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Ermächtigt und notifiziert gemäß Artikel 10 der Richtlinie des Rates vom 21. Dezember 1988 zur Angleichung der Rechts- und Verwaltungsvorschriften der Mitgliedsstaaten über Bauprodukte (89/106/EWG)

Mitglied der EOTA

European Technical Approval ETA-06/0040

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

Handelsbezeichnung *Trade name*	**STEICO canaflex, Isover Integra ZKP1 FLORAPAN Zwischensparren – Klemmplatte, Isover Integra UKP1 FLORAPAN Untersparren – Klemmplatte, Isover Kontur HBP 1 FLORAPAN Holzbau – Klemmplatte, emfa – Hanf Typ ST**
Zulassungsinhaber *Holder of approval*	**STEICO AG** **Hans-Riedl-Straße 21** **D-85622 Feldkirchen**
Zulassungsgegenstand und Verwendungszweck *Generic type and use of construction product*	Dämmplatte aus Hanf zur Wärme und/oder Luftschalldämmung *Thermal and/or acoustic insulation board made of hemp fibres*
Geltungsdauer vom *Validity from* bis *to*	**23. 01. 2006** **14. 06. 2007**
Herstellwerk *Manufacturing plant*	STEICO S.A. Ul. Przemyslowa 2 64-700 Czarnków POLEN
Diese europäische technische Zulassung umfaßt *This European Technical Approval contains*	10 Seiten *10 pages*

OIB-230-006/05-013

I LEGAL BASES AND GENERAL CONDITIONS

1 This European technical approval is issued by the Österreichischen 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 products[1], modified by the Council Directive 93/68/EEC of 22 July 1993[2];
- der NÖ Bauordnung 1996, LGBl. 8200-6;
- Common Procedural Rules for Requesting, Preparing and the Granting of European technical approvals set out in the Annex of Commission Decision 94/23/EC [3].

2 The Österreichisches Institut für Bautechnik is authorized 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 manufacturers other than those indicated on page 1, or manufacturing plants other than those indicated on page 1 of this European technical approval.

4 This European technical approval may be withdrawn by the Österreichische Institut für Bautechnik, in particular after information by the Commission on the basis of 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 to the version circulated within EOTA. Translations into other languages have to be designated as such.

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1) Official Journal of the European Communities N° L 40, 11.02.1989, p. 12
2) Official Journal of the European Communities N° L 220, 30.08.1993, p. 1
3) Official Journal of the European Communities N° L 17, 20.01.1994, p. 34

II SPECIFIC CONDITIONS OF THE EUROPEAN TECHNICAL APPROVAL

1 Definition of products and intended use

1.1 Definition of products

This European technical approval applies to the following insulation products.

STEICO canaflex, Isover Integra ZKP1 FLORAPAN Zwischensparren – Klemmplatte, Isover Integra UKP1 FLORAPAN Untersparren – Klemmplatte, Isover Kontur HBP 1 FLORAPAN Holzbau – Klemmplatte, emfa – Hanf Typ ST

This product is manufactured in the form of boards of:

nominal thickness:	from 40 mm to 240 mm
nominal length:	from 220 mm to 2400 mm
nominal width:	from 220 mm to 1400 mm

These flame retardant modified products consist of hemp fibres with an extra added content of shives **< 15 %** and a content of polyester fibres of appr. **10 %**

The insulation material is not faced.

The dimensions correspond to the delivery program of the manufacturer.

The hemp straw used in the manufacturing process has to fulfil the following quality criteria

Level of retting	**1-8**
weed content	**< 0,5 % vol.**

1.2 Intended use

The hemp insulation boards STEICO canaflex 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) and loghouses
- 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 and/or cavity-damping

Area of application for roofs

- Pitched roofs with ventilation
- Pitched roofs without ventilation (full rafter insulation)
- Flat roof with upper covering (μ.d $\leq$0,2m) and ventilated cavity under the waterproofing
- Pitched roof construction with insulation under the load bearing rafters.

Area of application for ceilings / floors

- Ceilings under non habitable attics (thermal insulation between or above the load-bearing structure)
- Cavity damping material respectively insulation material between floor-joists under floor constructions
- Cavity damping material respectively insulation material in intermediate ceilings

The insulation products shall not be used in structures where it will be exposed to wetting or weathering and in such with direct contact to soil.

The provisions made in this ETA are based on an assumed intended working life of the insulation product of 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 product in relation to the expected economically reasonable working life of the works.

2 Characteristics of products and methods of verification

2.1 Composition and manufacturing process

The insulation product shall as far as its composition and manufacturing process is concerned correspond to the product subject to the approval tests. Details of composition and manufacturing process are deposited at the Österreichischen Institut für Bautechnik.

2.2 Dimensions

The thickness of the products is determined according to European standard EN 823 [4]. The test is carried out with a load of 50 Pa.

The deviation from nominal thickness does not exceed:

-5 % or[5] -5 mm
+ 15 % or[6] + 15 mm.

The reached class of the product is **T2**.

The length of the products is determined according to European standard EN 822[7]. The deviation from nominal length does not exceed ± 2 %.

The width of the products is determined according to European standards EN 822[7]. The deviation from nominal width does not exceed ± 1,5 %.

2.3 Squareness

The squareness of the boards is determined according to European standard EN 824[8]. The deviation from squareness on length and width does not exceed 5 mm/m.

2.4 Density

The density of the products is determined according to European standard EN 1602[9]. The density is at least **35 kg/m³** and does not exceed **45 kg/m³**.

2.5 Water absorption

The water absorption of the products is determined according to European standard EN 1609, method A[10]. The mean water absorption at a density of appr. 38 kg/m³ did not exceed **3,29 kg/m²**.

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4) EN 823: 1994: Thermal insulation products for building applications - Determination of thickness
5) The highest value is relevant
6 The lowest value is relevant
7) EN 822: 1994: Thermal insulation products for building applications - Determination of length and width
8) EN 824: 1994: Thermal insulation products for building applications - Determination of squareness
9) EN 1602: 1996: Thermal insulation products for building applications - Determination of the apparent density

2.6 Water vapour diffusion resistance factor
No performance determined (see 4.2.1.2).

2.7 Dimensional stability under specified temperature and humidity
The dimensional stability of the products is determined according to European standard EN 1604[11] . The test is carried out after conditioning at a temperature of (80 ± 2)°C and (50 ± 5) % relative humidity for 48 h.

The change of dimensions in length $\Delta\varepsilon_l$ is ± 0,2 %.
The change of dimensions in width $\Delta\varepsilon_b$ is ± 0,2 %.

the change of dimensions in thickness $\Delta\varepsilon_d$ is ± 1,2 %.

2.8 Tensile strength parallel to faces
The tensile strength of the products is determined according to European standard EN 1608[12] . Tensile strength of the insulation products is sufficient to support twice the weight of the product.

2.9 Airflow resistance
The airflow resistance of the products is determined according to European standard EN 29 053 , method A [13]. The mean longitudinal airflow resistance at a density of appr. 38 kg/m³ is at least **1,82 kPa·s/m²**.

2.10 Thermal conductivity
The thermal conductivity of the products is determined according to EN 12667[14]. The declared value of thermal conductivity is determined according to EN 10 456 [15]. The declared value of thermal conductivity for the density range of 35kg/m³ - 45 kg/m³ is **λ = 0,040 W/(m.K)** representing at least 90 % of the production.
The thermal insulating characteristics are determined under the following conditions:
- at a reference temperature of 10 °C under dry conditions
- conversion of humidity according to the moisture content of the insulating products at a temperature of 23 °C/50 % relative humidity and a temperature of 23 °C/80 % relative humidity.

For conversion of humidity the following applies:
- the mass – related moisture content at 23 °C/50 % relative humidity: **u = 0,05 kg/kg**
- the mass – related moisture content at 23 °C/80 % relative humidity: **u = 0,10 kg/kg**
- the conversion coefficient for the mass – related moisture content: **f_u = 0,2 kg/kg**

2.11 Reaction to fire
The reaction to fire of the products is determined according to EN 13501-1[16]. The product reached the following classification.

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10) EN 1609: 1996: Thermal insulation products for building applications - Determination of short-term water absorption by partial immersion

11) EN 1604: 1996: Thermal insulation products for building applications - Determination of dimensional stability under specified temperature and humidity conditions

12) EN 1608: 1996: Thermal insulation products for building applications - Determination of tensile strength parallel to faces

13) EN 29 053: 1993: Acoustics - Materials for acoustical applications - Determination of airflow resistance

14) EN 12667: 2001 Thermal performance of building materials and products - Determination of thermal resistance by means of guarded hot plate and heat flow meter methods - Products of high and medium thermal resistance

15) EN ISO 10 456: 2000: Thermal insulation - Building materials and products - Determination of declared and design values

16) EN 13501-1:2002 Classification of construction products and construction types about its fire behaviour –

	minimum density (kg/m³)	maximum thickness (mm)	class
STEICO canaflex	35	300	**D-s3, d0**

The test result refers to insulation boards mounted without air gap directly against class A1 or A2-s1, d0 products with a minimum density of 820 kg/m³.

2.12 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 (CUAP Annex B). The reached **class** of the products is **0**

2.13 Corrosion developing capacity on metal construction products

No performance determined

2.14 Retention of additives

The test and the assessment of the retention of additives have been verified according to the EOTA testing procedure (CUAP Annex D). No decrease in the reaction to fire behavior nor resistance to mould growth was determined.

2.15 Dangerous substances

The flame retardant modified product consists of hemp fibres with an extra added content of shives **< 15 %** and a content of polyester fibres of appr. **10 %** and complies with the provisions of guidance paper H[17].

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.

Part 1: Classification with the results of the test about fire behaviour of construction products

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

3 Evaluation of conformity and CE marking

3.1 Attestation of conformity system

System of attestation of conformity according Annex III 2(i) of Council Directive 89/106/EEC (system 1) without audit-testing of samples by the approved body:

a) Tasks for the manufacturer:
   (1) factory production control,
   (2) further testing of samples taken at the factory by the manufacturer in accordance with the prescribed test plan

b) Tasks for the approved body:
   (3) initial type-testing of the products,
   (4) initial inspection of factory and of factory production control,
   (5) continuous surveillance, assessment and approval of factory production control in accordance with the prescribed test plan [18)]

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 prescribed test plan[18)] 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 prescribed test plan[18)] 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.

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

3.2.2 Tasks for approved bodies

3.2.2.1 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.

3.2.2.2 Initial inspection of factory and of factory production control

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18) The prescribed test plan has been deposited at the Österrreichisches Institut für Bautechnik and is handed over only to the approved bodies involved in the conformity attestation procedure.

The approved body shall ascertain that in accordance with the prescribed test plan[18)] the precautions in the factory, in particular the staff and equipment concerning, and the factory production control are suitable to ensure a continuous and orderly manufacturing of the insulation products with the specifications mentioned in section 2.

3.2.2.3 Continuous surveillance

The approved body shall visit the factory at least twice a year for surveillance. It has to be verified that the system of factory production control and the specified manufacturing process are maintained taking account of the prescribed test plan[18)].
Continuous surveillance and assessment of factory production control have to be performed according to the prescribed test plan[18)].
The results of product certification and continuous surveillance shall be made available on demand by the certification body or inspection body, respectively, to the Österreichisches Institut für Bautechnik. In cases where the provisions of the European technical approval and the prescribed test plan [18)] are no longer fulfilled the certificate of conformity shall be withdrawn and the Österreichische Institut für Bautechnik informed immediately.

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:

- identification number of the certification body,
- 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,
- number of the EC certificate of conformity,
- identification of products (commercial name),
- nominal dimensions of length, width and thickness
- declared value of thermal conductivity
- class of reaction to fire [19],
- water absorption
- Dimensional stability at a specified temperature (80°C ± 2°C) and relative humidity (50% ± 5 %) for 48 h
- airflow resistance

19) 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.

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 μ = 1 of water vapour diffusion resistance factor shall be used [20].
The construction shall be designed and installed in such a way that no harmful condensation occurs within the works

4.2.2 Parameters for the installation in the construction works or parts of construction works

The fitness of the hemp wool for the intended use is given under the following condition:

- Installation carried out by appropriate personnel under the supervision of the project representative
- Installation in accordance with the manufacturer's specifications (directions of use)

4.2.3 Use of the insulation products as airborne sound insulation

In case of use of the products as airborne sound insulation it is necessary to determine the airborne sound insulation for the specific construction work in question in accordance with the relevant technical rules in force.

5 Recommendations for the manufacturer

5.1 Recommendations on packaging, transport and storage

Packaging of the products has to be such that they are protected from moisture during transport and storage unless other measures are foreseen by the manufacturer for this purpose.

5.2 Recommendations on installation

The product has to be protected from moisture during installation.

The processing guidelines of the manufacturer have to be followed.

5.3 Accompanying information

In the information accompanying CE marking the manufacturer shall indicate that the products shall be protected from humidity during transport, storage and installation.

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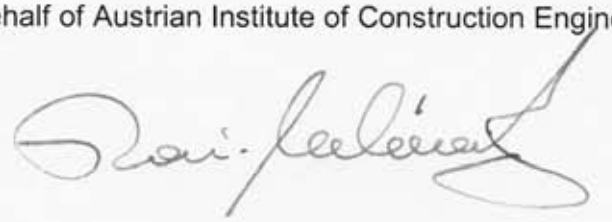
20) For the construction work in question always the less favourable value shall be used.

Further it is the responsibility of the manufacturer to ensure that the information on the installation procedure is shown clearly on the package and/or on an enclosed instruction sheet.

On behalf of Austrian Institute of Construction Engineering



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