



# MOY ISOVER Acoustic Roll

## Introduction

Moy Isover Acoustic Rolls are lightweight glasswool rolls manufactured in Ireland. They are available in a wide variety of thicknesses, lengths and widths, they are suitable for thermal, acoustic insulation and fire resistance in walls and roof spaces in domestic, commercial and industrial buildings.

Moy Acoustic Rolls are widely used for noise control purposes in a variety of applications as its lightweight, fire-safe and robust nature is combined with highly efficient sound absorption.

## Physical Characteristics

	Width mm	Length	Area Per Roll	Density	Thermal Conductivity	Thermal Resistance
Acoustic Roll 25mm	1200	15 mt.	18 sq. mt.	18kg	0.036	0.69
Acoustic Roll 50mm	1200	10 mt.	12 sq. mt.	18kg	0.036	1.38
Acoustic Roll 70mm	1200	8 mt.	9.6 sq. mt.	18kg	0.036	1.94
Acoustic Roll 100mm	1200	6.5 mt.	7.8 sq. mt.	18kg	0.036	2.77
Acoustic Roll 150mm	1160	4.5 mt.	5.22 sq. mt.	18kg	0.036	4.16
Acoustic Roll 200mm	1160	2.7 mt.	3.13 sq. mt.	18kg	0.036	5.55

## Sound and Insulation Privacy



In designing for sound insulation it is important to set targets which are correct in terms of the uses of spaces separated by partitions and walls.

Table 1 compares Acoustic Privacy with the weighted Sound Reduction Index (Rw).

Table 1	Degree of Acoustic Privacy
Rw	Speech Level
25dB	Normal speech can be easily overheard
30dB	Loud speech can be heard clearly
35dB	Loud speech can be distinguished under normal conditions
40dB	Loud speech can be heard but not distinguished
45dB	Loud speech can be heard faintly but not distinguished
More than 50dB	Loud speech or shouting can be heard with great difficulty

## Sound Absorption



Sound absorption is the term given to the loss of sound energy on reflection at a surface. The sound absorption co-efficient is a measure of the ability of a material to absorb sound, and is generally quoted for frequencies at octave intervals from 125 – 4000 Hz. Typical test results from Moy Isover Acoustic Roll are as follows:

SOUND ABSORPTION CO-EFFICIENTS WITH SOLID BACKING AT VARIOUS FREQUENCIES

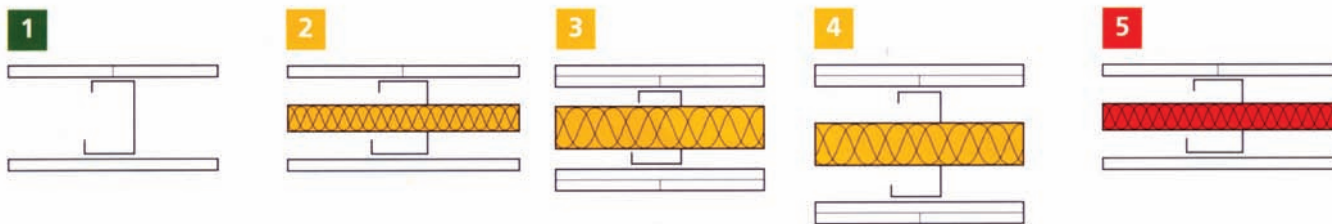
Thickness	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	NRC
25mm	0.15	0.25	0.45	0.65	0.75	0.75	0.55
50mm	0.25	0.50	0.90	1.10	0.95	1.05	0.85
100mm	0.53	0.86	1.07	1.16	1.11	1.10	1.05

Note: NRC is the mean of the sound absorption co-efficient values at 250, 500, 1000 and 2000 Hz.

## Metal Stud Partitions

Gyproc metal stud partitions are lightweight, non-load-bearing, and quickly assembled on site. They provide cost-effective partitions suitable for all types of commercial, recreational, institutional and industrial buildings, as well as residential developments such as flats and apartments. The partitions are extremely versatile and can achieve the levels of fire resistance, sound insulation, impact resistance and stability required in most types of buildings. Some examples of the performance of insulated partitions can be seen below.

### Construction Details



One layer of Gyproc board each side of 70mm Gyproc Studs.

One layer of Gyproc board each side of 70mm Gyproc Studs plus 25mm Moy Acoustic Roll in the cavity.

Two layers of Gyproc board each side of 70mm Gyproc Studs plus 50mm Moy Acoustic Roll in the cavity.

Two layers of Gyproc board each side of 146mm Gyproc Studs plus 50mm Moy Acoustic Roll in the cavity.

One layer of Gyproc board each side of 70mm Gyproc Studs plus 30mm rock mineral wool (33kg/m<sup>3</sup>) in the cavity.

Detail	Board Type	Board Thickness mm	Overall Thickness mm	Approx Weight kg/m	Rec max height mm	Fire Resistance Hours	Laboratory sound insulation 100-3150Hz Rw dB	Performance Substantiation report	Partition Duty to BS5234 Parts 1 & 2 1992
1	Gyproc Wallboard	12.5	97	18	3600	1/2	36	A206013	Medium
2	Gyproc Wallboard	12.5	97	18	3600	1/2	42	A206045	Medium
3	Gyproc Wallboard	25 (2x12.5)	122	36	4600	1	50	A206142	Severe
4	Gyproc Wallboard	25 (2x12.5)	198	36	7600	1	52	A206149	Severe
5	Gyproc Fireline	12.5	97	22	3600	1	43	A206130	Medium

## Timber Stud Partitions

Timber stud partitions are the 'traditional' form of plasterboard partitions which are often used in new housing and refurbishment. Timber stud separating walls are primarily specified as sound resisting walls in residential units such as flats and apartments to meet the sound insulation requirements of National Building Regulations. Timber stud partitions are versatile and strong. They are simple to install, and employ the minimum of components. Timber stud partitions are unsuitable for use in areas subject to continuously damp or humid conditions.

1



One layer of Gyproc board each side of min. 75x38 timber studs plus 100mm Moy Acoustic Roll.

2



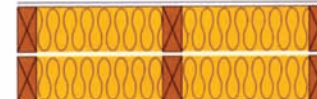
Two layers of Gyproc board each side of min. 75x38 timber studs plus 100mm Moy Acoustic Roll.

3



Staggered 4"x2" (89x38) timber studs, one layer of Gyproc Wallboard each side with one layer of 100mm Moy Acoustic Roll.

4

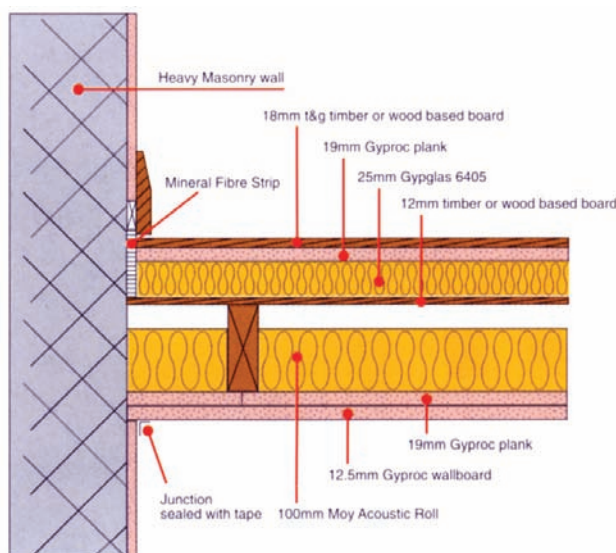


Double layer of 4"x2" (89x38) timber studs with one layer of Gyproc Wallboard each side, containing two layers of 100mm Moy Acoustic Roll.

Detail	Board Type	Board Thickness mm	Overall Thickness mm	dB Reduction	Test Code
1	Gyproc Wallboard	12.5	114	40	BGATR 550
2	Gyproc Wallboard	25 (2x12.5)	139	46	BGATR 549
3	Gyproc Wallboard	25 (2x12.5)	162	52	S.G. 98 STC 50
4	Gyproc Wallboard	25 (2x12.5)	225	57	S.G. 98-90

## Timber Floors

Timber base platform floors should be designed to comply with the Building Regulation 1997 Part E. Please note Table 2 below which sets Sound Transmission values. To meet these values, the following specification has been designed.



### Product Details

Thickness	Length	Width	Batts per Pack	Pack Area
25mm	1200mm	600mm	12	8.64 sq. mt.
100mm	6500mm	1200mm	1 roll	7.8 sq. mt.

### Specification

- Floating layer of at least 18mm thick T&G timber or wood-based board.
- 19mm thick plasterboard.
- 25mm fibreglass at 64kg density.
- 12mm thick plyboard nailed to timber joists.
- 30mm plasterboard nailed in two layers, staggered joints.
- 100mm Moy Acoustic Roll laid between joists.

### Installation Instructions

- Lay the Gypglas 6405 slabs directly onto the base floorboards with all joints tightly butted.
- Lay the strip around the base of the walls.
- Lay 19mm Gyproc plank with all joints tightly butted.
- Dab on Gyproc Resilient Wallboard Adhesive at 300 centres and adhere the finished floor surface to the Gyproc plank.

**Table 2: Sound Transmission Values**

Type of Performance	Individual Values	Mean Values Test in at least 4 pairs of rooms	Mean Values Test in at least 8 pairs of rooms
Airborne Sound (min. values)*	49 (walls) 48 (floors)	53 (walls) 52 (floors)	52 (walls) 51 (floors)
Impact sound (min. values)**	65	61	62

### NOTES

\* Airborne sound - Weighted Standardised Level Difference ( $D_{nT,w}$ )

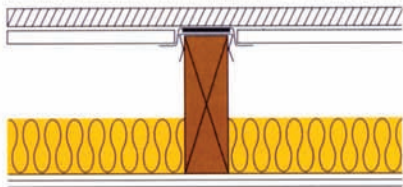
\*\* Impact sound - Weighted Standardised Level Difference ( $L_{nT,w}$ )

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## Refurbishment of Compartment Floors

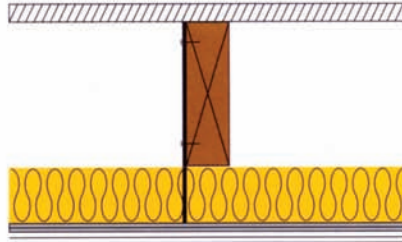
- Type 1** Floor boarding lifted and replaced – Existing ceiling retained  
**Type 2** Existing floor boarding retained – Existing ceiling replaced  
**Type 3** Existing floor boarding retained – Existing ceiling retained

**Type 1**



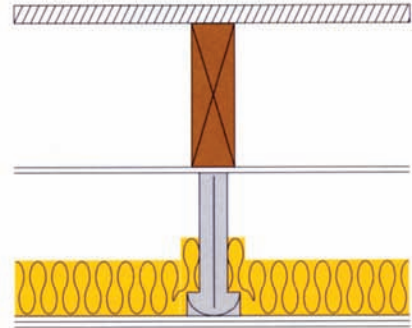
Gyproc SI Floor comprising 21mm Floor Boarding with Gyproc Plank on SIF Channels plus 100mm Moy Acoustic Roll. See Diagram 1.

**Type 2**



18mm flooring chipboard retained. 100mm Moy Acoustic Roll in cavity with Gyplyner Ceiling hung underneath. See Diagram 2.

**Type 3**



Gyplyner Ceiling hung underneath to give a cavity, min. 50mm to max. 45mm. 50mm Moy Acoustic Roll in the cavity.

Performance	
Airborne	54 R <sub>w</sub> ,dB
Impact	63 L <sub>nw</sub> ,dB
Test Report	C204004 / C204007
Fire	1/2 hour*

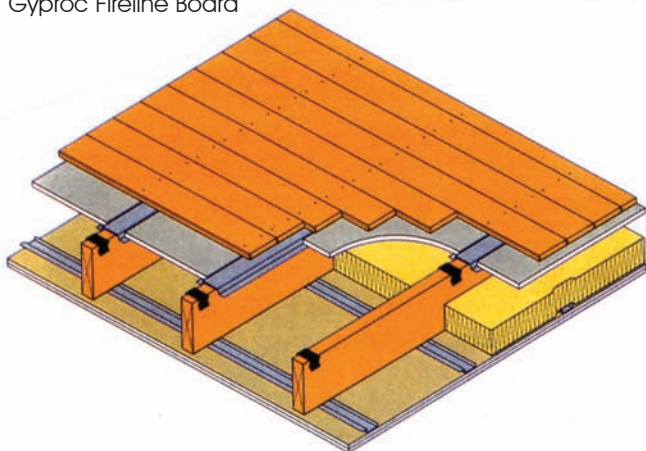
\* This fire rating can be one hour if the existing 12.5mm Plasterboard ceiling is overboarded with one layer of 15mm Gyproc Fireline Board

Performance	
Airborne	53 R <sub>w</sub> ,dB
Impact	66 L <sub>nw</sub> ,dB
Test Report	C154007
Fire	1 hour*

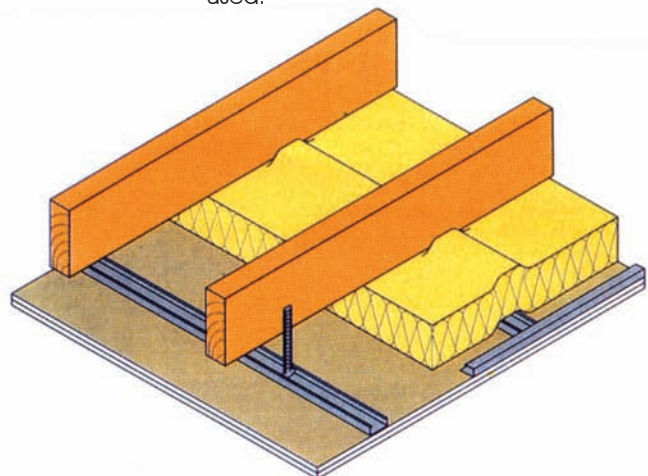
\* With two layers of Gyproc Fireline Board.

Performance	
Airborne	57 R <sub>w</sub> ,dB
Impact	61 L <sub>nw</sub> ,dB
Test Report	C154002 / C154005
Fire	1/2 hour*

\* One hour can be achieved when two layers of Gyproc Fireline Board are used.



**Diagram 1**



**Diagram 2**