

/Logo: GTC; DBS/

REACTION TO FIRE TESTING DIVISION
FIRE RESEARCH CENTRE
FIRE AND RESCUE DEPARTMENT UNDER
THE MINISTRY OF THE INTERIOR OF THE REPUBLIC OF LITHUANIA

1. Introduction

This classification report defines flammability class determined for straw panels with clay plaster for the construction of houses in accordance with the procedure provided for in LST EN 13501-1:2007+A1:2010.

**FLAMMABILITY CLASSIFICATION REPORT
IN ACCORDANCE WITH LST EN 13501-1:2007+A1:2010**

Client: "ECOCOCON" Ltd
Latako str. 1/2-23, Vilnius
Tel.: 8637 50000

Prepared by: Fire Research Centre
Švitrigailos str. 18, LT-03223 Vilnius

Product: Straw panel with clay plaster for the construction of houses.

Producer: "ECOCOCON" Ltd

Classification Report No: 20-2.2013.24

Issue No.: Version 1

Date of preparation: 4 February 2013

Basis: Agreement No. 57-96(4GB/2KL) of 29 October 2012
Application registration No. 55-112.

*/Seal: 1; Fire Research Centre of Fire and Rescue Department under the Ministry of Interior
of the Republic of Lithuania/*

This classification report consists of three pages and it can only be used or copied in its entirety.

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LT-03223 Vilnius
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FRC Reaction to Fire Testing Division
Valčiūnų village, LT-13221 Vilnius region
Tel.: (8 5) 249 1312, 249 1333
Tel./fax: (8 5) 249 1315

/Logo: EGOLF Member/

2. Details of the classified product

2.1 General

The product – straw panel with clay plaster for the construction of houses – is used in building structures.

2.2 Product description

In accordance with the client's declaration, the system consists of:

- wooden frame made of dried pine wood; humidity 8%, the wood without any coating. Before plastering, fiberboard strips "Steico underfloor" – thickness 5 mm, density 250 kg/m³, manufactured by "Steico GmbH", Germany – are fastened to the wooden part of the panel using stainless steel staples every 20 centimeters;
- pressed straw; density of pressed straw 100 kg/m³; thickness 170 mm, straw humidity 12%;
- clay plaster "Rudas molis" (Brown Clay), thickness 30 mm, density 1,600 kg/m³, area mass 48 kg/m², typha hair 0.05%, producer "Ecococon" Ltd. Three layers of 1 cm of plaster are applied. Reinforcing mesh is placed between the second and third layer, area mass 165 g/m², producer "Baukom GmbH";
- finishing plaster "Baltas molis" (White Clay), area mass 3.2 kg/m², density 1,600 kg/m³, thickness 2 mm, cellulose 0.025%, producer "Ecococon" Ltd.

3. Reports and results validating this classification

3.1 Reports

| Laboratory title | Client | Report No. | Test method and applicable regulations |
|--|----------------|-------------|--|
| Reaction to Fire Testing Division Fire Research Centre FRD under the Ministry of Interior | "Ecococon" Ltd | 20-2.2013.3 | LST EN 13823:2010 |
| Reaction to Fire Testing Division Fire Research Centre FRD under the Ministry of Interior | "Ecococon" Ltd | 20-3.2013.5 | LST EN ISO 11925-2:2010 |

3.2 Results

| Test method | Parameter | Number of tests | Results | |
|---|--|-----------------|---|----------------------|
| | | | Average value of the continuous parameter | Compliance parameter |
| LST EN ISO 11925-2 Ignitability of products subjected to direct impingement of flame; 30 sec exposure | $F_s \leq 150$ mm | 6 | Yes | In compliance |
| | Flaming droplets or particles | | No | In compliance |
| Flame exposure on the lower edge of a specimen rotated at the 90° angle around its vertical axis; 30 sec exposure | $F_s \leq 150$ mm | 6 | Yes | In compliance |
| | Flaming droplets or particles | | No | In compliance |
| LST EN 13823:2002 | $FIGRA_{0.2 MJ} \leq 120$ [W/s] | 3 | 0.0 | In compliance |
| | $THR_{600 s} \leq 7.5$ [MJ] | | 0.2 | In compliance |
| | $TSP_{600 s} \leq 50$ [m ²] | | 24.4 | In compliance |
| | $SMOGRA \leq 30$ [m ² /s ²] | | 0.0 | In compliance |
| | $FDP_{f \leq 10s}$ | | No | In compliance |
| | $FDP_{f > 10s}$ | | No | In compliance |
| LFS | No | In compliance | | |

4. Classification and scope

4.1 Classification reference

This classification was performed in accordance with Chapter 11 of LST EN 13501-1:2007+A1:2010.

4.2 Classification

The product – straw panel with clay panel for the construction of houses – in terms of flammability is classified as:

B

Additional classification in terms of smoke formation:

s1

Additional classification in terms of flaming droplets or particles:

d0

Flammability classification form of construction products, except for flooring and linear pipe thermal insulation products, is as follows:

| Character of the fire | | Smoke formation | | | Flaming droplets | |
|-----------------------|---|-----------------|---|---|------------------|---|
| B | - | s | 1 | , | d | 0 |

i.e. B-s1,d0.

Flammability class: B-s1,d0

4.3 Scope

This classification is applicable to product parameters indicated in point 2.2 and the following additional parameters:

- pressed straw thickness ≥ 170 mm.

5. Limitations

This document is not a type approval or product certificate.

Classification report prepared by:

Chief Specialist
Vytautas Jocius
/Signature/

Classification report approved by:

Director
Donatas Lipinskas
/Signature/

/Seal: 1; Fire Research Centre of Fire and Rescue Department under the Ministry of Interior of the Republic of Lithuania/

REACTION TO FIRE TESTING DIVISION
FIRE RESEARCH CENTRE
FIRE AND RESCUE DEPARTMENT UNDER
THE MINISTRY OF THE INTERIOR OF THE REPUBLIC OF LITHUANIA

1. Introduction

This classification report defines flammability class determined for straw panels with wood fiber board and decorative plaster for the construction of houses/buildings in accordance with the procedure provided for in LST EN 13501-1:2007+A1:2010.

**FLAMMABILITY CLASSIFICATION REPORT
IN ACCORDANCE WITH LST EN 13501-1:2007+A1:2010**

Client: "ECOCOCON" Ltd
Latako str. 1/2-23, Vilnius
Tel.: 8637 50000

Prepared by: Fire Research Centre
Švitrigailos str. 18, LT-03223 Vilnius

Product: Straw panel with with wood fiber board and decorative plaster for the construction of houses/buildings.

Producer: "Ecococon" Ltd

Classification Report No: 20-1.2013.24

Issue No.: Version 1

Date of preparation: 4 February 2013

Basis: Agreement No. 57-96(4GB/2KL) of 29 October 2012
Application registration No. 55-111.

/Seal: 1; Fire Research Centre of Fire and Rescue Department under the Ministry of Interior of the Republic of Lithuania/

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Tel.: (8 5) 249 1312, 249 1333
Tel./fax: (8 5) 249 1315

2. Details of the classified product

2.1 General

The product – straw panel with wood fiber board and decorative plaster for the construction of houses/buildings – is used in building structures.

2.2 Product description

In accordance with the client's declaration, the system consists of:

- wooden frame made of dried pine wood; humidity 8%, the wood without any coating;
- pressed straw; density of pressed straw 100 kg/m³; thickness 160 mm, straw humidity 12%;
- wood fiber board "Steico protect", density 270 kg/m³, plywood, thickness 60 mm, produced by "Steico GmbH", Germany. Wood fiber board is fastened to the wooden frame by means of stainless steel staples: every 30 cm vertically, every 60 cm horizontally;
- the board is reinforced with reinforcing mesh, area mass 165 g/m², produced by "Baukom GmbH";
- reinforced board is coated with "Baumit openKlebeSpachtel White" reinforcing/adhesive mixture, thickness 4.5-5.0 mm, area mass 5.8-6.5 kg/m², produced by "W&P Baustoffe GmbH", Austria;
- primer "Baumit UniPrimer", area mass 0.3 kg/m², produced by "Baumit sp z.o.o", Poland;
- decorative plaster "Baumit NanoporTop" (moss), thickness 2 mm, area mass 3.2 kg/m², produced by "Wopfinger Baustoff Industries GmbH", Austria.

3. Reports and results validating this classification

3.1 Reports

| Laboratory title | Client | Report No. | Test method and applicable regulations |
|--|----------------|-------------|--|
| Reaction to Fire Testing Division Fire Research Centre FRD under the Ministry of Interior | "Ecococon" Ltd | 20-1.2013.3 | LST EN 13823:2010 |
| Reaction to Fire Testing Division Fire Research Centre FRD under the Ministry of Interior | "Ecococon" Ltd | 20-2.2013.5 | LST EN ISO 11925-2:2010 |

3.2 Results

| Test method | Parameter | Number of tests | Results | |
|---|--|-----------------|---|----------------------|
| | | | Average value of the continuous parameter | Compliance parameter |
| LST EN ISO 11925-2 Ignitability of products subjected to direct impingement of flame; 30 sec exposure | $F_S \leq 150$ mm | 6 | Yes | In compliance |
| | Flaming droplets or particles | | No | In compliance |
| Flame exposure on the lower edge of a specimen rotated at the 90° angle around its vertical axis; 30 sec exposure | $F_S \leq 150$ mm | 6 | Yes | In compliance |
| | Flaming droplets or particles | | No | In compliance |
| LST EN 13823:2002 | $FIGRA_{0.2, MJ} \leq 120$ [W/s] | 3 | 8.9 | In compliance |
| | $THR_{600s} \leq 7.5$ [MJ] | | 1.2 | In compliance |
| | $TSP_{600s} \leq 50$ [m ²] | | 34.3 | In compliance |
| | $SMOGRA \leq 30$ [m ² /s ²] | | 0.0 | In compliance |
| | $FDP_{f \leq 10s}$ | | No | In compliance |
| | $FDP_{f > 10s}$ | | No | In compliance |
| LFS | No | In compliance | | |

/Seal: 1; Fire Research Centre of Fire and Rescue Department under the Ministry of Interior of the Republic of Lithuania/

4. Classification and scope

4.1 Classification reference

This classification was performed in accordance with Chapter 11 of LST EN 13501-1:2007+A1:2010.

4.2 Classification

The product – straw panel with wood fiber board and decorative plaster for the construction of houses/buildings – in terms of flammability is classified as:

B

Additional classification in terms of smoke formation:

s1

Additional classification in terms of flaming droplets or particles:

d0

Flammability classification form of construction products, except for flooring and linear pipe thermal insulation products, is as follows:

| Character of the fire | | Smoke formation | | | Flaming droplets | |
|-----------------------|---|-----------------|---|---|------------------|---|
| B | - | s | 1 | , | d | 0 |

i.e. B-s1,d0.

Flammability class: B-s1,d0

4.3 Scope

This classification is applicable to product parameters indicated in point 2.2 and the following additional parameters:

- pressed straw thickness ≥ 160 mm.
- any unpainted mineral decorative plaster with the thickness of ≥ 2 mm.

5. Limitations

This document is not a type approval or product certificate.

Classification report prepared by:

Chief Specialist
Vytautas Jocius
/Signature/

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