The Building Test Centre
Fire Acoustics Structures

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

| | |
|---|---|
| Sponsor: | **British Gypsum**<br>East Leake<br>Loughborough<br>Leicestershire<br>LE12 6HX |
| Prepared by: | **The Building Test Centre**<br>East Leake<br>Loughborough<br>Leicestershire<br>LE12 6NP<br><br>www.btconline.co.uk |
| Product name: | GYPWALL STAGGERED METAL STUD PARTITION WITH 60 MM GYPFRAME I STUD FRAMEWORK CLAD EACH SIDE WITH A DOUBLE LAYER OF 12.5 MM GYPROC SOUNDBLOC 12.5MM AND 25 MM ISOVER ACOUSTIC PARTITION ROLL IN THE CAVITY |
| Classification report No: | BTC 22691FC |
| Issue number: | One |
| Date of issue: | 13th June 2023 |

This classification report consists of 7 pages and may only be reproduced in its entirety.

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## 1. Introduction

This classification report defines the classification assigned to element Gypwall staggered metal stud partition with 60 mm Gypframe 'I' Stud framework clad each side with a double layer of 12.5 mm Gyproc SoundBloc 12.5mm and 25 mm Isover Acoustic Partition Roll in the cavity, in accordance with the procedures given in BS EN 13501-2:2016.

## 2. Details of Classified Product

### 2.1 Product Description

The element, Gypwall staggered metal stud partition with 60 mm Gypframe 'I' Stud framework clad each side with a double layer of 12.5 mm Gyproc SoundBloc 12.5mm and 25 mm Isover Acoustic Partition Roll in the cavity, fully described below, is provided in support of the classification, listed in Clause 3.1.

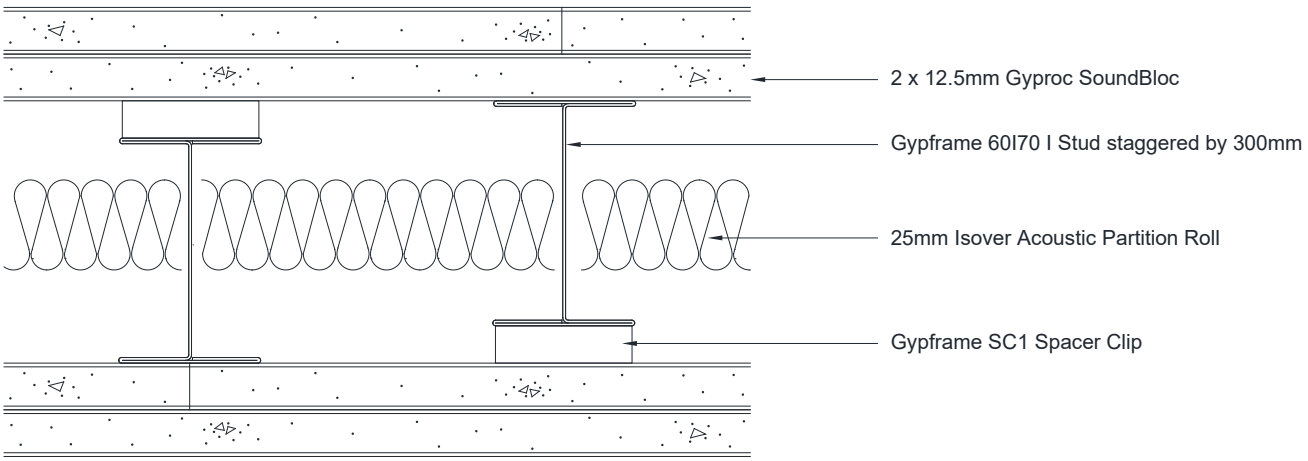


**Figure 1.** Horizontal cross section – Gypwall staggered metal stud partition with 60 mm Gypframe 'I' Stud framework clad each side with a double layer of 12.5 mm Gyproc SoundBloc 12.5mm and 25 mm Isover Acoustic Partition Roll in the cavity.

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Construction Details

The specimen was constructed in a refractory concrete lined steel restraint test frame with an opening of 3000 mm (high) x 3000 mm (wide).

Gypframe 72FEC50 Folded Edge Standard Floor and Ceiling Channels were fixed to the head and base of the test aperture at 600 mm centres using 60 mm fire resistant fixings.

Gypframe 60I70 I Studs were positioned at 300 mm staggered centres between the head and base channels. Gypframe SC1 Spacer Clips were used at the head and base of the studs to stagger the studs either side of the centre line of the channels.

The right-hand stud viewed from the unexposed face was not fixed to the perimeter of the test frame, and the gap between the stud and the frame lining was filled with a 25 mm thick rock mineral fibre gasket.

At the left-hand edge, a Gypframe 70S50 'C' Stud was fixed the partition to the test frame, using 60 mm fire resistance fixings at 600 mm centres.

Thermocouples were added to the studs at mid height on the web, hot and cold flanges of the central two exposed face studs.

A layer of 25 mm Isover Acoustic Partition Roll (APR 1200) was positioned the in the stud cavity.

Both the unexposed face and the exposed face of the specimen were clad with a double layer of 12.5 mm Gyproc SoundBloc 12.5mm.

The inner layer boards were fixed with 25 mm British Gypsum Jack-Point Screws 25mm at 300 mm centres around the perimeter of the boards.

The outer layer boards were fixed with 35 mm British Gypsum Jack-Point Screws 35mm at 300 mm centres around the perimeter and within the field of the boards.

All vertical joints were staggered between layers, with a full board at the free end of the exposed face. A horizontal joint was positioned at 2400 mm from the base on the outer layer boards and at 600 mm from the base on the inner layer boards, on both faces of the specimen. A Gypframe GFS1 Fixing Strap was used behind the horizontal outer layer board joint.

All external board joints were taped and filled using Gyproc Paper Joint Tape and Gyproc Joint Filler as appropriate. All screw heads were spotted using Gyproc Joint Filler.

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## 3. Test Reports / Extended Application Reports and Test Results in Support of Classification

3.1 Test Reports / Extended Application Reports

| Name of Laboratory | Name of sponsor | Test reports / extended application report Nos. | Test method / extended application rules & date |
|---|---|---|---|
| The Building Test Centre | British Gypsum | BTC 21558F | BS EN 1364-1:2015 |

3.2 Test Results

| Test method & Test number | Parameter | | Results |
|---|---|---|---|
| BS EN 1364-1:2015 BTC 21558F | Integrity | Sustained Flaming | 115 minutes, no failure |
| | | 6 mm Gap Gauge | 115 minutes, no failure |
| | | 25 mm Gap Gauge | 115 minutes, no failure |
| | | Cotton Pad | 114 minutes |
| | Insulation | | 98 minutes |

All data can be found in the relevant test report.

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## 4. Classification and Field of Application

4.1 Reference of Classification

This classification has been carried out in accordance with clause 7.5.2 of BS EN 13501-2:2016.

4.2 Classification

The element, Gypwall staggered metal stud partition with 60 mm Gypframe 'I' Stud framework clad each side with a double layer of 12.5 mm Gyproc SoundBloc 12.5mm and 25 mm Isover Acoustic Partition Roll in the cavity, is classified according to the following combinations of performance parameters and classes as appropriate.

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| R | E | I | W | | t | t | - | M | S | C | IncSlow | sn | ef | r | G | K |

**Fire resistance classification: EI 90**

4.3 Field of Application

This classification is valid for any of the following end use applications, as specified in BS EN 1364-1:2015:

i) Decrease in height.

ii) Increase in the thickness of the wall.

iii) Increase thickness of component materials.

iv) Decrease in the linear dimensions of the boards but not thickness.

v) Decrease stud spacing.

vi) Decrease in fixing centres.

vii) Increase in the number of horizontal joints, of the type tested, when tested with one joint not more than (500±150) mm from the top edge.

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Extension of Width

For test specimens tested without a supporting construction, the width of an identical construction may be increased as the specimen was tested at nominally 3000 mm wide with one vertical edge without restraint.

Extension of Height

The height of the construction may be increased by 1000 mm under the following conditions:

| 30 minutes | 60 minutes |
|---|---|
| ≤ 100 mm | ≤ 100 mm |

## 5. Limitations

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

## 6. Authorisation

SIGNED

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Beth Kelliher
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*Senior Scientist*

APPROVED

……

Paul Miller
BSc. (Hons.)
*Fire Test Manager*