Contact person
Johan Post, rjo
Fire Technology
+46 10 516 58 45
Johan.Post@sp.se



SWEDAC ACKREDITERING 1002 ISO/IEC 17025

Alutile Norge AS
Fedjedalen 46
NO- 5534 Hangesund
Norge

# Reaction to fire classification report

## 1 Introduction

This classification report defines the classification assigned to the product "ALUTILE Fire Resistance (FR) Panel" in accordance with the procedure given in EN 13501-1:2007+A1:2009.

## 2 Details of classified product

### 2.1 General

The product "ALUTILE Fire Resistance (FR) Panel" is defined as a wall panel.

### 2.2 Product description

According to the client:

Product called "ALUTILE Fire Resistance (FR) Panel" compounded with top and bottom layers of aluminium sheet, each with a nominal thickness of 0.4 mm. The core material is a compound of inorganic flame retardant and nanometer fire-resistance material made of Magnesium Hydrate and Aluminium Hydroxide. The thickness of the core material is 3.2 mm and has a density of 1600 kg/m$^3$. The nominal amount of inorganic flame retardants is 70 %, as measured in weight percentage . Both aluminium surfaces are coil coated with baking varnish type PVDF, nominal area weight 5 g/m$^2$.

The vertical joints are sealed with gaskets of PE with a nominal thickness of 0.35 mm and 60 mm wide. The horizontal joints are open or sealed with the same material.

The product as a whole has a nominal thickness of 4 mm.

## 3 Test reports & test results in support of classification

### 3.1 Test reports

This classification is based on the test report listed below:

| Name of laboratory | Name of sponsor | Test report ref no | Accredited test method |
|---|---|---|---|
| SP | Alutile Norge AS | 3P07988 | EN 13823<br>EN ISO 11925-2 |

### 3.2 Test results

| Test method | Parameter | Number of tests | Results | |
|---|---|---|---|---|
| | | | Continuous parameter mean (m) | Compliance with parameters |
| EN ISO 11925-2 | | 12 | | |
| Edge/Surface flame attack** | | | | |
| 30 s exposure | $Fs \leq 150$ mm | | (-) | Compliant |
| Flaming droplets/particles | Ignition of filter paper | | (-) | No ignition of filter paper |
| EN 13823 | | 4 | | |
| | $FIGRA_{0,2MJ}$ (W/s) | | 0 | Compliant |
| | $FIGRA_{0,4MJ}$ (W/s) | | 0 | Compliant |
| | $LFS <$ edge | | (-) | Compliant |
| | $THR_{600s}$, (MJ) | | 0.2 | Compliant |
| | $SMOGRA$, ($m^2/s^2$) | | 1 | Compliant |
| | $TSP_{600s}$, ($m^2$) | | 26 | Compliant |
| | Flaming droplets/particles | | (-) | No flaming droplets/particles |

** : as required to the end use application of the product

(-) : not applicable

# 4 Classification and field of application

## 4.1 Reference and direct field of application

This classification has been carried out in accordance with clause 11 and 15 of EN 13501-1:2007+A1:2009.

## 4.2 Classification

The product called "ALUTILE Fire Resistance (FR) Panel" in relation to its reaction to fire behaviour is classified:

B

The additional classification in relation to smoke production is:

s1

The additional classification in relation to flaming particles/droplets is:

d0

The format of the reaction to fire classification for construction products excluding floorings and linear pipe thermal insulation product is:

| Fire Behaviour | | Smoke Production | | | Flaming Droplets | |
|---|---|---|---|---|---|---|
| **B** | **-** | **s** | **1** | **,** | **d** | **0** |

**Reaction to fire classification:** *B-s1,d0*

### 4.3 Field of application:

This classification is valid for the following product parameters:

Nominal thickness for the product as a whole: 4 mm.

Nominal thickness of the core material: 3.2 mm.

Nominal density of the core material 1600 kg/m$^3$.

Nominal amount of inorganic flame retardants of the core material 70 %, by weight.

Nominal thickness of aluminium facing and backing: 0.4 mm.

Coil coated face and backing with baking varnish, nominal area weight 5 g/m$^2$.

PE gaskets with nominal thickness 0.35 mm and 60 mm width.

This classification is valid for the following end use conditions:

Substrates

- Gypsum plasterboard (paper faced) and any end use substrate of Euroclasses A1 or A2-s1,d0 at least 12 mm thick, having a density ≥ 525 kg/m$^3$.

Fixings

- Mechanically fixed.

Void

- Metal studs creating a void.

Rubber gaskets

- With PE gaskets sealing the vertical joints.
- With or without PE gaskets sealing the horizontal joints.

The sample was delivered by the client. SP Fire Technology was not involved in the sampling procedure.

## 5 Limitations

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

**SP Technical Research Institute of Sweden**
**Fire Technology - Fire Dynamics**

Performed by

Johan Post

Examined by

Per Thureson