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TECHNICKÝ A ZKUŠEBNÍ ÚSTAV STAVEBNÍ PRAHA, s.p.
Technical and Test Institute for Construction Prague

Accredited Test Laboratory, Authorized Body, Certification Body, Inspection Body

Authorized Body 204 according to Decision of UNMZ No. 1/2003

Branch 0800 – Fire Safety of Construction Works

Issued

According to the provision of Act No. 22/1997 Coll. about technical requirements for products and about changes and amendments of certain laws, as annotated, and Governmental Directive

No. 163/2002 Coll., Section 5 of the Czech Republic

CERTIFICATE

No. 080-010422

Issued for a product:

Fireproof non-load-bearing interior partitions made of EKOPANEL VP 01 boards

Type/version: -

To an applicant-manufacturer:

EKODESKY STRAMIT spol. s r.o.

Business ID:	25918460
Address:	Jedousov, 535 01 Přelouč
Manufacturing plant:	Jedousov
Address:	Jedousov, 535 01 Přelouč
Job order:	Z080040501

By issuing this Certificate Authorized body 204 verifies the following:

- it identified the compliance of the properties a sample of the product in concern with the basic requirements set in Governmental Directive No. 163/2002 Coll., further specified through construction technical certificate No. 080-010420 issued by TZUS Praha, s.p. – Branch for Fire Safety of Buildings dated March 3, 2005;
- the production control system corresponds to technical documentation and secures that the products launched on a market comply with their technical documentation.

This Certificate is issued based on protocol No. 080-010421 about product certification results from March 3, 2005 issued by TZUS Praha, s.p. – Branch for Fire Safety of Buildings and handed over to the applicant. The protocol contains conclusions of investigation and conditions of certificate validity.

The Certificate is issued for the purpose of issuing the applicant's statement about the product's compliance with the above-referenced technical regulations.

The Certificate consists of 1 annex (1 page) that forms an integral part of the Certificate.

A person in charge of the properness of this Certificate: Ing. Zdeňka Bláhová
Deputy Manager of Authorized Body 204

Round stamp: Authorized Body
Technical and Test Institute for Construction Prague
UNMZ 8

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Annex to Certificate No. 080-010422

Conditions of the validity and application of this Certificate:

1. The Certificate can be used only for purposes for which it was issued.
2. As per Governmental Directive no. 163/2002 Coll., the certificate holder is subject to periodical supervision by the authorized body.
3. Authorized Body 204 announces changes in technical specifications related to a certified product.
4. The validity of this Certificate is conditional upon the positive evaluation of supervision results contained in supervision reports handed over to the certificate holder.

Further conditions of certificate validity are indicated in a protocol about certification results.

This annex forms an integral part of Certificate No. 080-010422.

In Prague, March 3, 2005

Ing. Zdeňka Bláhová
Deputy Manager of Authorized Body 204

Round stamp: Authorized Body
Technical and Test Institute for Construction Prague
UNMZ 8

Conformity Statement

Pursuant to Act No. 22/1997 Coll. and Governmental Directive No. 81/1999 Coll.

Manufacturer: **EKODESKY STRAMIT spol. s r.o.**
Jedousov
535 01 Přelouč

Business ID: 25918460

Tax ID: CZ25918460

I hereby maintain, at my own exclusive liability, that a product manufactured by EKODESKY STRAMIT spol. s r.o.

EKOPANEL

Designed for encasement systems for interior and exterior load-bearing structures, soffits, floors and assembled partition walls

COMPLIES

With basic requirements set in Act No. 22/1997 Coll. and Governmental Directive No. 81/1999 Coll.

The product is classified in group 9 – Special materials, products, facility structures under ref. No. 11 – assembled partition walls; in group 11 – Construction products for the interior and exterior surface finish of walls, ceilings and floors under ref. No. 5 – Panels and paneling whose compliance is assessed only according to Governmental Directive No. 178/1997 Coll., § 8.

The product parameters conform to the results of tests performed at state-accredited laboratory no. 1115. The scope of the tests is as follows:

- Determination of thermal conductivity according to Bock – CSN 72 7010
- Bending modulus of elasticity, direction y
- Bending modulus of elasticity, direction x
- Tensile strength during bending, longitudinal
- Tensile strength during bending, transverse
- Simple compression strength
- Measurement of sound insulation properties of construction works and construction structures CSN 73 0514
- Measurement of fire resistance grading CSN 73 0851
- Load carrying capacity of three-layer panels - buckling pressure
- Panel load carrying capacity - buckling pressure
- Spread of flame index according to CSN 73 0863
- Flammability degree CSN 73 0862
- Health suitability assessment
- EKOPANEL VP O1 non-load bearing interior partition with fire performance EI 30 D, EW 30 D3
- Fire-resistant, non-load bearing, external wall with a wooden load bearing frame and encasement of eco-panels

- Fire performance of the ceiling load bearing structure according to CSN EN 13501-2: 2003
- Broadened applications for the use of the encasement of interior and exterior load bearing structures
- Interior non-load bearing partition with surface finish, fire performance STN EN 1364-1
- Interior non-load bearing partition without surface finish STN EN 1364-1
- Soft impact test CSN EN 596

In Jedousov, March 21, 2005

Stamp:
EKODESKY STRAMIT spol. s r.o.
JEDOUSOV
535 01 PŘELOUČ
Business ID: 25918460
Tax ID: CZ25918460

Jan Bareš
Corporate Agent

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Technical and Test Institute for Construction Prague
Accredited Test Laboratory, Authorized Body, Certification Body, Inspection Body

Job order No.: Z080050067

FIRE CLASSIFICATION CERTIFICATE
(PROTOCOL ABOUT CLASSIFICATION)
No. **PKO-05-038/AO 204**

Issued for a product:

External (exterior) non-load-bearing walls
made of EKOPANEL, type VP 01

Performed on the basis of:

Report No. U-020/05/AO 204

Registration No.: 080-010470

Customer: EKODESKY STRAMIT spol. s r.o.
Jedousov
535 01 Přelouč

Standardization data and information:

CSN EN 1364-1: Testing of fire resistance of non-load bearing
elements – Part 1: Walls<<
CSN EN 13501-2: Fire classification of construction products
and construction structures – Part 2: Classification according to
fire resistance tests, except for air conditioning equipment

The document contains 4 pages of text.

Number of issues:3

Copy No. 2

U - 020/05/AO 204: Demonstrable determination of the fire resistance of the external (exterior) non-load bearing walls made of EKOPANEL, type VP 01.
Application of test results.

- The report was issued on March 17, 2005.
- The report contains 5 pages.
- The report was ordered by EKODESKY STRAMIT spol. s r.o.
Jedousov
535 01 Přelouč

d) Description of assessed structures:

The reports sets out determined demonstrable values of the fire resistance of walls corresponding to the description given in chapter 1.

e) Completion of tests and evaluations

Fire resistance was determined in accordance with CSN EN 1364-1.

3. Structure evaluation

Based on the evaluation of the test results indicated in test protocols, we determined the demonstrable value of the fire resistance of external (exterior) non-load bearing walls made of EKOPANEL, type VP 01.

Accomplished fire resistance grading:

E = 30 minutes

I = 30 minutes

4. Product classification

Classification of external (exterior) non-load bearing walls made of EKOPANEL, type VP 01:

EI 30 (o↔i) D 3 relating to the area of direct of application as per point 5.

This classification applies to heat stress caused by both inside and outside standard fire, whereas the fulfillment of EW classification (closed fire area) in the event of heat stress due to inside fire is achieved with a safety enhancing reserve.

Flammability degree of EKOPANEL VP 01: C1

Spread of flame index on construction material surface: I_s % 34 mm/min

5. Area of direct applications

Based on the results of tests and following the expert evaluation of technical documentation, production procedures and material composition, the following application of fire resistance tests results is possible:

- The external (exterior) non-load bearing walls made of EKOPANEL, type VP 01:
 - for the composition and manufacturing of the wall see chapter 1.

The scope of direct application of tests results:

The evaluation results can be applied directly to structures in which one or more of the following changes have been executed:

- a) height lowering (tests performed at 3000 mm),
- b) wall thickness increase,
- c) partial material thickness increase,
- d) reduction of panel or slab lengths, yet not of their thickness,
- e) reduction of distances between the centers of attachment,
- f) the width of an identical structure can be increased.

6. Fire resistance classification validity

This fire resistance classification is valid until **February 28, 2009**.

Proclamation:

This fire resistance classification certificate is valid only as a whole, whereas each page must bear the identification number of the fire resistance classification certificate, the number of page of the total number of pages, and the issuer's stamp. This fire resistance classification certificate does not replace a type approval or product certification.

Prepared by:

Ing. Zdeňka Stará

Approved by:

Ing. Zdeňka Bláhová
Director of Branch 0800-PBS
TZUS Praha, s.p., AO 204

In Prague on March 17, 2005

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Technical and Test Institute for Construction Prague
Accredited Test Laboratory, Authorized Body, Certification Body, Notified Body,
Inspection Body

**DEMONSTRABLE DETERMINATION OF THE FIRE RESISTANCE GRADING OF
EXTERNAL (EXTERIOR) NON-LOAD BEARING WALLS MADE OF EKOPANEL,
TYPE VP 01
APPLICATION OF TESTS RESULTS**

Order No.: U – 020/05/AO 204

Contract No.: Z080050067

Registration No.: 080-010469

Customer: EKODESKY STRAMIT spol. s r.o.
JEDOUSOV
535 01 PŘELOUČ

Number of copies: 2 + 1 author copy

Prague, March 2005

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1. Introduction

The subject matter of this work is the determination of fire resistance of external (exterior) non-load bearing walls by way of tests results application.

This statement was processed on the basis of Contract No. Z080050067 made by and between the customer, i.e. the company EKODESKY STRAMIT spol. s r.o., and TZUS Praha, s.p., branch 0800.

Data applied in solution:

- 1) CSN EN 1364-1 Testing of fire resistance of non-load bearing elements – Part 1: Walls
- 2) CSN EN 1365-2 Testing of fire resistance of load bearing elements – Part 2: Ceilings and roofs
- 3) CSN EN 1363-1 Testing of fire resistance – Part 1: Basic requirements
- 4) CSN EN 1363-2 Testing of fire resistance – Part 2: Alternative and additional procedures
- 5) CSN EN 13501-2 Fire classification of construction products and building structures – Part 2: Classification according to fire resistance tests results, except for air conditioning equipment
- 6) Test protocol No. FIRES FR 138/04 CP
- 7) PKO - 05-005/AO/204
- 8) Report No. U-054/04/AO 204
- 9) Legal instruments
- 10) Customer's requirements for the application of tests results

2. Description of structures under assessment

The subject matter of fire classification certification involves external (exterior) non-load bearing walls made of EKOPANEL, type 01.

External (exterior) non-load bearing walls

The wall carcass consists of wooden studs with a minimal section of 120/120 mm. The distance between the studs is determined by a structural calculation. The studs are anchored to a base slab through a whole timber with a minimal section of 120/120 mm. The upper part of the load-bearing studs is interconnected by means of wooden beams with a minimal section of 120/160 mm.

The carcass is jacketed with EKOPANELS VP 01 on both sides. The panels consist of a pressed, straw core with a minimal volumetric mass of 400 kg.m^{-3} . (Manufacturer: EKODESKY STRAMIT s.r.o.) and are jacketed, on both sides, with 1 mm thick cardboard. The individual panels are mutually connected by means of metal wall ties, using 4x50 mm screws spaced by no more than 500 mm. The maximal distance between the screws and the panel edge is 250 mm.

Classification of interior non-load bearing partitions without surface finish of EKOPANEL, type VP 01:

EI30 D3.

b) U-054/04/AO 204

Demonstrably determined values of fire resistance in accordance with CSN EN 1364-1:

1. Interior, non-load bearing fire breaks (partitions) made of EKOPANEL, type VP 01, that correspond to the description given in point 2.1 hereunder

EI30 D3.

2. External, non-load bearing (exterior) walls made of EKOPANELS VP 01, that correspond to the description given in point 2.2 hereunder
 - heat stress on the inside **EI30 D3** (EW30 D3 with a safety enhancing reserve),
 - heat stress on the outside **EI30 D3.**

3. Flammability degree of EKOPANELS VO 01: **C1**

4. Spread of flame index on construction material surface: $I_s \leq 34$ mm/min

5. Requirements for the application of tests results

To determine the value of fire resistance of the walls described in point 2.

6. Fire resistance determination – application of tests results

The results of the tests of fire resistance of interior non-load bearing walls made of EKOPANEL carried out according to CSN EN proved a fire resistance value of EI 30. The exterior walls have doubled encasement, whereas each carcass ensures that load-bearing studs do not begin to burn off and their load carrying capacity is not weakened.

Demonstrably determined values of fire resistance in accordance with CSN EN 1364-1:

1. External, non-load bearing (exterior) walls made of EKOPANEL, type VP 01, that correspond to the description given in point 2.

- heat stress on the inside **EI30 D3** (EW30 D3 with a safety enhancing reserve),

- heat stress on the outside **EI30 D3.**

2. Flammability degree of EKOPANELS VO 01: **C1**

3. Spread of flame index on construction material surface: **I_s % 34 mm/min**

Area of direct applications

The assessments results can be directly applied to structures in which one or more of the following changes have been executed:

- a) height lowering (tests performed at 3000 mm),
- b) wall thickness increase,
- c) partial material thickness increase,
- d) reduction of panel or slab lengths, yet not of their thickness,
- e) reduction of distances between the centers of attachment,
- f) the width of an identical structure can be increased.

7. Conclusion

Based on the evaluation of the tests results indicated in test protocols, we determined the demonstrable value of fire resistance of external (exterior) non-load bearing walls made of EKOPANEL, type VP 01.

The resulting, demonstrably determined values of fire resistance are shown in point 5 hereunder.

This report is used for the compilation of a Fire Classification certificate.

Unless so approved by TZUS Praha, s.p. in writing, this report has to be interpreted as a whole, without changes and/or amendments.

This assessment is valid up to February 28, 2009.

Prepared by:

Approved by:

Ing. Zdeňka Stará

Ing. Zdeňka Bláhová
Director of Branch 0800-PBS
TZUS Praha, s.p.,

In Prague on March 17, 2005