



Testing. Advising. Assuring.

Classification report No. 2017-1965-K1-1

issued 06.11.2017

Customer: TRIPLE LITE INCORPORATED
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LINKOU DISTRICT, NEW TAIPEI CITY
TAIWAN, R.O.C.

Order: Classification of the burning behaviour according to
DIN EN 13501-1 (2010-01)

Date of order: 29.09.2017

Notification number of the test laboratory

NB 1378

Designation of the classified building product

TRILITE RMS – REINFORCE MAGNESIUM SILICATE BOARD
(Magnesium Oxide- Sulphate Based)

This classification report lays down the classification of the building product above according to the procedures of DIN EN 13501-1.



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This classification report is a translation of the German version 2017-1965-K1 (issued 06.11.2017). In case of doubt only the German version is valid.
This classification report contains 5 pages.

1. Description of the sample material

1.1 Details of the customer:

Product name: TRILITE RMS – REINFORCE MAGNESIUM SILICATE BOARD
(Magnesium Oxide- Sulphate Based)

Product description TRILITE RMS – REINFORCE MAGNESIUM SILICATE BOARD
(Magnesium Oxide- Sulphate Based) with off-white color appearance is
produce from a core mixture of inert mineral ore based raw materials
mainly: MgO powder, $MgSO_4$ powder, perlite, wood fibre, other fillers
and embedded with layers of glassfibre mesh and non-woven cloth
on both sides.

Boards standard thickness produce are 3 mm to 20 mm

Boards Density: 1100 kg/m³ (tolerance $\pm 12\%$)

The material is formed by 5 layers, a surface layer (non-woven fabric),
then the glassfibre mesh (those two would be the none substantial
components), then the core raw material mixture (substantial
component) and on the other face the same described finish (surface
layer and glassfibre mesh)

Intended end use: TRILITE RMS boards are intended for use in internal and
external construction applications, such as internal and external
wall, ceiling, fascia, pre-fabricated homes, decorative substrate,
door productions, backerboard, flooring, partitions, linings,
eaves, soffits, furnitures, countertops, fire rated applications

1.2 At the specimen preparation from the Exova Warringtonfire determined values:

Non combustible test according to DIN EN ISO 1182:

Sample of TRILITE RMS – REINFORCE MAGNESIUM SILICATE BOARD

Colour: white
 Thickness: 10-20 mm
 Surface weight: i.a. 19,93 kg/m² (in 20mm material thickness)
 Density: i.a. 996,5 kg/m³

The samples are air-conditioned according to DIN 13823 up to constant weight with standard air

The samples of the furnace test were then dried at 60 °c for 24 hours in the drying cabinet and stored in the Desiccator until testing.

The samples consisted of 2 discs each with a thickness of approx. 20 mm and a disc with a thickness of 10 mm, with a diameter of approx. 45 mm.

Calorific value according to DIN EN ISO 1716:

From the customer delivered material specimen of glasfiber mesh cloth, non woven cloth and magnesium core mixture.

| Material | Colour | Thickness [mm] | Surface weight [kg/m ²] |
|------------------------|--------|----------------|-------------------------------------|
| glasfiber mesh cloth | weiß | 0,28 | 0,151 |
| non woven cloth | weiß | 0,26 | 0,058 |
| magnesium core mixture | weiß | 10 | 19,721 |

The samples of the calorific value determination made after the air conditioning by crushing.

2. Test reports and test results

2.1 Test reports

| Name of test laboratory | Customer | Report to form the basis | Test procedure |
|---------------------------------|--------------------------|--------------------------|--|
| Exova Warringtonfire, Frankfurt | TRIPLE LITE INCORPORATED | 2017-1965 | DIN EN ISO 1716 (Determination of gross heat combustion) DIN EN ISO 1182 (non combustible test) |

2.2 Test results

| Test procedures | Parameter / classes | | Test results |
|-----------------|--|---|--|
| | | | average |
| DIN EN ISO 1716 | PCS $\leq 3,0$ MJ/kg ^a für Klasse A2 PCS $\leq 4,0$ MJ/m ^{2b} für Klasse A2 PCS $\leq 4,0$ MJ/m ^{2d} für Klasse A2 PCS $\leq 3,0$ MJ/kg ^e für Klasse A2 | glasfiber mesh cloth: 0,0000 MJ/Kg not substantially) 0,0000 MJ/m ² non woven cloth: 4,3932 MJ/Kg (not substantially) 0,2548 MJ/m ² magnesium core mixture: 0,0000 MJ/kg (substantially) | Total heat of combustion: 0,127 MJ/kg |
| DIN EN ISO 1182 | Furnace temperature rise $\Delta T \leq 30^\circ\text{C}$ for class A1 | | 1,66 °C |
| | Massen loss $\Delta m \leq 50\%$ for class A1 | | 39,36 % |
| | Sustained flaming $t_f \leq 0$ s (that means no sustained flaming) for class A1 | | 0 s |

Explanations of table standing too above:

PCs: Gross verbrennungswärme (calorific value)

a: For homogeneous construction products and substantial components of non-homogeneous construction products.

b: For any external non-substantial component of non-homogeneous construction products.

c: Alternatively, an external non-substantial component may have a PC ≤ 2.0 MJ/m², provided the product complies with the following Katers according to En 13823: FIGRA ≤ 20 w/s and LFS < rand of the specimen body and THR600s ≤ 4.0 MJ and S1 and do.

d: For every inner non-substantial component of non-homogeneous construction products.

e: For the product as a whole.

3 Classification and range of application

3.1 Reference

The classification was carried out according to the chapter 11 of DIN EN 13501-1

3.2 Classification

The tested material is ranked related to its non combustible behaviour and to its heat combustion into the class A1 / A1_{fl}

The classification of the tested material reads thus:

A1 / A1_{fl}

3.3 Area of application


The classification is only valid for the in chapter one described building product.


4 Reservation

This classification report replaces not a possible required type admittance or type certification of the product.

This classification report replaces the classification report 2017-1965-K1 issued 06.11.2017 (date of signature), which is invalid from now on.

Frankfurt, the 16.11.2017


 P. Scheinkönig
 Tester in charge


 Dipl.-Ing. T. Zachäus
 Head of the test laboratory