobry-Ekovilla D, DAEMMSTATT D bf, Isocell D bf, Trendisol D bf, Dobry-Ekovilla D bf, Isocell P and Isocell for you
Product family to which the construction product belongs	Insulating material made of loose, free cellulose fibres
Manufacturer	Dämmstatt GmbH Markgrafendamm 16 10245 Berlin DEUTSCHLAND
Manufacturing plant	Dämmstatt GmbH Markgrafendamm 16 10245 Berlin GERMANY
This European Technical Assessment contains	9 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 040138-01-1201
This version replaces	ETA-04/0080 issued on 5 June 2018

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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, free cellulose fibres with the designation:

DÄMMSTATTs CI 040, KLIMA-TEC-FLOCK, biocell, DÄMMSTATTs CI Dämmschüttung, DÄMMSTATTs CI 040 bf, KLIMA-TEC-FLOCK bf, biocell bf, DÄMMSTATTs CI Dämmschüttung bf, DAEMMSTATT D, Isocell D, Trendisol D, Dobry-Ekovilla D, DAEMMSTATT D bf, Isocell D bf, Trendisol D bf, Dobry-Ekovilla D bf, Isocell P and Isocell for you"

The cellulose fibres are produced from waste paper by mechanical crushing. During the manufacturing process the product is provided with fire protection equipment.

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 or under the addition of water. The thermal insulating materials "DÄMMSTATTs CI Dämmschüttung" and "DÄMMSTATTs CI Dämmschüttung bf" are processed manually at the place of use.

The reaction to fire of the insulating material depends on the end use conditions. Clause 3.2 shall be observed in this regard.

The thermal insulation product 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
- Exposed insulation on horizontal or moderately pitched areas (≤ 10°), e. g. insulation of topmost storey ceilings which are not subjected to foot traffic, however, are accessible
- Cavity insulation between flooring joist battens and similar substructures

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.

The verifications and assessment methods on which this European Technical Assessment is based lead to the assumption of a working life of the thermal insulation products of at least 50 years. The indications given on the working life cannot be interpreted as a guarantee given by the producer, but are to be regarded only as a means for choosing the right products in relation to the expected economically reasonable working life of the works.

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 040138-01-1201 "In-situ formed loose fill thermal and/or acoustic insulation products made of vegetable fibres" apply.

3.1 Safety in case of fire (BWR 2)

The class for reaction to fire for thermal insulation product with the designation "DÄMMSTATTs CI 040", "KLIMA-TEC-FLOCK", "biocell", "DÄMMSTATTs CI Dämmschüttung", "DAEMMSTATT D", "Isocell D", "Trendisol D", "Dobry-Ekovilla D", Isocell P" and "Isocell for you" are as follows, depending on the end use conditions:

Essential characteristic	End use conditions	Performance
Reaction to fire test acc. to EN ISO 11925-2:2010 test acc. to EN 13823:2010+A1:2014	Installation density of the insulating material 25 kg/m³ to 65 kg/m³, insulation layer thickness ≥ 100 mm, to be used between or on wood-based boards or other boards depending on the field of use concerned with the following properties: - density of the boards ≥ 680 ± 50 kg/m³, board thickness ≥ 12 ± 2 mm, reaction to fire of the boards: at least class D - s2,d0, or - density of the boards ≥ 1800 ± 200 kg/m³, board thickness ≥ 6 ± 1 mm, reaction to fire of the boards: classes A1 / A2 - s2,d0, or - density of the boards ≥ 870 ± 50 kg/m³, board thickness ≥ 11 ± 2 mm, reaction to fire of the boards: classes A1 / A2 - s2,d0	Class B-s2, d0 acc. to EN 13501-1:2018
Reaction to fire test acc. to EN ISO 11925-2:2010	Installation density of the insulating material 25 kg/m³ to 65 kg/m³, insulation layer thickness ≥ 40 mm	Class E acc. to EN 13501-1:2018

The class for reaction to fire for thermal insulation product with the designation "DÄMMSTATTs CI 040 bf", "KLIMA-TEC-FLOCK bf", "biocell bf", "DÄMMSTATTs CI Dämmschüttung bf", "DAEMMSTATT D bf", "Isocell D bf", "Trendisol D bf" and "Dobry-Ekovilla D bf" are as follows, depending on the end use conditions:

Essential characteristic	End use conditions	Performance
Reaction to fire test acc. to EN ISO 11925-2:2010 test acc. to EN 13823:2010+A1:2014	Installation density of the insulating material 25 kg/m³ to 65 kg/m³, to be used between or on substrates of classes A1 or A2 - s1,d0 according to EN 13501-1, Density of the substrates ≥ 650 kg/m³ Insulation layer thickness ≥40 mm --- Installation density of the insulating material 25 kg/m³ to 65 kg/m³, to be used between or on wood-based boards with a board thickness ≥ 12 ± 2 mm, Density of the boards ≥ 510 kg/m³ Insulation layer thickness ≥ 180 mm	Class B-s2, d0 acc. to EN 13501-1:2018
Reaction to fire test acc. to EN ISO 11925-2:2010 test acc. to EN 13823:2010+A1:2014	Installation density of the insulating material 25 kg/m³ to 65 kg/m³, to be used between or on wood-based boards with a board thickness ≥ 12 ± 2 mm, Density of the boards ≥ 510 kg/m³ Insulation layer thickness ≥ 100 mm, < 180 mm	Class C-s2, d0 acc. to EN 13501-1:2018
Reaction to fire test acc. to EN ISO 11925-2:2010	Installation density of the insulating material 25 kg/m³ to 65 kg/m³, insulation layer thickness ≥ 40 mm	Class E acc. to EN 13501-1:2018

3.2 Hygiene, health and the environment (BWR 3)

Essential characteristic	Performance
Resistance to the growth of mould test acc. to EAD "In-situ formed loose fill thermal and/or acoustic insulation products made of vegetable fibres", Annex B	Evaluation level 0 acc. to EN ISO 846:1997

3.3 Energy economy and heat retention (BWR 6)

Essential characteristic	Performance
Thermal conductivity at mean reference temperature of 10 °C test acc. to EN 12667:2001	Declared value for a moisture content of the insulation material at 23 °C and 50 % relative humidity[1]: $\lambda_{D(23,50)}$ = 0,037 W/(m · K) in case of machine processed insulating materials $\lambda_{D(23,50)}$ = 0,043 W/(m · K) in case of the manually processed insulating materials

[1] 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
Conversion of humidity acc. to EN ISO 10456:2007+AC:2009	
mass-related moisture content at 23 °C/50 % rel. humidity:	$u_{23,50}$ = 0.07 kg/kg
mass-related moisture content at 23 °C/80 % rel. humidity:	$u_{23,80}$ = 0.12 kg/kg
mass-related moisture conversion coefficient (dry to 23 °C/50 % rel. humidity):	f_{u1} = 0.37
mass-related moisture conversion coefficient (23 °C/50 % rel. humidity to 23 °C/80 % rel. humidity):	f_{u2} = 0.15
moisture conversion factor (dry to 23 °C/50 % rel. humidity):	F_{m1} = 1.026
moisture conversion factor (23 °C/50 % rel. humidity to 23 °C/ 80 % rel. humidity):	F_{m2} = 1.008
Water vapour diffusion resistance coefficient test acc. to EN 12086:2013, climate condition C	μ = 1 bis 2[2]
Water absorption	No performance assessed
Corrosion developing capacity test acc. to EN 15101-1:2013, Annex E	CR – Test passed
Settlement	
Settling under impact excitation in the case of free placing (e. g. on the ceiling or between beams)	≤ 8 % at a minimum bulk density of 25 kg/m³ and a maximum thickness of 330 mm
Settling under vibration in wall cavity and between beams	SC 0 acc. to EN 15101-1:2013 at a minimum bulk density of 38 kg/m³ in case of machine processing and 50 kg/m³ in case of manually processing and a-maximum thickness of 240 mm
Settling under defined climatic conditions	No performance assessed
Critical moisture content	No performance assessed
Airflow resistance Test acc. To EN 29053:1993, Method A	≥ 5,0 kPa·s/m² at a bulk density of 25 kg/m³
Hygroscopic sorption properties	No performance assessed

[2] The most unfavourable value for the construction wok shall be applied each

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. 040138-01-1201, the applicable European legal act is: 1999/91/EC.

The system to be applied is: 3

In addition, with regard to reaction to fire the applicable European legal act is: 2001/596/EC for products covered by the European Assessment Document EAD No. 040138-01-1201.

The system to be applied is: 1

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 10 March 2020 by Deutsches Institut für Bautechnik

Maja Tiemann
Head of Department

beglaubigt:
Meyer

DÄMMSTATTs CI 040, KLIMA-TEC-FLOCK, biocell, DÄMMSTATTs CI Dämmschüttung, DÄMMSTATTs CI 040 bf, KLIMA-TEC-FLOCK bf, biocell bf, DÄMMSTATTs CI Dämmschüttung bf, DAEMMSTATT D, Isocell D, Trendisol D, Dobry-Ekovilla D, DAEMMSTATT D bf, Isocell D bf, Trendisol D bf, Dobry-Ekovilla D bf, Isocell P and Isocell for you

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/m³]
Cavity insulation in walls, machine processing	38 – 65
Cavity insulation in pitched roofs, machine processing	38 – 65
Cavity insulation in walls and cavity insulation in pitched roofs, manually processing	50 – 65
Cavity insulation in floors, exposed insulation on horizontal, in case of machine processing also on moderately pitched areas (≤ 10 °)	25 – 65 [1]

- 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 be 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
Cavity insulation in walls	clear span of the filled cavity
Cavity insulation in pitched roofs, cavity insulation in floors in case of subsequent blowing into closed cavities	clear span of the filled cavity
Cavity insulation in floors, exposed insulation on horizontal, and moderately pitched areas (≤ 10 °)	installation thickness of the insulation material minus 10 %

- 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.

[1] In case of machine processing under the addition of water the density shall be at least 30 kg/m³

- In case of processing under the addition of water it shall be ensured that the main share of water is evaporated before closing the cavity. The time period necessary for this depends on the climatic conditions of the surroundings. Only building materials allowing an evaporation of moisture may be used as facing.
- 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, free cellulose fibres
  - trade names
  - executing company
  - building project and building component
  - date of installation
  - processing procedure
  - installation thicknesse