

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

Sponsor: **British Gypsum**  
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[www.btconline.co.uk](http://www.btconline.co.uk)

Product name: 600 MM WIDE GYPWALL AUDIO METAL  
STUD PARTITION WITH 92 MM STUD  
FRAMEWORK CLAD EACH SIDE WITH A  
TRIPLE LAYER OF 15 MM GYPROC  
SOUNDBLOC 15MM WITH 2 × 100 MM  
ISOVER CLADDING ROLL 40 AND 2 × 100 MM  
ROCKWOOL RW3

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This classification report consists of 8 pages and may only be reproduced in its entirety.

Customer: **British Gypsum**

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# The Building Test Centre

## Fire Acoustics Structures

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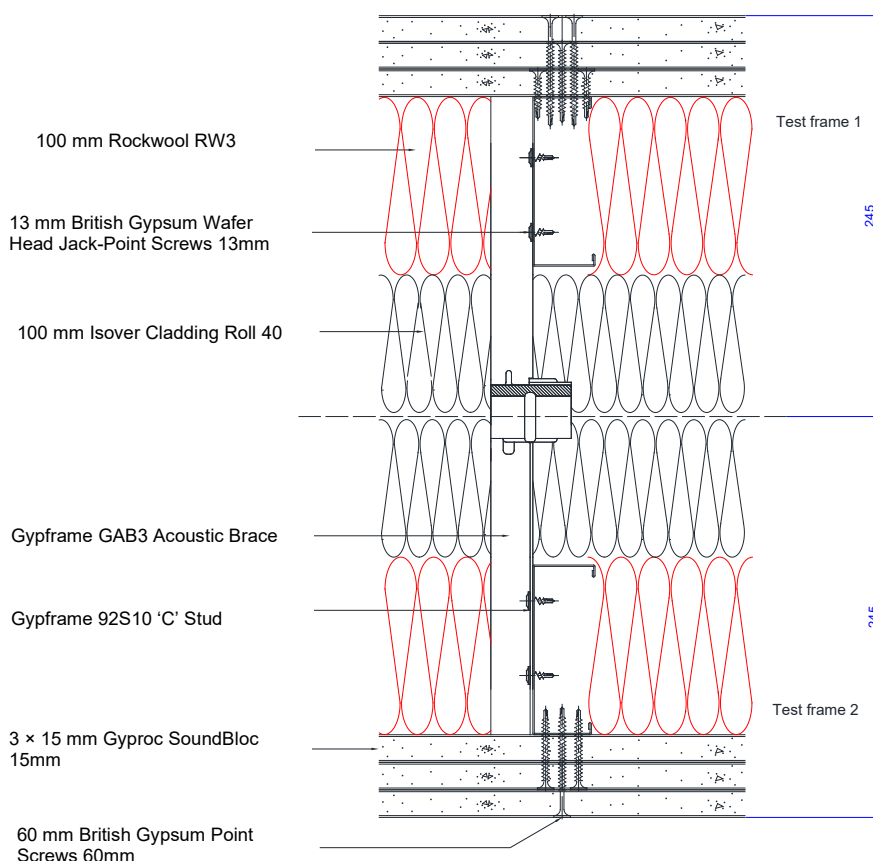
### 1. Introduction

This classification report defines the classification assigned to element 600 mm wide GypWall Audio metal stud partition with 92 mm stud framework clad each side with a triple layer of 15 mm Gyproc SoundBloc 15mm with 2 x 100 mm Isover Cladding Roll 40 and 2 x 100 mm Rockwool RW3, in accordance with the procedures given in BS EN 13501-2:2016.

### 2. Details of Classified Product

#### 2.1 Product Description

The element, 600 mm wide GypWall Audio metal stud partition with 92 mm stud framework clad each side with a triple layer of 15 mm Gyproc SoundBloc 15mm with 2 x 100 mm Isover Cladding Roll 40 and 2 x 100 mm Rockwool RW3, fully described below, is provided in support of the classification, listed in Clause 3.1.



**Figure 1.** Horizontal cross section – 600 mm wide GypWall Audio metal stud partition with 92 mm stud framework clad each side with a triple layer of 15 mm Gyproc SoundBloc 15mm with 2 x 100 mm Isover Cladding Roll 40 and 2 x 100 mm Rockwool RW3.

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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).

The specimen consisted of two separate metal frameworks with a 200 mm gap in between. Each metal framework was constructed as follows in frame 1 and frame 2 respectively:

Gypframe 94FEC50 Folded Edge Standard Floor and Ceiling Channels were fixed to the head and base of the test aperture at 600 mm centres using two staggered rows of 60 mm fire resistant fixings.

Gypframe 92S10 'C' Studs were positioned between the head and the base channels at 600 mm centres. The right-hand stud of each frame viewed from unexposed face was not fixed to the perimeter of the test frame, and the gap between the studs and the frame lining was filled with a 25 mm rock mineral fibre gasket.

At the left-hand end of each frame a Gypframe 92S10 'C' Stud was used to fix the partition to the test frame with 60 mm fire resistant fixings at 600 mm centres.

Gypframe GAB3 Acoustic Braces were installed between opposing studs using two 13 mm British Gypsum Wafer Head Jack-Point Screws 13mm at each stud position (4 per brace in total).

The braces for adjacent stud pairs were staggered vertically by 600 mm.

- Braces at 1200 mm high for stud pairs 3 and 5.
- Braces at 1800 mm high for stud pairs 2, 4 and 6.

Stud pair 1 is the left-hand studs viewed from the unexposed face (at the fixed end); stud pair 6 is the right-hand studs viewed from the unexposed face (at the free end).

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

100 mm thick Rockwool RW3 was positioned in the stud cavity of each framework. 2 × 100 mm Isover Cladding Roll 40 was positioned in the cavity between the two metal frameworks.

Each framework was lined on the outer face with a triple layer of 15 mm Gyproc SoundBloc 15mm. The inner layer was fixed around the perimeter with 25mm British Gypsum Jack-Point Screws 25mm at 300 mm centres. The middle layer was fixed around the perimeter with 41 mm British Gypsum Jack-Point Screws 41mm at 300 mm centres. The outer layer was fixed around the perimeter and within the field of the boards with 60 mm British Gypsum Jack-Point Screws 60mm at 300 mm centres.

All vertical joints were staggered between layers, with a full board at the free end of the exposed face.

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A horizontal joint was positioned at 2400 mm from the base on the outer layer and on the inner layer and 600 mm from the base on the middle layer, 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.

### 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 21613F	BS EN 1364-1:2015

#### 3.2 Test Results

Test Method & Test Number	Parameter		Results
BS EN 1364-1:2015 BTC 21613F	Integrity	Sustained Flaming	180 minutes, no failure
		6 mm Gap Gauge	180 minutes, no failure
		25 mm Gap Gauge	180 minutes, no failure
		Cotton Pad	180 minutes, no failure
	Insulation		180 minutes, no failure

All data can be found in the relevant test report.

#### 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, 600 mm wide GypWall Audio metal stud partition with 92 mm stud framework clad each side with a triple layer of 15 mm Gyproc SoundBloc 15mm with 2 x 100 mm Isover Cladding Roll 40 and 2 x 100 mm Rockwool RW3, 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
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**Fire resistance classification: EI 180**

##### 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.

### 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	90 minutes
$\leq 100$ mm	$\leq 100$ mm	$\leq 100$ mm

## 5. Limitations

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

## 6. Authorisation

SIGNED



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APPROVED



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