

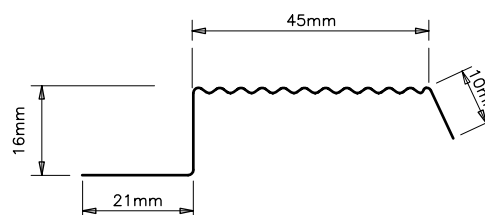
RB1 Resilient Bar

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INTRODUCTION

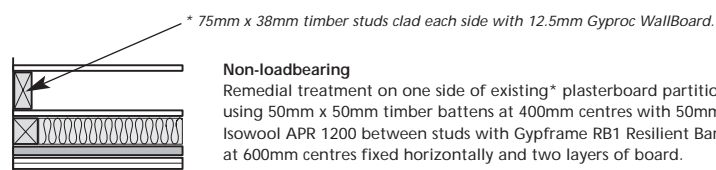
Substantial improvements to the sound insulation performance of new and existing timber framed walls, partitions, floors and roofs can be simply and economically achieved by the use of Gyproc plasterboard linings screw-fixed to Gypframe RB1 Resilient Bars. These are lightweight galvanised steel channels used to partially isolate a dry lining of plasterboard from its timber supporting framework and hence from the structure. This reduces sound waves directly transmitted through the supporting members to the opposite side.

Materials on opposite sides of the structure are thus acoustically independent of each other. In timber framed structures the use of Gypframe RB1 Resilient Bar will improve the sound insulation performance with only a slight increase in thickness of structure.



PERFORMANCE

Table 1 Dimensions, weights and performance

**Non-loadbearing**

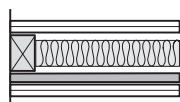
Remedial treatment on one side of existing* plasterboard partition using 50mm x 50mm timber battens at 400mm centres with 50mm Iso wool APR 1200 between studs with Gypframe RB1 Resilient Bar at 600mm centres fixed horizontally and two layers of board.

Board type	Lining thickness mm	Nominal partition thickness mm	Approx. weight kg/m ²	Stud size ¹ mm	Fire resistance mins	Laboratory sound insulation 100 - 3150Hz		System reference
						No insulation R _w dB	50mm Iso wool APR 1200 R _w dB	
SoundBloc	2 x 15	196	48	50 x 50	60	–	52	A05402

¹ Stud sizes quoted are minimum; larger stud sizes will enhance performance.

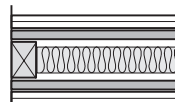
Table 2 Dimensions, weights and performance – compartment / separating walls - Non-loadbearing

1

**Non-loadbearing**

Two layers of board each side of 75mm x 38mm timber studs at 600mm centres with Gypframe RB1 Resilient Bars fixed horizontally to one side at 600mm centres. Minimum 50mm Iso wool APR 1200 in the cavity.

2

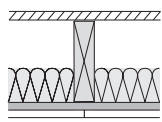
**Non-loadbearing**

Two layers of board each side of 75mm x 38mm timber studs at 600mm centres with Gypframe RB1 Resilient Bars fixed horizontally to both sides at 600mm centres. Minimum 50mm Iso wool APR 1200 in the cavity.

Detail	Board type	Lining thickness mm	Nominal wall thickness mm	Approx. weight kg/m ²	Fire resistance mins	Laboratory sound insulation 100 - 3150Hz		System reference
						R _w dB	(R _w +C _{tr})	
1	SoundBloc	2 x 12.5	141	46	60	56	–	A046005
2	SoundBloc	2 x 12.5	157	47	60	59	(51)	A046006
1	SoundBloc	2 x 15	151	54	90	58	(51)	A046007
1	Plank/SoundBloc	19 + 12.5	154	57	90	58	(51)	A046023
2	SoundBloc	2 x 15	167	55	90	60	(52)	A046008



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PURE INNOVATION

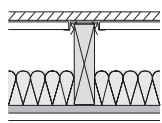
Table 3 Dimensions and performance – ceiling linings

Gypframe RB1 Resilient Bars at 450mm centres to underside of joists. 100mm Iso wool General Purpose Roll in cavity.

Board type	Flooring board type ¹	Joist centres mm	Joist width (min.) mm	Fire resistance mins	Estimated laboratory sound insulation ² 100 - 3150Hz		System reference
					Airborne R _w dB	Impact L _{nw} dB	
Inner layer of Gyproc Plank and outer layer of 12.5mm Gyproc WallBoard	a	600	45	60	50	68	C206003
Inner layer of Gyproc Plank and outer layer of 12.5mm Gyproc SoundBloc	a	600	45	60	54	67	C016030

¹ Floor type a Wood board t & g flooring, not less than 21mm (finished) thickness.

² The acoustic ratings quoted above are based on 200mm deep joists and a walking surface of min. 12kg/m².

Table 4 Dimensions and performance – compartment / separating floors

GypFloor SILENT with Gyproc Plank on SIF Floor Channels. 100mm Iso wool General Purpose Roll in cavity. Gypframe RB1 Resilient Bars at 450mm centres.

Board type	Flooring board type ¹	Joist centres mm	Joist width (min.) mm	Fire resistance mins	Laboratory sound insulation 100 - 3150Hz		System reference
					Airborne R _w dB (R _w +Ctr)	Impact L _{nw} dB	
Two layers of 15mm Gyproc SoundBloc	b	450	45	60	61 (48)	56	C204006
One layer of Gyproc Plank and one layer of 12.5mm Gyproc SoundBloc	b	450	45	60	63 (51)	55	C204001
Two layers of 15mm Gyproc FireLine	b	450	45	90	60 –	57	C204002

¹ Floor types b Wood-based flooring, not less than 21mm (finished) thickness.

SITework

The following gives the designer an appreciation of the method of installation and common construction details.

Storage

The bars should be stacked horizontally in a dry place and, if possible, fully supported. They should not be left on concrete floors.

Cutting

The bars can be cut with a hacksaw or tinsnips.

INSTALLATION

The bars are fixed at 90° to the timber supporting members without gaps, and extended into all the internal angles, where they should be well secured to the supports.

Bars are joined by nesting them together directly over a support. The overlap should be nominally the width of the stud or joist, but a maximum of 50mm. The corrugated webs should be nested together and both base flanges screwed to the supporting members. The bottom bars used for wall lining should be positioned not more than 150mm from the floor. The bars must be fixed in parallel rows at the centres given for each application.

Fixing the bars

The bars are fixed to the timber supports with 36mm Gyproc Drywall Screws. Cut ends of boards must be supported on resilient bars. Gypframe RB1 Resilient Bar noggings must be located at corners, openings and abutments to provide additional support for the lining board.

Walls

The bars are fixed horizontally at 600mm centres and all the Gyproc lining boards are fixed vertically. Ends of boards must be supported by a bar at the ceiling angle. For information on screw lengths and centres, see **Table 5**.

Ceilings

The bars are fixed across the joists or ceiling battens at 450mm maximum centres and the Gyproc lining boards are fixed at 90° to the bars. Ends of boards or plank must be supported on Resilient Bar noggings at ceiling perimeters. For information on screw lengths and centres, see **Table 5**.

Specifications are all for double layer linings. Joints should be staggered in both directions.

Skirtings

Timber packing strips, 16mm thick x 50mm wide, are fixed at floor level to the timber framing as packing to support the base of the lining when the skirting is being fixed.

Linings

Wall and ceiling linings are double layer Gyproc lining boards fixed vertically to walls, and at 90° to the bars on ceilings, using a power screwdriver. Ensure that screws are not in line with the

framing. If a screw connects with the framing, it will adversely affect the acoustic performance of the construction. Gyproc Drywall Screws should be at 300mm centres for walls and 230mm centres for ceilings in the field of the board, and 150mm centres at board ends using the sizes given below:-

Table 5 Screw lengths and centres

.....
25mm screws for 12.5mm and 15mm wall board.
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.....
32mm screws for 19mm plank.
.....

.....
36mm screws for 12.5mm wall board fixed over 12.5mm wall board.
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.....
42mm screws for 12.5mm wall board fixed over 19mm plank and 15mm wall board fixed over 15mm wall board.
.....

Sealant

Gyproc Sealant is applied to the perimeters to achieve optimum sound insulation.

Surface treatment

Jointing

See **White Book** and **SiteBook** Section **n15** – Jointing.

Decoration

See **White Book** and **SiteBook** Section **n30** – Decorative effects.

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For a comprehensive and up to date library of information visit our website at: www.british-gypsum.com

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