

Ekovilla OY  
Katajaharjuntie 10  
45720 Kuusankoski  
Finland

Magistratsabteilung 39  
Rinnböckstraße 15/2  
1110 Wien  
Telefon +43 1 4000 8039  
Fax +43 1 4000 99 8039  
post@ma39.wien.gv.at  
ma39.wien.at



MA 39 – 20-04454

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## Classification

### OF FIRE RESISTANCE IN ACCORDANCE WITH EN 13501-2:2016

**Sponsor:** Ekovilla OY

**Prepared by:** Municipal Department 39 –  
Research Centre, Laboratory and Certification services

**Notified Body No.:** 1139

**Product name:** loadbearing timber drywall of type “US 1.1 KIP” insulated with  
Ekovilla slab

**Classification report No.:** MA 39 – 20-04454

**Issue number:** 1

**Date of issue:** 15 Oktober 2020

This classification report may only be used or reproduced in its entirety.

The original version of this classification report is issued in German language (MA 39 – 20-3481).

In any case of doubt the German version is valid.



## 1 Introduction

This classification report defines the resistance to fire classification assigned to the loadbearing timber drywall of type "US 1.1 KIP" insulated with Ekovilla slab in accordance with the procedures given in EN 13501-2:2016.

## 2 Details of classified product

### 2.1 General

The loadbearing timber drywall of type "US 1.1 KIP" insulated with Ekovilla slab is defined as a type-classified component. Their function is to withstand the fire in terms of loadbearing capacity, integrity and insulation.

### 2.2 Discription

The loadbearing timber drywall of type "US 1.1 KIP" insulated with Ekovilla slab consists of:

- Internal boarding 13 mm Gyproc GN 13 on a substructure 48 x 48 mm, attached with screws 2.8 x 38 mm for gypsum plasterboards, spaced at 200 mm, screws spaced 100 mm from the edge or 150 mm for shortened boards; joints filled with Knauf joint filler K12, once fully surfaced.
- Horizontal lathing 48 x 48 mm rough – spaced at 600 mm, inbetween thermal insulation EKOVILLA SLAB 50 mm, bulk unit weight approx. 40 kg/m<sup>3</sup>, attached by nails 3.1 x 90 mm (shot in).
- Vapour barrier sealing sheet (air-tight) EKOVILLA X5, placed horizontally, width 1.30 m, overlapping 100 mm, joints glued together by EKOVILLA Tiivistysteippi 50 mm, attached with staples by a staple gun.
- Timbered frame structure, structural timber C24 48 x 197, rough e = 600, cavity filled with thermal insulation EKOVILLA SLAB 200 mm (4 layers).
- Windscreen Gyproc GTS 9 mm, laid on and attached to timber frame.  
Joined by drywall screws Knauf 25 x 2.8 mm  
Spacing at the edge: 150 mm  
Spacing in the panel: 200 mm
- Cavity 24 x 48 mm e = 600, attached with shot nails 2.1 x 20 mm, at the edge spaced at 100 mm, in the panel spaced at 400 mm.
- Weatherboarding 25 x 125 mm, tongue and groove laid horizontally, transversely to the substructure, attached with 3.5 x 50 mm Spax screws.

## 2.3 Test reports and test results in support of the classification (Basic of the REI-Classification)



Name of laboratory	sponsor	Report ref. No.	Test standard
MA 39 Rinnböckstraße 15/2 1110 Vienna Austria	Ekovilla OY Katajajarjuntie 10 45720 Kuusankoski Finland	MA 39 – VFA 2017-0451.01 15 May 2017	EN 1365-1:2014

## 2.4 Results

**Table 1: terms and conditions**

Defined heating:	Standard temperature/time curve
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**Table 2: Results**

Fire resistance test 12 January 2017 (MA 39 – VFA 2017-0451.01):

<b>Duration of the test [min]</b>	79
<b>Loadbearing capacity</b>	79
Time until breakdown [min]:	-
Deformation criteria exceeded after [min]:	-
Upsetting/upset speed – limit exceeded after [min]:	-
<b>Integrity</b>	79
Time until the cotton wool was ignited [min]:	-
Time until sustained flaming arose [min]:	-
Time until cracking [min]:	-
<b>Thermal insulation</b>	79
Time until the mean temperature increase at the offside of the flame exceeds 140°C [min]:	-
Time until the maximum temperature increase at the offside of the flame exceeds 180°C [min]:	-



**Table 4: Summarised results**  
(MA 39 – VFA 2017-0451.01)

Test procedure	Parameter	Test result
		(min)
EN 1365-1	R	79
	E	79
	I	79

### 3 Classification and direct field of application

#### 3.1 Classification reference

This classification was carried out in accordance with EN 13501-2: 2016, section 7.3.2.

#### 3.2 Classification

The element (described in the cited test report) is classified according to their fire resistance as follows:

**loadbearing timber drywall of type "US 1.1 KIP" insulated with Ekovilla slab:**

REI	15	20	30	45	60
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**Classification fire resistance: REI 60**

### 3.3 Direct applicability of test results

This classification is valid for the following practical application (end use).

Reference standard <b>EN 1365-1:</b>	Direct applicability of the test results
13	<p>The results of the fire test may be applied directly to similar designs which have one or more of the changes described below and where the design continues to comply with the requirements of the requisite standard with regard to its rigidity and toughness.</p> <ul style="list-style-type: none"> <li>• Wall height reduced</li> <li>• Wall thickness increased</li> <li>• Thickness of associated materials increased</li> <li>• Length of plates and panels reduced, but not their thickness</li> <li>• Stud spacing reduced</li> <li>• Spacing of attachments reduced</li> <li>• Applied load reduced</li> <li>• Widening</li> </ul>

### 4 Limitations

This classification report is valid for a maximum of 5 years, which means that it ends on 17 September 2025 at the latest. Any provisions of European product standards that limit this validity must be observed.

This classification document does not represent type approval or certification of the product.

*Kurt Danzinger*      *Dieter Werner*

The Case Manager  
Kurt Danzinger

The Head of the Laboratory  
Dieter Werner

IV 

The Head of the Research Centre,  
Laboratory and Certification Services:  
Georg Pommer