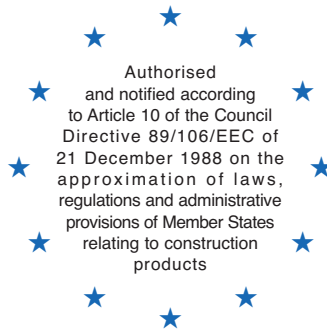


ÖSTERREICHISCHES INSTITUT FÜR BAUTECHNIK

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Member of EOTA

European technical approval

ETA-11/0005

(English language translation, the original version is in German language)

Handelsbezeichnung:
Trade name:

BIOFIB´CHANVRE,

Zulassungsinhaber:
Holder of approval:

**CAVAC BIOMATERIAUX
Le Fief Chapitre
85 400 STE GEMME La PLAINE
France**

Zulassungsgegenstand
und Verwendungszweck:

**Dämmmatte aus Hanf und Flachs zur Wärme- und/oder
Luftschalldämmung**

*Generic type and use of
construction product:*

*Thermal and/or acoustic insulation mat made of hemp and
flax fibres*

Geltungsdauer vom:
validity from:
bis:
to:

17.02.2011

16.02.2016

Herstellwerk:
Manufacturing plant:

CAVAC BIOMATERIAUX
Le Fief Chapitre
85 400 STE GEMME La PLAINE
France

Diese Europäische
technische Zulassung umfasst:
*This European technical approval
contains:*

9 Seiten inklusive 0 Anhängen

9 pages including 0 Annexes

LEGAL BASES AND GENERAL CONDITIONS

- 1 This European technical approval is issued by the Österreichisches Institut für Bautechnik in accordance with:
 - Council Directive 89/106/EEC of 21 December 1988 on the approximation of laws, regulations and administrative provisions of Member States relating to construction products¹, modified by the Council Directive 93/68/EEC² and regulation (EC) no. 1882/2003 of the European Parliament and of the Council³;
 - Wiener Bauprodukte- und Akkreditierungsgesetzes, LGBl. Für Wien Nr. 30/1996, zuletzt geändert durch das Gesetz, LGBl. für Wien Nr. 24/2008.;
 - Common Procedural Rules for Requesting, Preparing and the Granting of European technical approvals set out in the Annex to Commission Decision 94/23/EC⁴;
- 2 The Österreichisches Institut für Bautechnik is authorised to check whether the provisions of this European technical approval are met. Checking may take place in the manufacturing plant. Nevertheless, the responsibility for the conformity of the products to the European technical approval and for their fitness for the intended use remains with the holder of the European technical approval.
- 3 This European technical approval is not to be transferred to manufacturers or agents of manufacturer other than those indicated on page 1; or manufacturing plants other than those laid down in the context of this European technical approval.
- 4 This European technical approval may be withdrawn by the Österreichisches Institut für Bautechnik, in particular pursuant to information by the Commission according to Article 5(1) of Council Directive 89/106/EEC.
- 5 Reproduction of this European technical approval including transmission by electronic means shall be in full. However, partial reproduction can be made with the written consent of the Österreichisches Institut für Bautechnik. In this case, partial reproduction has to be designated as such. Texts and drawings of advertising brochures shall not contradict or misuse the European technical approval.
- 6 The European technical approval is issued by the approval body in its official language. This version corresponds fully to the version circulated within EOTA. Translations into other languages have to be designated as such.

¹ Official Journal of the European Communities no. L 40, 11.2.1989, p. 12

² Official Journal of the European Communities no. L 220, 30.8.1993, p. 1

³ Official Journal of the European Union no. L 284, 31.10.2003, p. 1.

⁴ Official Journal of the European Communities no. L 17, 20.1.1994, p. 34.

II SPECIFIC CONDITIONS OF THE EUROPEAN TECHNICAL APPROVAL

1 Definition of products and intended use

1.1 Definition of the construction product

This European technical approval applies to the following insulation products.

BIOFIB´CHANVRE

This product is manufactured in the form of mats of:

nominal thickness:	from 45 mm to 180 mm
nominal length:	from 1200 mm to 1350 mm
nominal width:	from 300 mm to 600 mm

These flame retardant and fungicide modified products consist of hemp and flax fibres with a content of polyester fibres of appr. **10 %** and a maximum flax content of appr. **20%**

The insulation material is not faced.

The dimensions correspond to the delivery program of the manufacturer.

The hemp and flax straw used in the manufacturing process has to fulfill the following quality criteria:

Level of retting	6 - 10
weed content	< 5 % vol.

1.2 Intended use

The hemp/flax insulation mats **BIOFIB´CHANVRE** are used as non loadable insulating material mainly for the following intended uses:

Area of application for walls

- Insulation material for external walls in light wood constructions (nogging piece construction, timber frame construction)
- Solid construction with external insulating system for low energy- and passive solar-buildings (external fixed wooden load-bearing system with intermediate insulating wool and panelling)
- Partition-insulation as thermal insulation

Area of application for roofs

- Pitched roofs with ventilation
- Pitched roofs without ventilation (full rafter insulation)
- Flat roof with upper covering and ventilated cavity under the waterproofing
- Pitched roof construction with insulation under the load bearing rafters.

The declared value of thermal conductivity for the density range of 39,3 kg/m³ - 45,5 kg/m³ is $\lambda_{D(23,50)} = 0,040 \text{ W/(m}\cdot\text{K)}$ – **category 1** determined by conversion of the $\lambda_{(10,\text{dry},90/90)}$ value.

The declared value of thermal conductivity for the density range of 39,3 kg/m³ - 45,5 kg/m³ is $\lambda_{D(23,50)} = 0,040 \text{ W/(m}\cdot\text{K)}$ – **category 2** determined by conversion of the $\lambda_{(10,\text{dry},\text{limit})}$ value.

For conversion of humidity the following applies:

- the moisture content mass by mass at 23 °C/50 % relative humidity: $u_{23,50} = 0,0555 \text{ kg/kg}$
- the moisture content mass by mass at 23 °C/80 % relative humidity: $u_{23,80} = 0,130 \text{ kg/kg}$
- the moisture content conversion coefficient mass by mass: $f_{u1 (\text{dry} - 23/50)} = 0,110 \text{ kg/kg}$
 $f_{u2 (23/50 - 23/80)} = 0,0958 \text{ kg/kg}$

2.10 Reaction to fire

The reaction to fire of the products is determined according to EN 13501-1¹⁵. The products reached the following classification.

	density range (kg/m ³)	thickness (mm)	Class
BIOFIB'CHANVRE	39,3 – 45,5	≥ 45	E

2.11 Resistance to biological actions

The test and the assessment of the resistance to growth of mould fungus has been verified according to the EOTA testing procedure (Annex C of CUAP „Factory made thermal insulation material and/or acoustic insulation material made of vegetable or animal fibres; edition June 2003/ Revision 2009.“). The reached **class** of the product is **1**

2.12 Corrosion developing capacity on metal construction products

No performance determined

2.13 Retention of additives

The test and the assessment of the retention of additives have been verified according to the EOTA testing procedure (CUAP Annex F of CUAP „ Factory made thermal insulation material and/or acoustic insulation material made of vegetable or animal fibres; edition June 2003/ Revision 2009.“). No decrease in the reaction to fire behavior nor resistance to mould growth was determined.

2.14 Dangerous substances

The flame retardant and fungicide modified product consists of hemp and flax fibres and a content of polyester fibres of appr. **10 %** complies with the provisions of guidance paper H¹⁶.

It does not contain substances which have to be classified as dangerous according to Directive 67/548/EEC and/or listed in the "Indicative list on dangerous substances" of the EGDS and can be classified as product type 2 according the EOTA testing procedure (clause

¹⁵ EN 13501-1:2002: Classification of construction products and construction types about its fire behaviour. Part 1: Classification with the results of the test about fire behaviour of construction products

¹⁶ Guidance paper H: A harmonised approach relating to Dangerous substances under the construction products directive, 18 February 2000

4.3.2 of CUAP „Factory-made thermal insulation material made of vegetable or animal fibres; edition October 2009.”).

A declaration of conformity in this respect was made by the manufacturer.

In addition to the specific clauses relating to dangerous substances contained in this European technical approval, there may be other requirements applicable to the products falling within its scope (e.g. transposed European legislation and national laws, regulations and administrative provisions). In order to meet the provisions of the EU Construction Products Directive, these requirements need also to be complied with, when and where they apply.

2.15 Critical moisture content

No performance determined

3 Evaluation of conformity and CE marking

3.1 Attestation of conformity system

System 3 for **BIOFIB`CHANVRE** for which the following is valid:

- intended use “any”
- reaction to fire classes E

The system of attestation of conformity is described in Council Directive (89/106/EEC) Annex III, 2 (ii), Second possibility and is detailed as follows:

- a) Tasks of the manufacturer
 - factory production control.
- b) Tasks of the approved body
 - initial type-testing of the product

3.2 Responsibilities

3.2.1 Tasks for the manufacturer; factory production control

The manufacturer has a factory production control system in his plant and exercises permanent internal control of production.

All the elements, requirements and provisions adopted by the manufacturer are documented in a systematic manner in the form of written policies and procedures. The factory production control system ensured that the products are always in conformity with the European technical approval.

In the framework of factory production control the manufacturer shall carry out tests and controls in accordance with the control plan¹⁷ which is fixed with this European technical approval.

Details of the extent, nature and frequency of testing and controls to be performed within the factory production control shall correspond to this control plan¹⁷ which is part of the technical documentation of this European technical approval. The results of factory production control are recorded and evaluated. The records include at least the following information:

- designation of the products and of the basic materials
- type of control or testing
- date of manufacture of the products and date of testing of the products or basic materials or components
- result of control and testing and, if appropriate, comparison with requirements
- signature of person responsible for factory production control

¹⁷ The control plan has been deposited at the Österreichisches Institut für Bautechnik and is handed over only to the approved bodies involved in the attestation of conformity procedure

On request the records shall be presented to the Österreichisches Institut für Bautechnik.

3.2.2 Tasks for approved bodies

Initial type-testing of the products

For initial type-testing the results of the tests performed as part of the assessment for the European technical approval shall be used unless there are changes in the production line or plant. In such cases the necessary initial type-testing has to be agreed between the Österreichisches Institut für Bautechnik and the approved bodies involved.

3.3 CE marking

The CE marking shall be affixed on the products, the packaging or the attached label.

The symbol "CE" shall be accompanied by the following information:

- name or identifying mark of producer and manufacturing plant
- the last two digits of the year in which the CE marking was affixed
- number of the European technical approval
- identification of products (commercial name)
- nominal dimensions of length, width and thickness
- nominal density
- water absorption
- airflow resistance
- declared value of thermal conductivity
- class of reaction to fire¹⁸
- dimensional stability at a specified temperature ($70^{\circ}\text{C} \pm 2^{\circ}\text{C}$) and relative humidity ($50\% \pm 5\%$) for 48 h

4 Assumptions under which the fitness of the products for the intended use was favourably assessed

4.1 Manufacturing

The thermal insulation products shall correspond as far as their composition and manufacturing process is concerned to the products subject to the approval tests. Composition and manufacturing process are deposited at the Österreichischen Institut für Bautechnik.

4.2 Installation

4.2.1 Parameters for the design of construction works or parts of construction works

4.2.1.1 Design value of thermal conductivity

The design value of thermal conductivity shall be defined in accordance with the relevant national provisions.

4.2.1.2 Value of water vapour diffusion resistance

For evaluating the diffusion equivalent thickness of air layer of the thermal insulation products the value of $\mu = 1$ of water vapour diffusion resistance factor shall be used¹⁹.

The construction shall be designed and installed in such a way that no harmful condensation occurs within the works.

¹⁸ European classification of reaction to fire of building materials according to the Commission Decision 2000/147/EG of 8 February 2000 implementing Article 20 of Directive 89/106/EEC on construction products.

¹⁹ For the construction work in question always the less favourable value shall be used.

