

INTERNAL PARTITIONS AND WALLS

Highly versatile lightweight, non-loadbearing partition systems. A full range of lightweight partition and wall systems for use in new and existing buildings. They cover all applications, from simple space division to high performance walls.

We offer a full range of lightweight partition and wall systems. Our systems are non-loadbearing and constructed using modern, drylining techniques. Our metal framed partitions and walls can be used in all types of new and existing buildings, including private and social housing, apartments, healthcare, educational facilities, recreational and industrial properties.

They cover all applications, from simple space division, through to high performance walls designed to meet the most demanding fire resistance, sound insulation, impact and height requirements.

Our partition systems are constructed using lightweight materials, which can offer significant savings in structural design compared to masonry alternatives. Benefits also include the speed of installation and reduction to overall build costs.



There are specifications within this system that qualify for our **SpecSure**® warranty. For more information, contact us through british-gypsum.com

Internal partitions and walls

When specifying partitions, a number of performance characteristics are normally used to determine the required solution.

Depending on the project or construction type, these performance parameters could be set by minimum regulatory standards, or a client or customer requirement for buildings that offer the highest standards of performance and comfort.

Additional information

Try out The White Book Specification Selector, an online tool designed to help find the ideal solutions for your project needs. Additional information such as BIM data (Revit), Technical Specifications, CAD drawings and other associated items can be downloaded. Visit british-gypsum.com



GypWall Single Frame

Create all the rooms you need with the industry's original lightweight non-loadbearing drywall partition system.
See page 4.19.



Fire resistance
30-240 mins

Sound rating
34-63 R_wdB

Duty rating
medium to severe

GypWall Single Frame Enhanced

Keep busy areas in great condition with robust partitions.
See page 4.27.



Fire resistance
30-120 mins

Sound rating
38-60 R_wdB

Duty rating
severe

GypWall Twin Frame Braced

Keep the peace by reducing sound transmission through separating walls.
See page 4.63.



Fire resistance
60-120 mins

Sound rating
59-64 R_wdB

Duty rating
severe

GypWall Twin Frame Audio

Build an acoustic sanctuary without losing floor space.
See page 4.75.



Fire resistance
60-120 mins

Sound rating
67-80 R_wdB

Duty rating
severe

GypWall Resilient

Improve acoustic performance of your partitions and separating walls with minimal loss of floor space.
See page 4.39.



Fire resistance
60-120 mins

Sound rating
61-65 R_wdB

Duty rating
severe

GypWall Twin Frame Independent

Reduce sound transmission without the need for pre-completion testing.
See page 4.51.



Fire resistance
90-120 mins

Sound rating
65-70 R_wdB

Duty rating
severe

GypWall Staggered

Space-saving sound insulation.
See page 4.89.



Fire resistance
30-90 mins

Sound rating
49-63 R_wdB

Duty rating
heavy to severe

GypWall Secure

Build secure spaces with attack-resistant walls.
See page 4.101.



Fire resistance
120 mins

Sound rating
40 R_wdB

Duty rating
severe

Internal partitions and walls

Good practice specification guidance

- To maximise the performance achieved on site, consider the following good practice specification guidance:
- Consider flanking transmission at the design stage and ensure construction detailing is specified to eliminate, or at least to minimise, any downgrading of the acoustic performance
 - Small openings such as gaps, cracks or holes will conduct airborne sounds and can significantly reduce the sound insulation of a construction. For optimum sound insulation a construction must be airtight
 - When designing the layout of rooms requiring separation by sound insulating walls abutting structural steelwork, consideration should be given to the potential loss of sound insulation performance through the steelwork

- Deflection heads, by definition, must be able to move and, therefore, achieving an airtight seal is very difficult without incorporating sophisticated components and techniques. Air leakage at the partition heads will have a detrimental effect on acoustic performance of any partition. Where acoustic performance is a key consideration, steps must be taken to minimise this loss of performance
- A common mistake made when designing a building is to specify a high performance element and then incorporate a lower performing element within it; for example, a door within a partition. Where the difference between insulation is relatively small (7dB or less), there needs to be a comparatively large area of the lower insulation element before the overall sound insulation is significantly affected. However, where there is a greater difference in sound insulation performance between the two elements, this would usually result in a greater reduction of overall sound insulation performance

Table 1 – Sound insulation performance for residential specification			
Approved Document E (England and Wales)	On-site	Laboratory**	
	$D_{nT,w} + C_{tr}$ dB	Minimum solution $(R_w + C_{tr})$ dB	Recommended solution $(R_w + C_{tr})$ dB
Separating walls between new homes	45	(49)	(54)
Separating walls between purpose-built rooms for residential purposes and rooms created by a change of use or conversion	43	(47)	(52)
Technical Standards Section 5 (Scotland)	On-site	Laboratory**	
	$D_{nT,w} + C_{tr}$ dB	Minimum solution R_w dB	Recommended solution R_w dB
Separating walls between new homes, purpose-built for residential purposes and conversions (not including traditional buildings*)	56	60	63
Separating walls between rooms created by a change of use or conversion (traditional buildings*)	53	57	60

* Definition of traditional buildings – A building or part of a building of a type constructed before or around 1919:
a) using construction techniques that were commonly in use before 1919; and
b) with permeable components, in a way that promotes the dissipation of moisture from the building fabric.

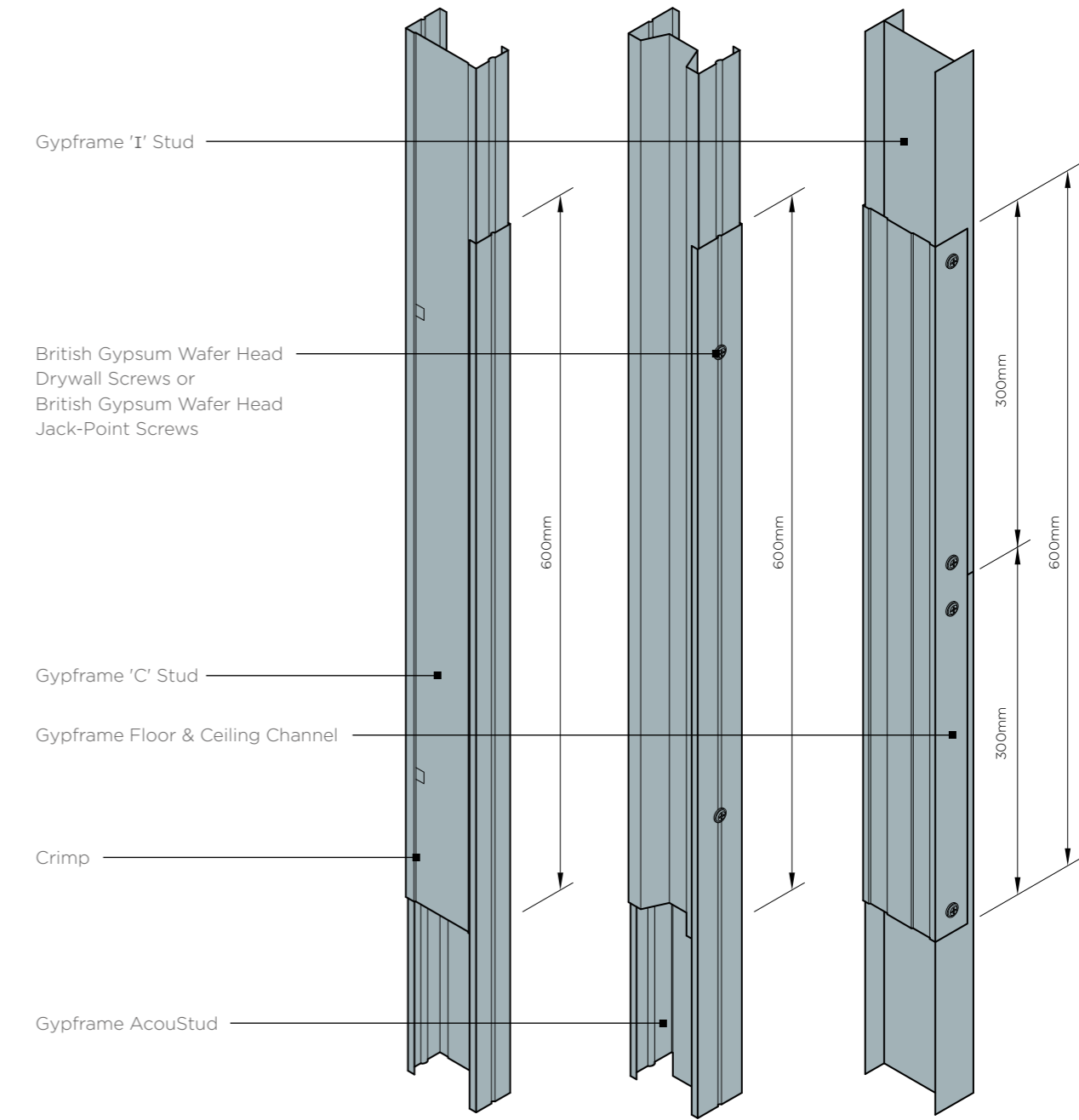
** Minimum solutions provide little or no margin of safety to allow for reduction in performance due to flanking transmission. Recommended solutions have greater potential to satisfy the requirements of Building regulations.

GypWall partitions

Construction details

To be read in conjunction with system specific details. Refer to relevant system sections.

1. Stud splicing detail

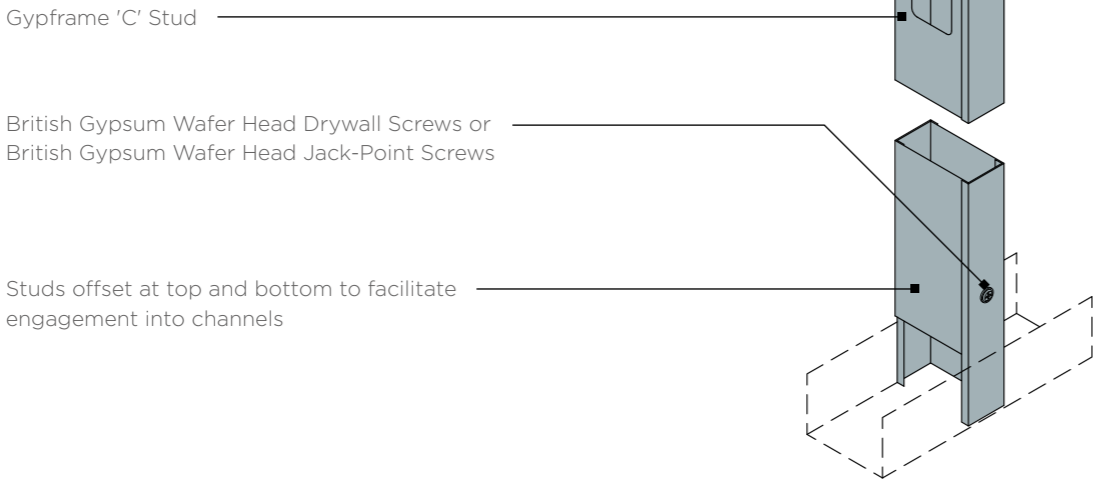


GypWall partitions

Construction details

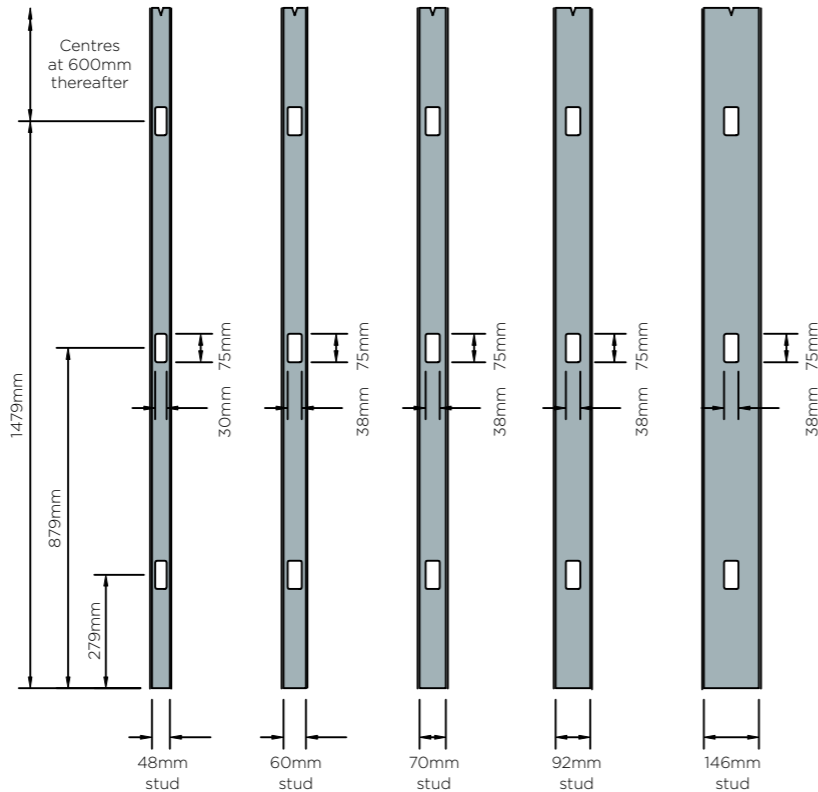
To be read in conjunction with system specific details. Refer to relevant system sections.

2. Fully boxed Gypframe 'C' Stud



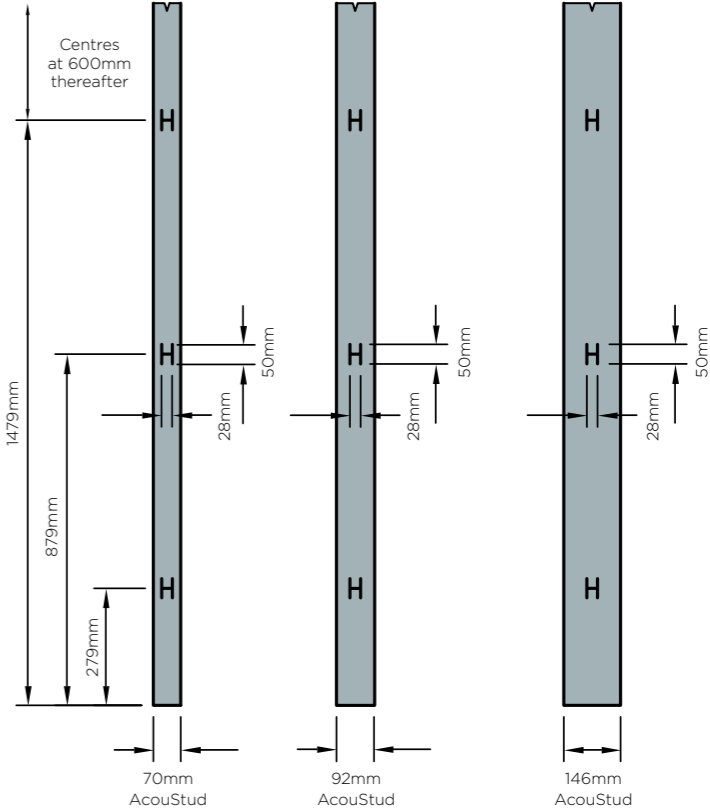
3a. Service cut-outs

Gypframe 'C' and Gypframe 'I' Studs

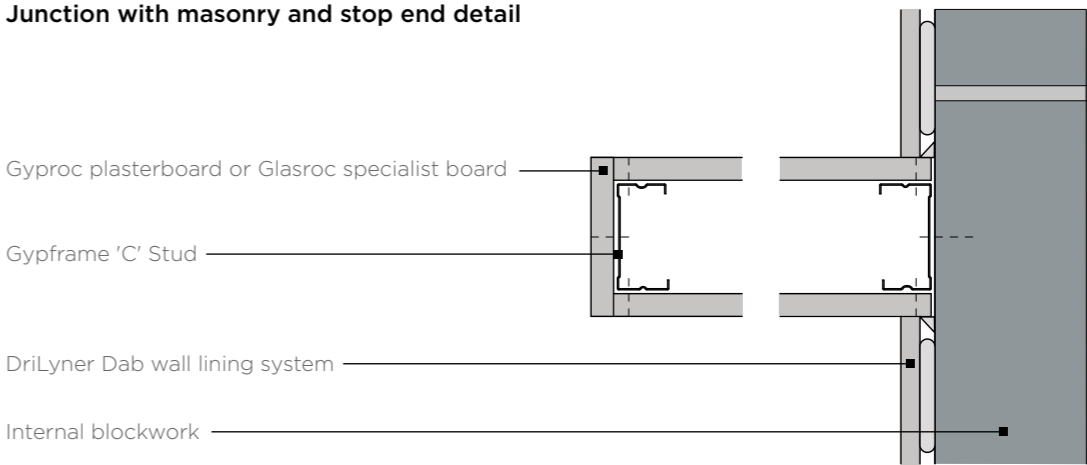


3b. Service cut-outs

Gypframe AcouStuds



4. Junction with masonry and stop end detail

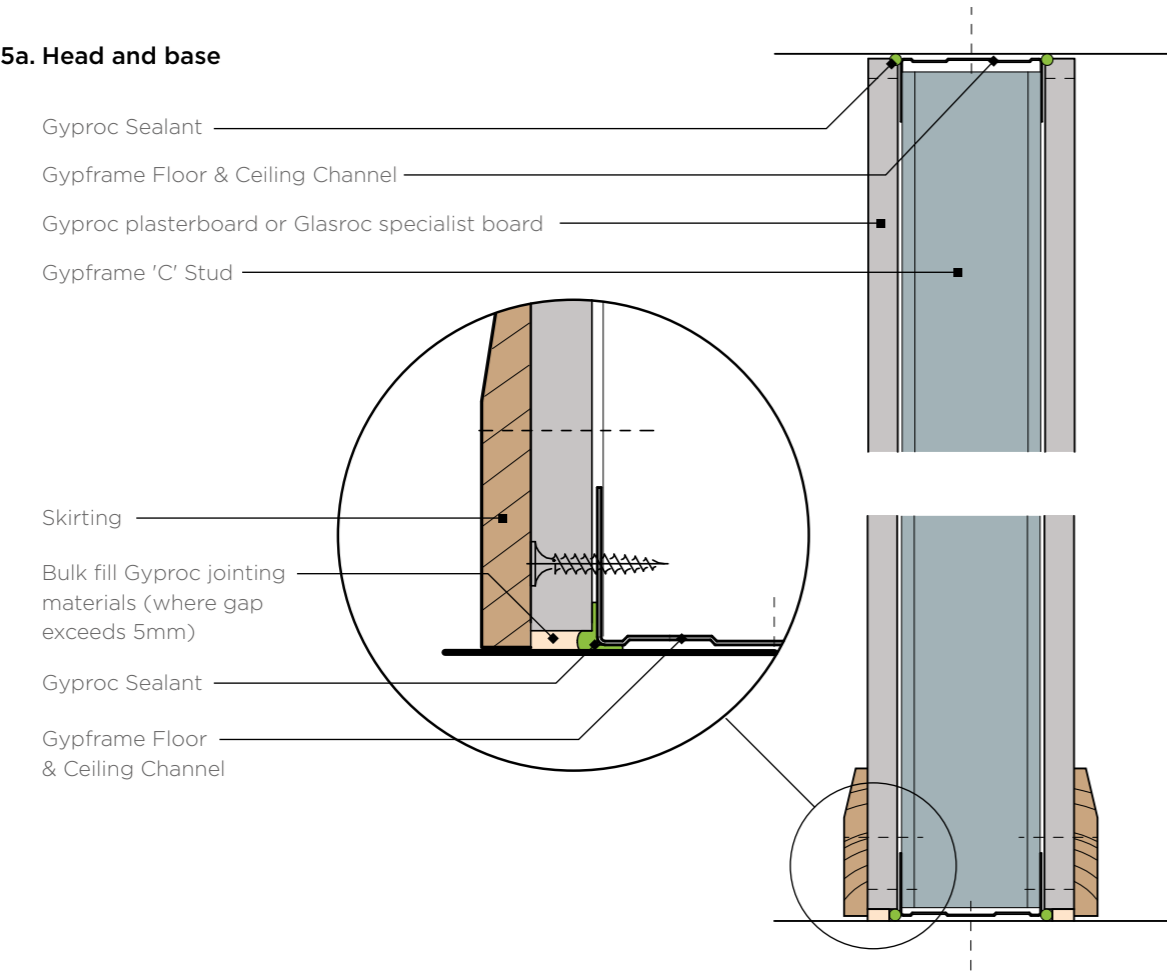


GypWall partitions

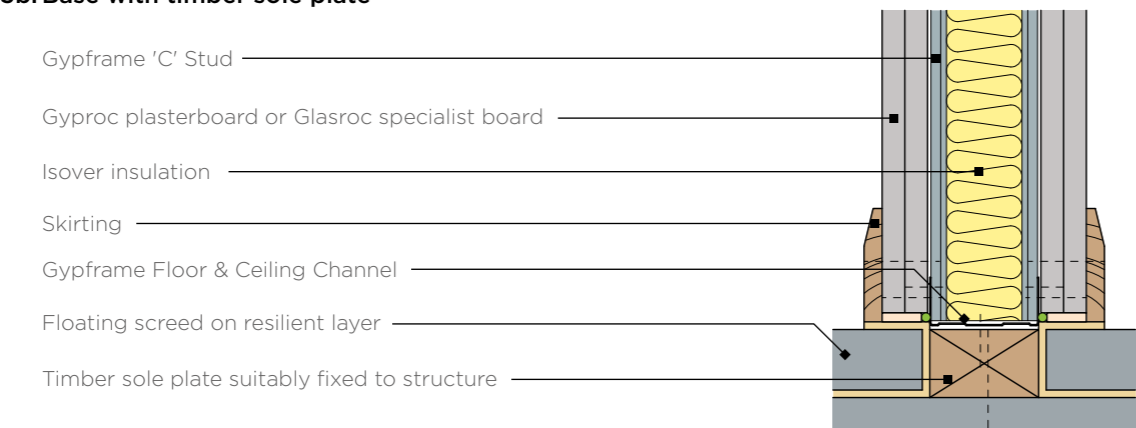
Construction details

To be read in conjunction with system specific details. Refer to relevant system sections.

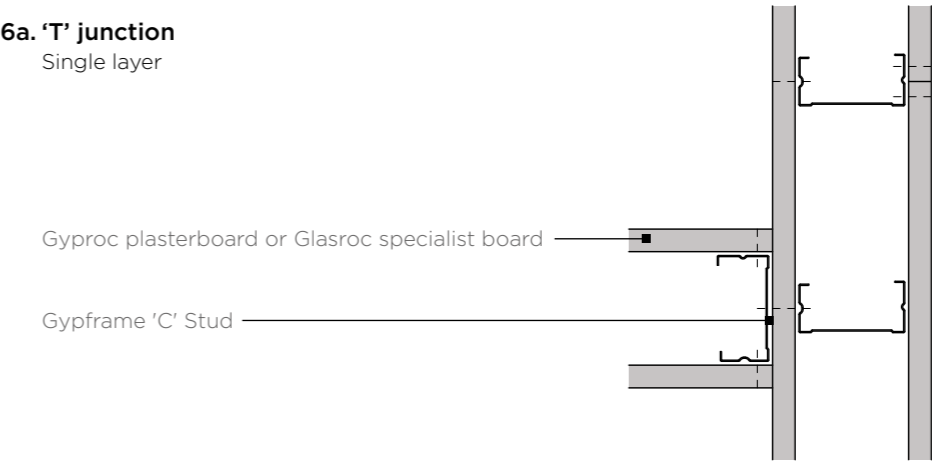
5a. Head and base



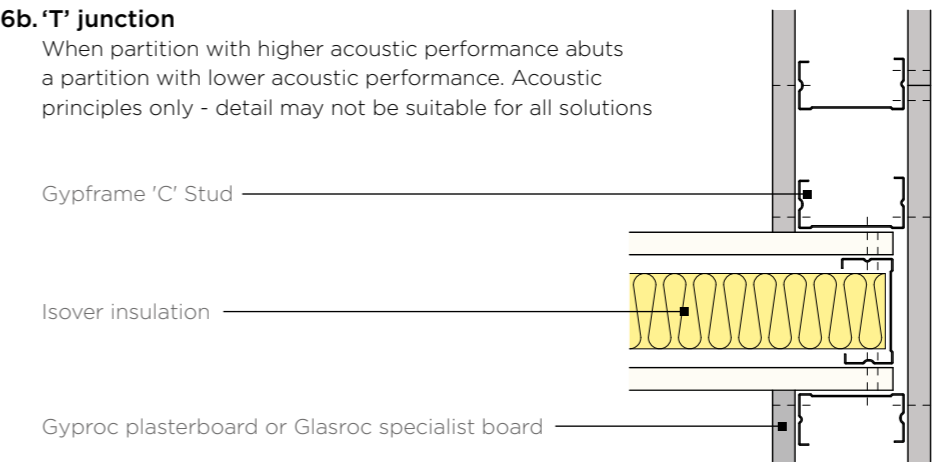
5b. Base with timber sole plate



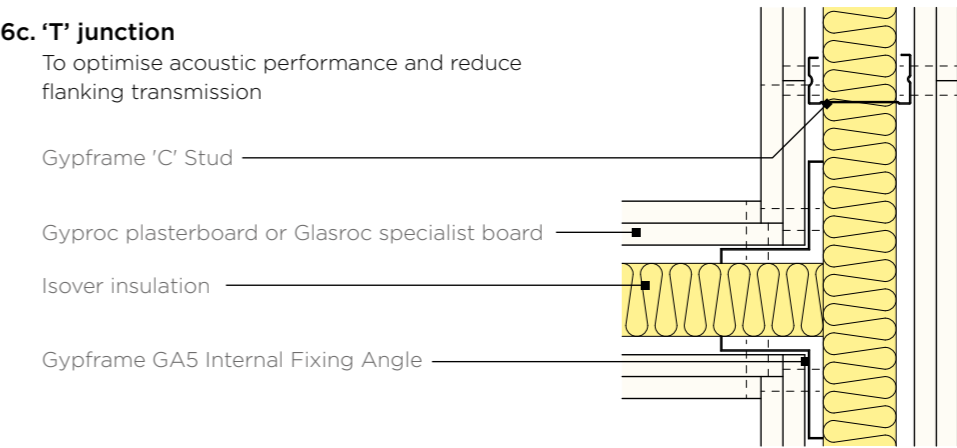
6a. 'T' junction Single layer



6b. 'T' junction When partition with higher acoustic performance abuts a partition with lower acoustic performance. Acoustic principles only - detail may not be suitable for all solutions



6c. 'T' junction To optimise acoustic performance and reduce flanking transmission



Guidance must be sought from the relevant approval authority e.g. Building Control to establish if a cavity barrier is required (Approved Document B)

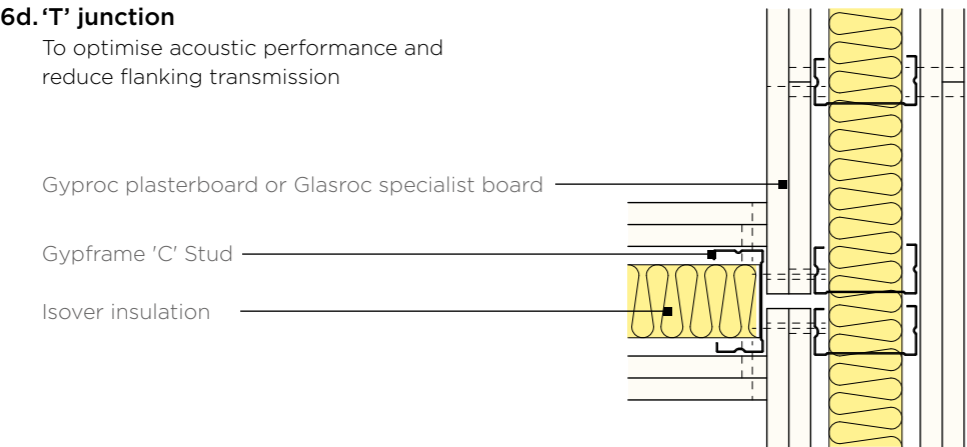
GypWall partitions

Construction details

To be read in conjunction with system specific details. Refer to relevant system sections.

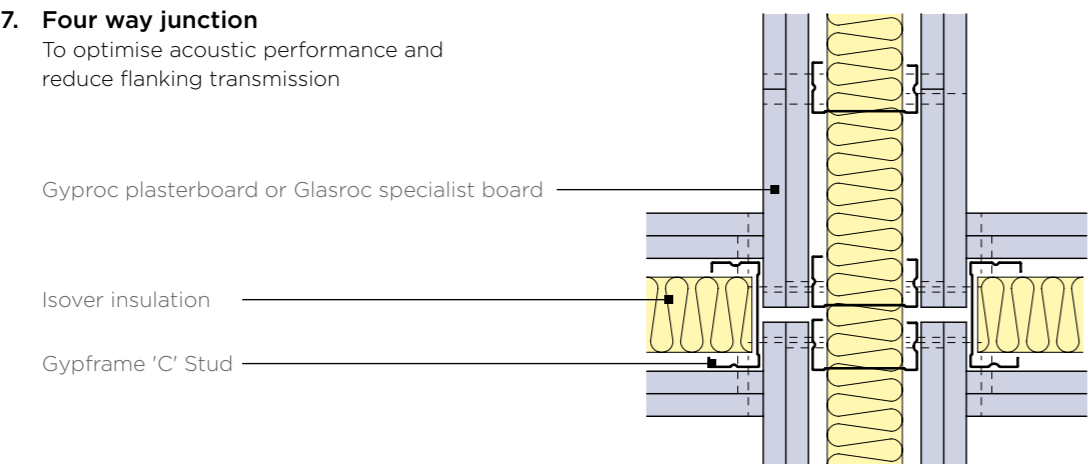
6d. 'T' junction

To optimise acoustic performance and reduce flanking transmission

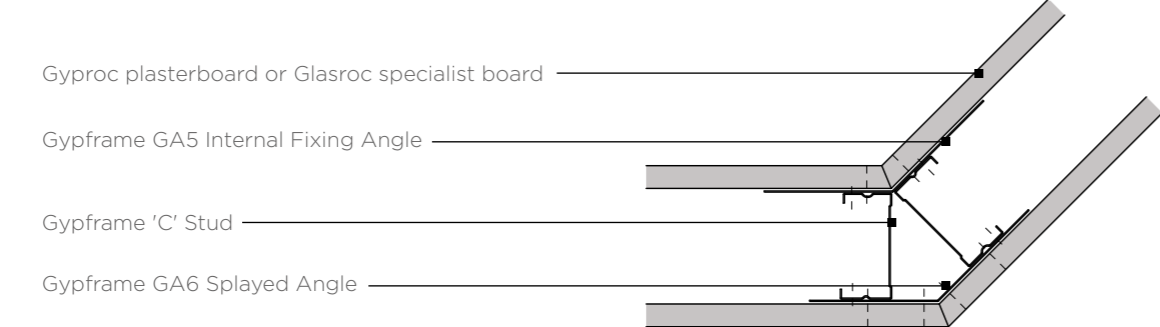


7. Four way junction

To optimise acoustic performance and reduce flanking transmission



8. Splayed corner



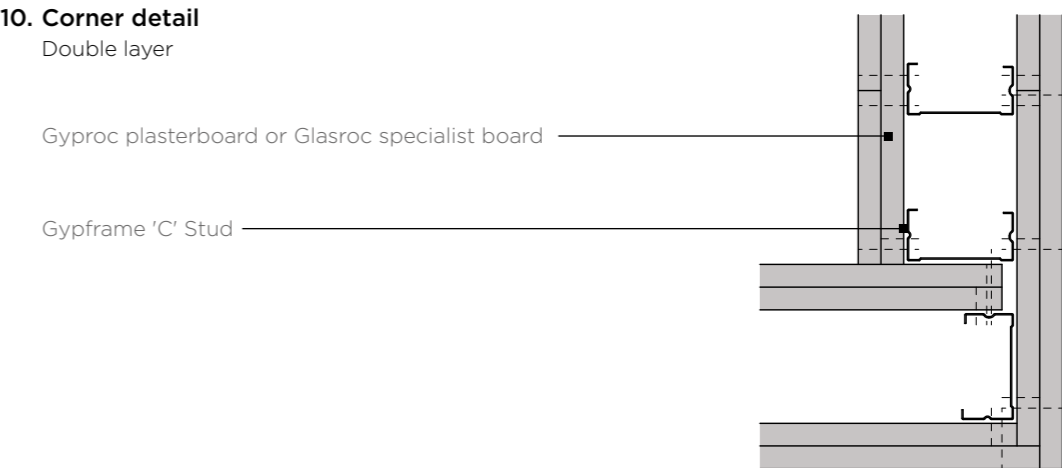
9. Corner detail

Single layer

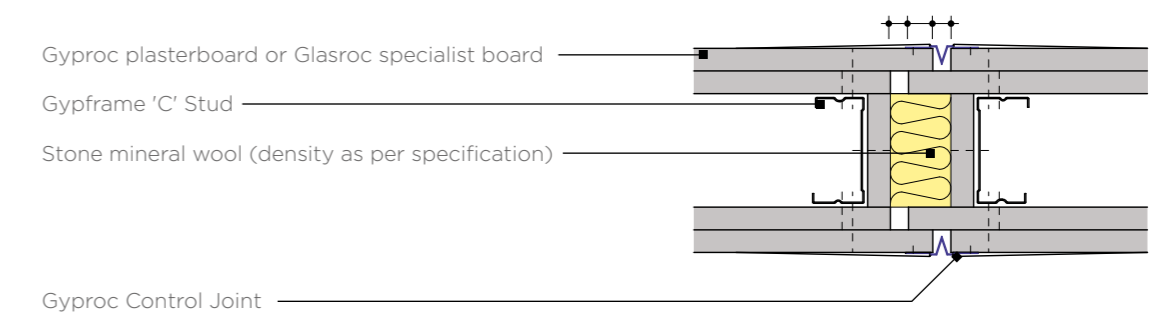


10. Corner detail

Double layer



11. Typical control joint



Guidance must be sought from the relevant approval authority e.g. Building Control to establish if a cavity barrier is required (Approved Document B)

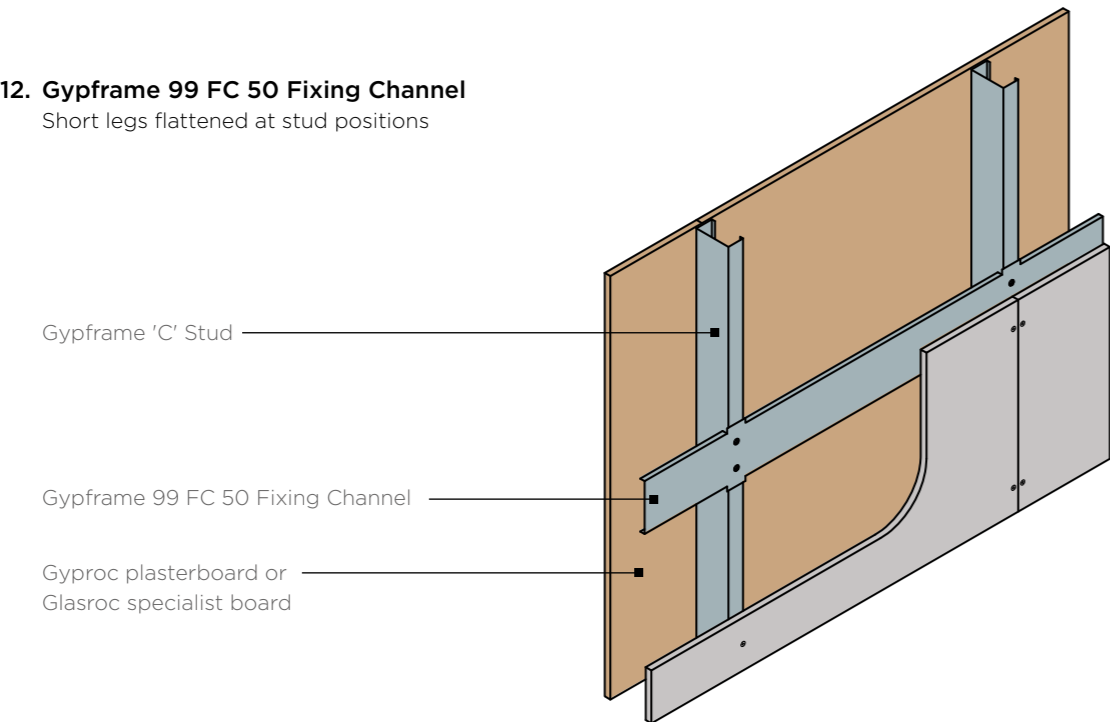
GypWall partitions

Construction details

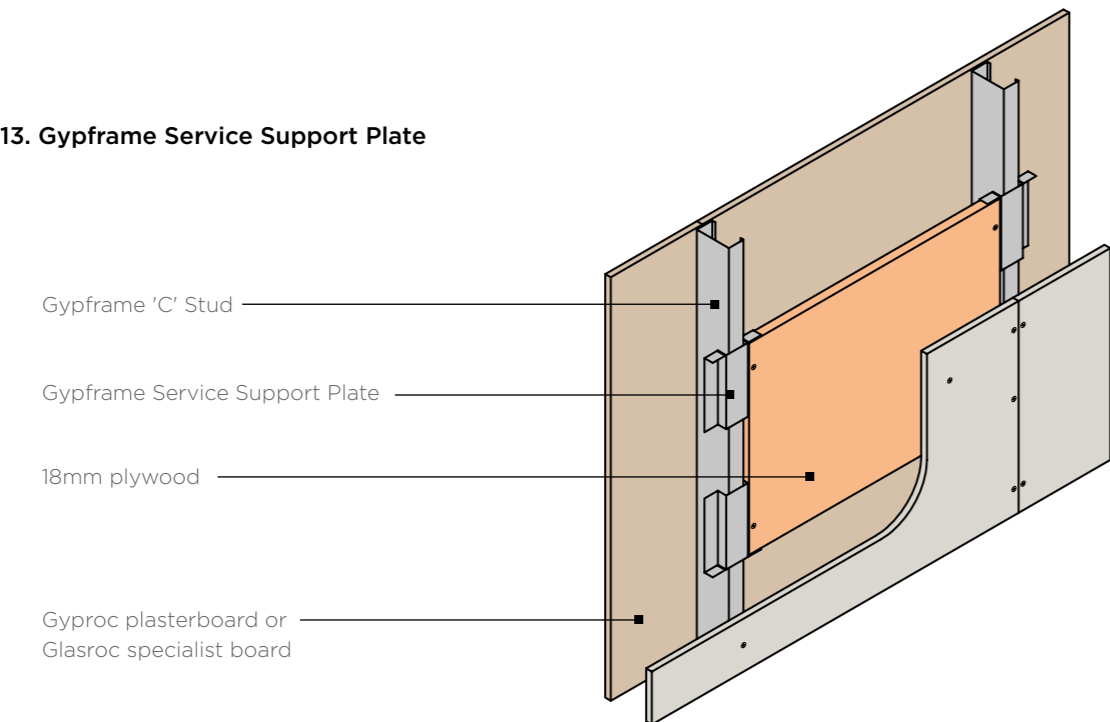
To be read in conjunction with system specific details. Refer to relevant system sections.

12. Gypframe 99 FC 50 Fixing Channel

Short legs flattened at stud positions



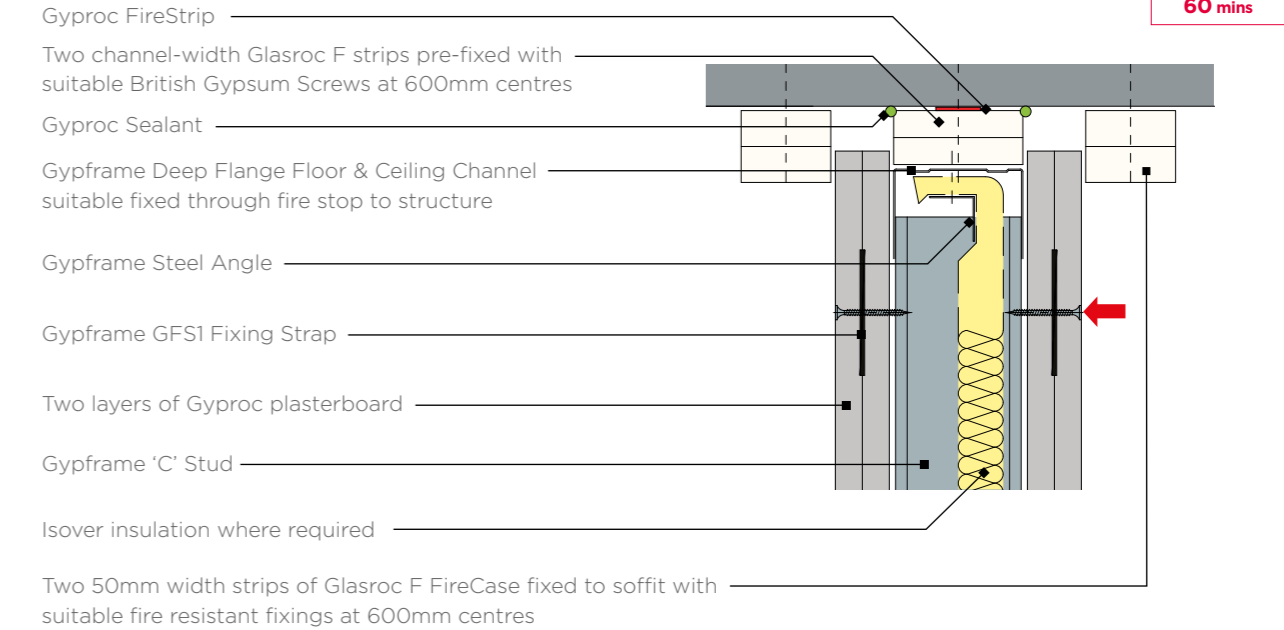
13. Gypframe Service Support Plate



Installing the screw into the side of the Gypframe Service Support Plate and the web of the Gypframe 'C' Stud will avoid creating excessive distortion to the lining board.

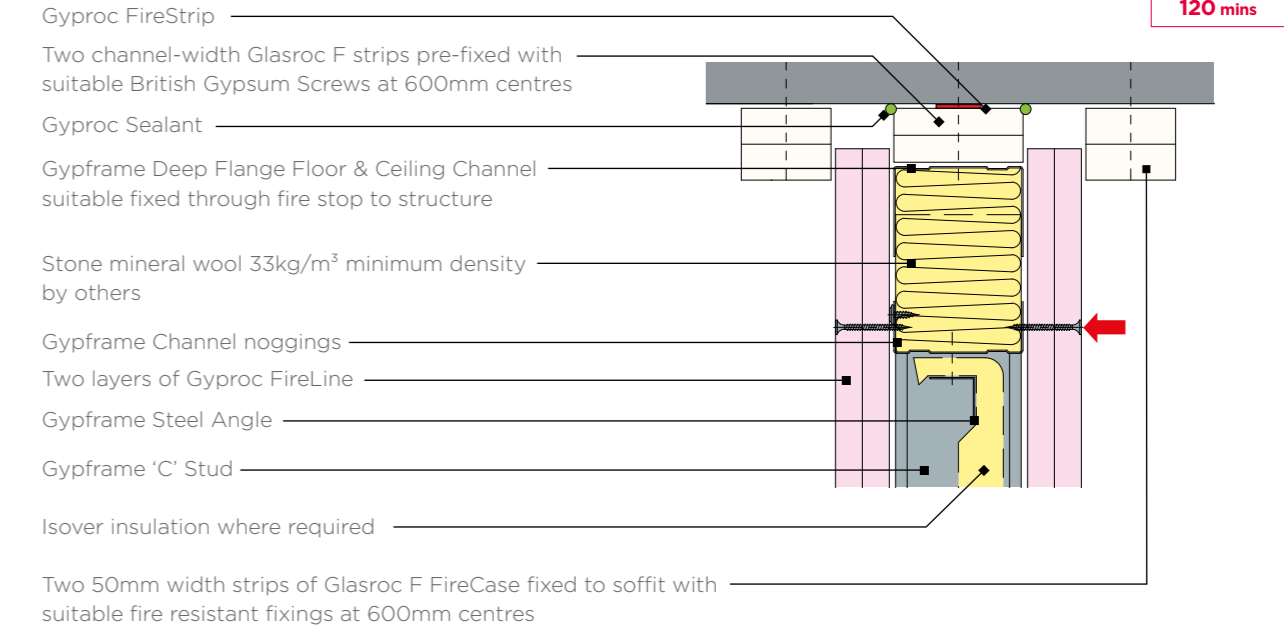
14. Deflection head

25mm downward movement and 60 minutes fire resistance to BS EN 1364-1



15. Deflection head

25mm downward movement and 120mins fire resistance to BS EN 1364-1



N.B. No fixings should be made through the boards into the flanges of the head channel. The arrow (➡) denotes the position of the uppermost board fixing, which should be made into Gypframe GFS1 Fixing Strap. Continuous Gyproc FireStrip must be installed as shown to maintain fire performance.

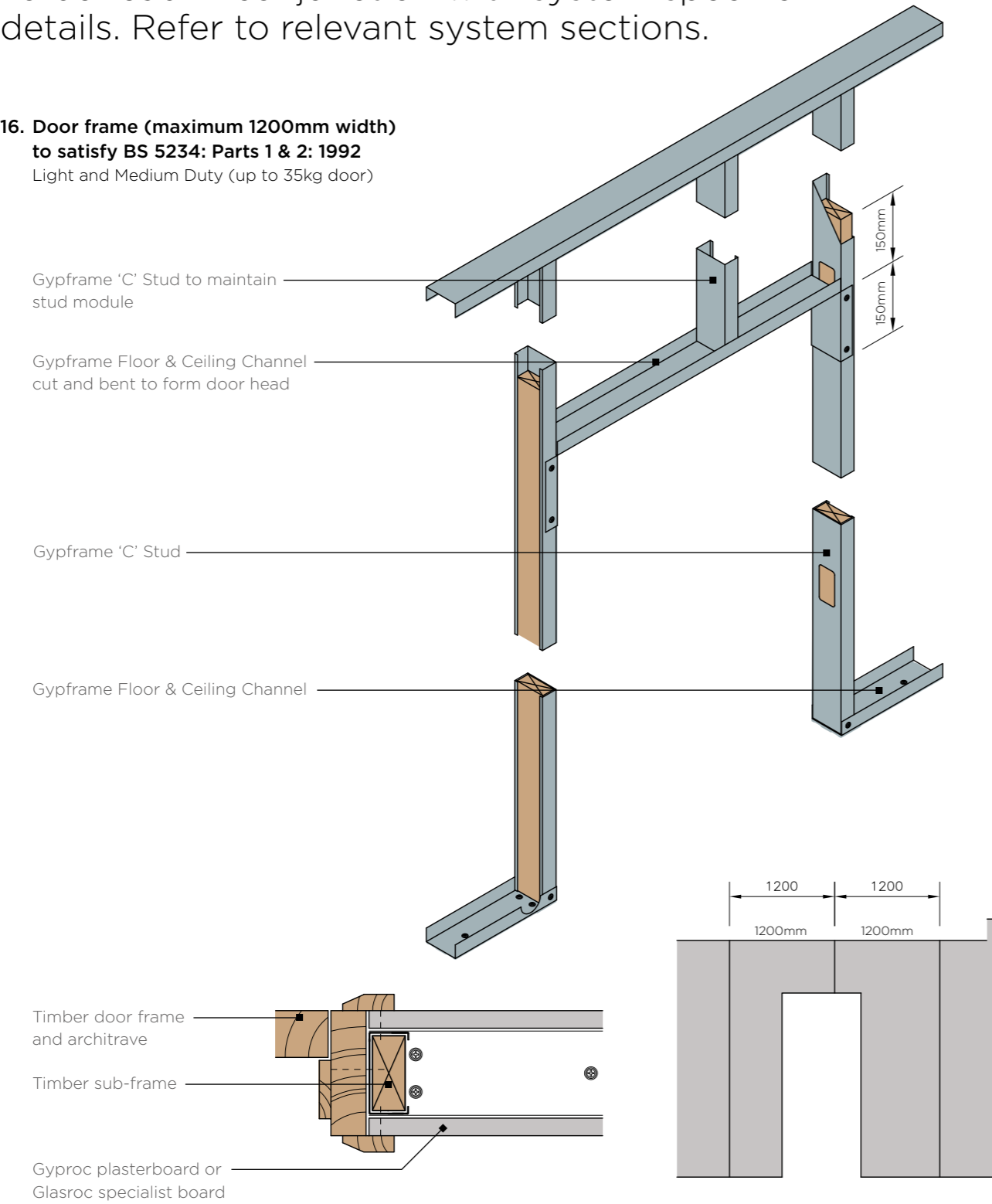
GypWall partitions

Construction details

To be read in conjunction with system specific details. Refer to relevant system sections.

16. Door frame (maximum 1200mm width) to satisfy BS 5234: Parts 1 & 2: 1992

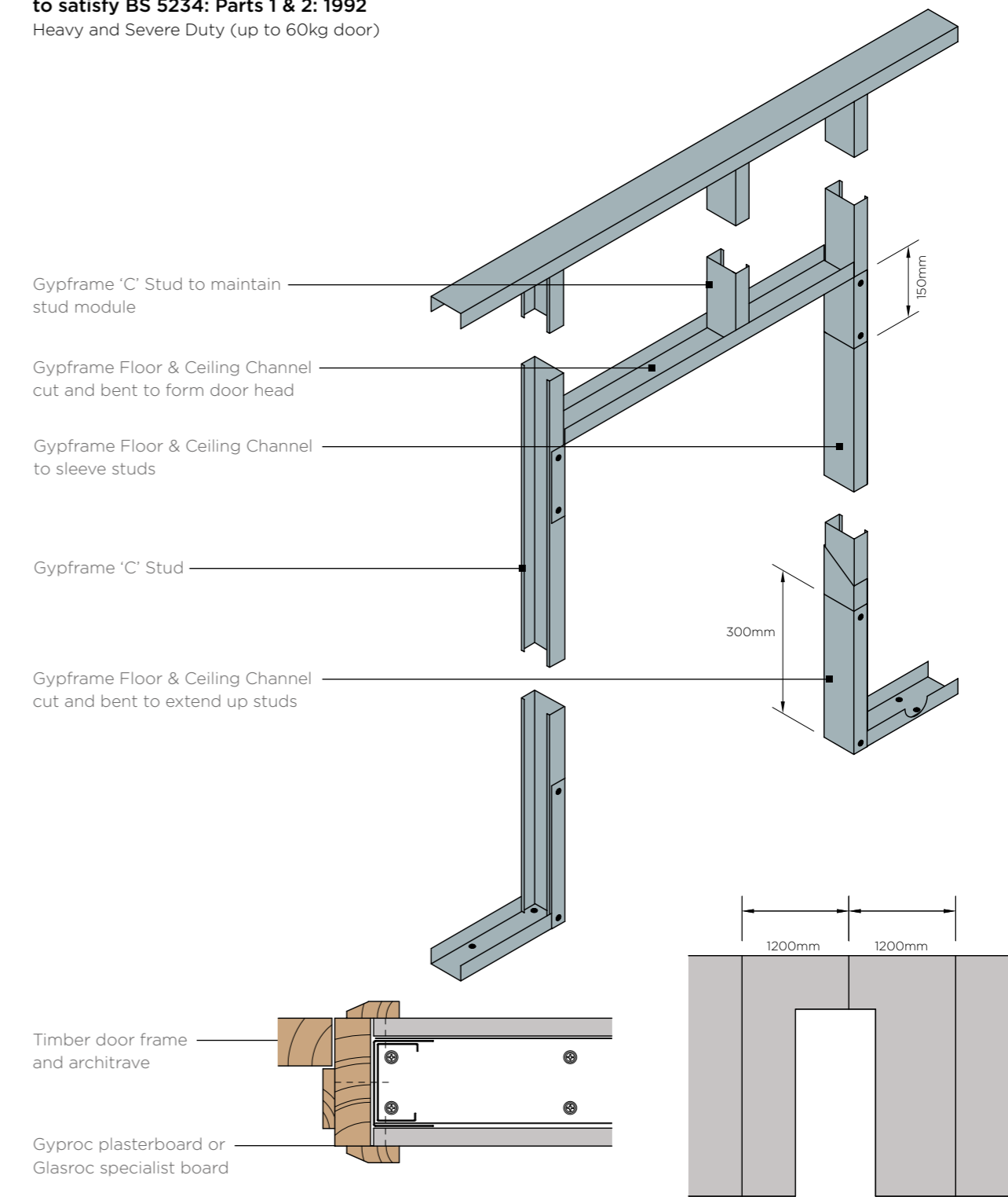
Light and Medium Duty (up to 35kg door)



Advice should be sought from the door manufacturer before the construction of these details.

17. Door frame (maximum 1200mm width) to satisfy BS 5234: Parts 1 & 2: 1992

Heavy and Severe Duty (up to 60kg door)



Advice should be sought from the door manufacturer before the construction of these details. At the base, the channel is cut and bent to extend 300mm up the studs and fixed each side with two British Gypsum Wafer Head Drywall Screws. The studs each side of the opening are sleeved full height of opening with Gypframe Floor & Ceiling Channel.

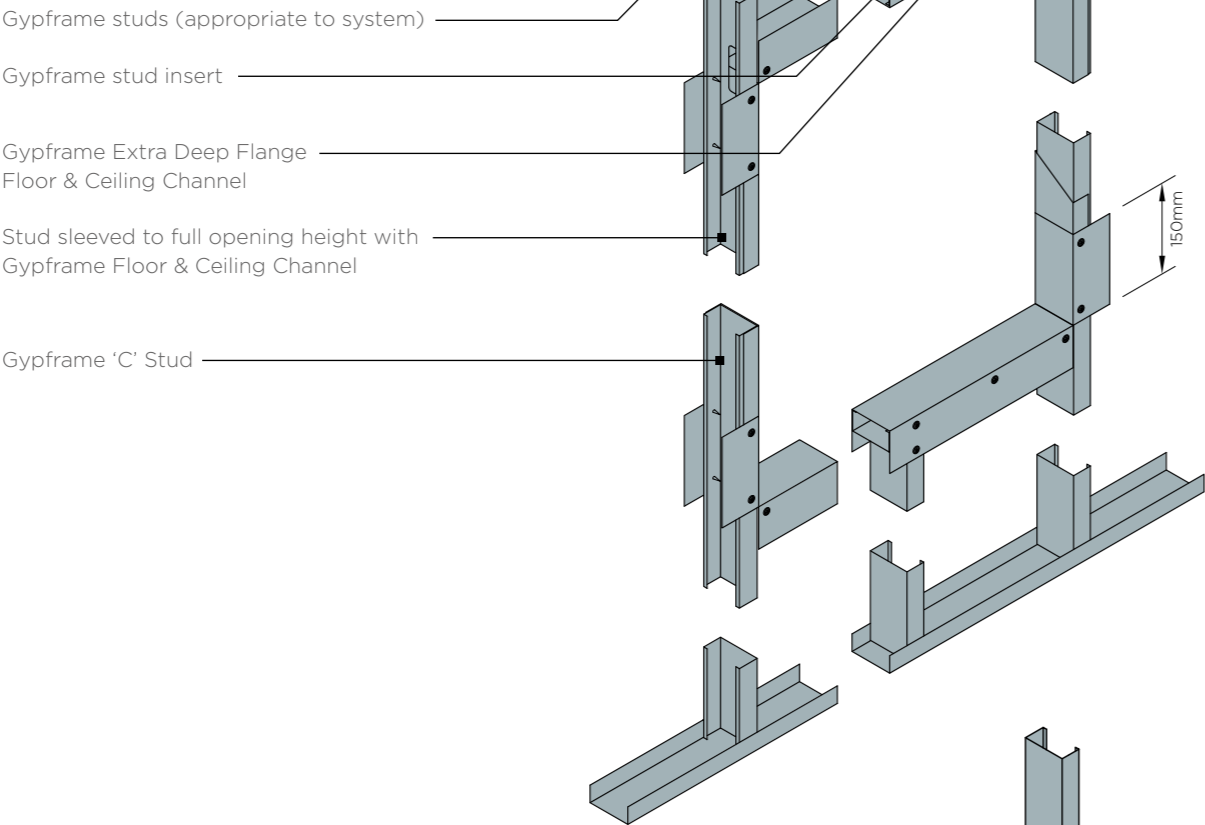
GypWall partitions

Construction details

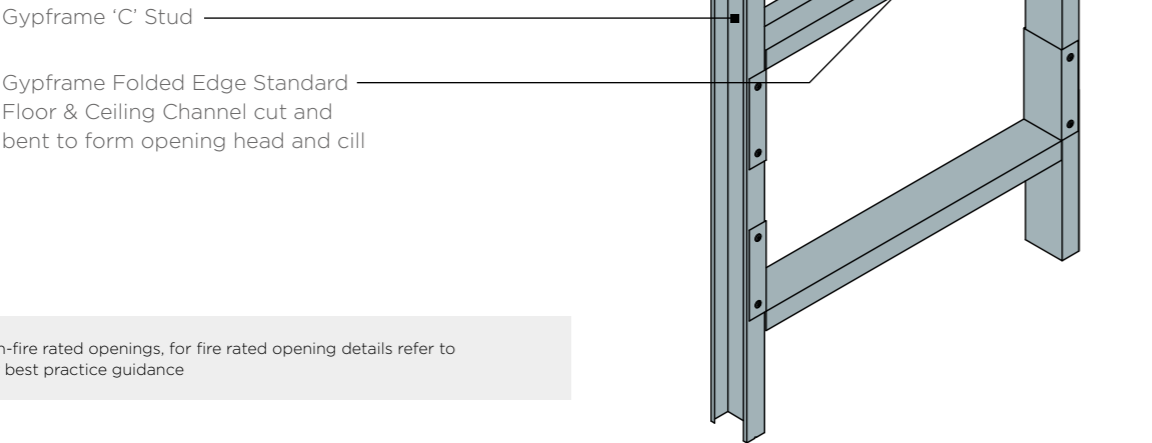
To be read in conjunction with system specific details. Refer to relevant system sections.

18a. Openings

1201-3300mm wide, for example double doors or large windows

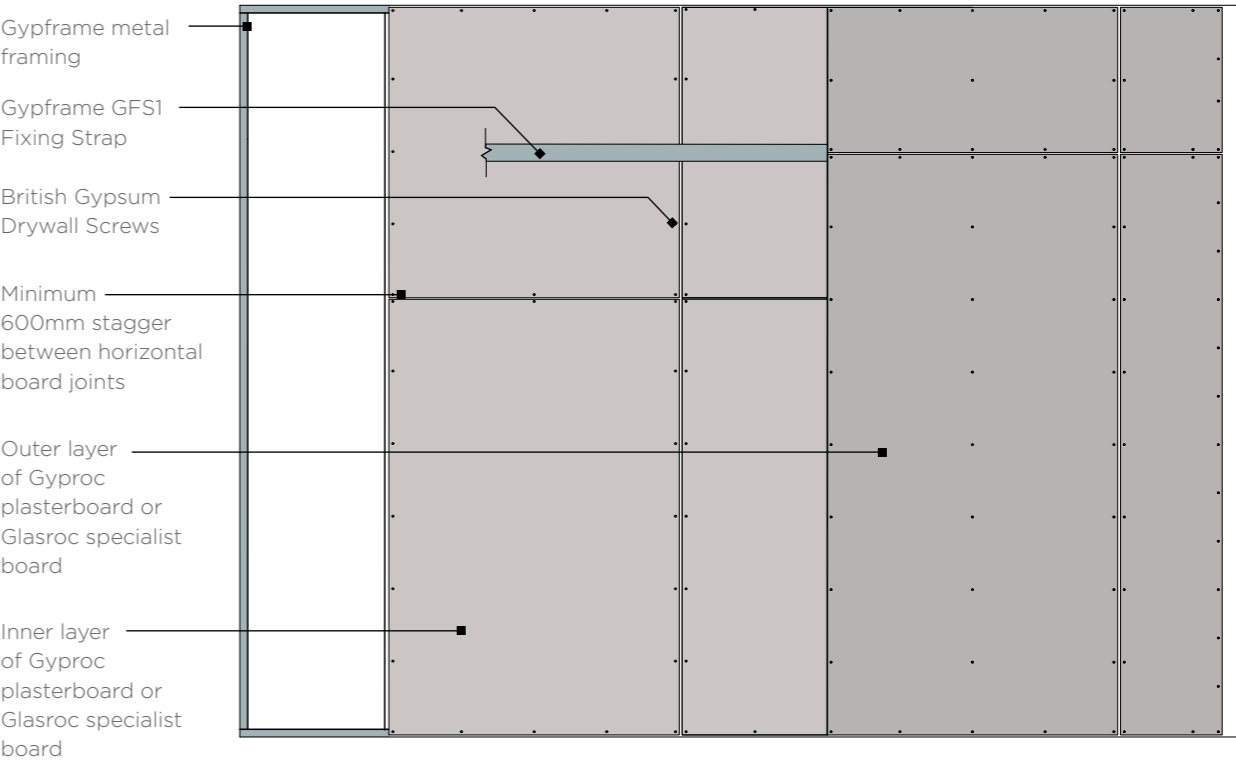


18b. Opening up to 600mm wide for services

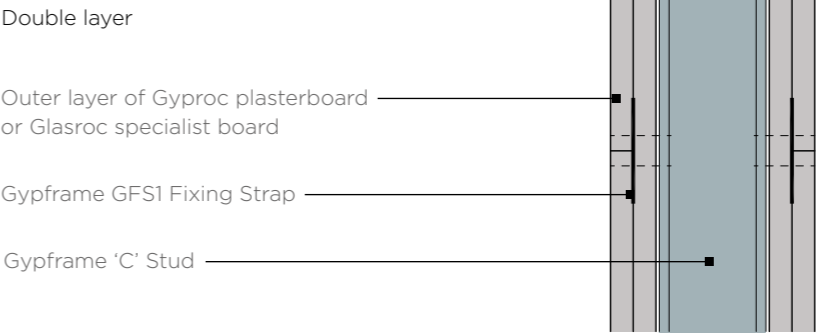


Non-fire rated openings, for fire rated opening details refer to our best practice guidance

19. Board layout - typical configuration



20. Horizontal board joint



23. Horizontal board joint



GypWall Single Frame

Identification

Create all the rooms you need with the industry's original lightweight non-loadbearing drywall partition system.

Providing cost-effective, multi-purpose solutions for all types of building. GypWall Single Frame is our most versatile, lightweight non-loadbearing metal stud and drywall partition system.

Optimised to cover all applications, from simple space division, through to high performance walls our GypWall Single Frame systems can be tailored to meet the technical performance requirements of both new and existing buildings. Quick to install when compared to masonry or timber frame alternatives, our systems allow building layouts to be transformed with minimal disruption.

This system can be skim finished with ThistlePro® PureFinish which contains ACTIVair®. ACTIVair makes indoor air healthier by eliminating up to 70% of formaldehyde present in indoor air.



Fire resistance
30-240 mins

Sound rating
34-63 R_wdB

Duty rating
medium to severe



Why specify GypWall Single Frame?

A versatile system that offers key building performances to be achieved through the selection of the correct Gyproc plasterboard, Gypframe metal, Isover insulation and Gyproc jointing materials or Thistle finish plasters

GypWall Single Frame systems give your building the protection of our **SpecSure®** lifetime warranty

Up to 240 minutes fire resistance

Easy accommodation of services within the cavity through pre-cut service holes within the Gypframe metal studs

Medium, heavy and severe duty rating options

Quick to install compared to masonry constructions, allowing transformation of building layouts in minimal project time

Acoustic performance from 34 - 63dB



You may also be interested in...

SpecSure®
BRITISH GYPSUM
SYSTEMS WARRANTY

There are specifications within this system that qualify for our **SpecSure®** warranty. For more information, contact us through british-gypsum.com



GypWall Single Frame Enhanced
Keep busy areas in great condition with robust partitions.
See page 4.27.



GypWall Single Frame curved
Use curves to create spaces with great aesthetic impact. Please refer to Technical Support on british-gypsum.com

GypWall Single Frame

Design considerations

Building design – GypWall partition systems are non-loadbearing. However, they are capable of resisting horizontal uniformly distributed loads in accordance with BS EN 1991. Refer to Robustness in system design principles on **british-gypsum.com**

Planning – key factors

GypWall Single Frame comprises Gypframe 'C' Studs installed at 600mm centres, within Gypframe Floor & Ceiling Channels. Predetermine the positioning and installation of service penetrations and heavy fixtures before the frame erection stage. For curved partitions, avoid vertical board joints on exposed board layers at the apex.

Fixing floor and ceiling channels

Fix Gypframe Floor & Ceiling Channels securely at 600mm maximum centres. Channels of 94mm and above need two rows of staggered fixings: each row at 600mm centres and each fixing 25mm in from the flange. If the floor is uneven, use a 38mm thick timber sole plate equal to the channel width. Consider installing a damp-proof membrane for new concrete or screeded floors between the floor surface and the channel.

Splicing

To extend the 'C' studs, overlap by a minimum of 600mm, use two British Gypsum Wafer Head Drywall Screws through each flange to fix the studs together.

To extend the 'I' studs, cloak the junction between studs with minimum 600mm long section of Gypframe Floor & Ceiling Channels ensuring a minimum overlap of 300mm and fix the channel to the stud with four British Gypsum Wafer Head Drywall/Jack-Point Screws through each side.

Partition to structural steelwork junctions

When designing room layouts, separated by sound insulating walls abutting structural steelwork, consider fire protection requirements and the potential loss of acoustic performance through the steelwork. Refer to Building acoustics in system design principles on **british-gypsum.com**

Door openings

Consider thickness tolerances of the partition types in relation to the proposed door frame detail. Standard door

frame detailing to suit BS 5234-2 Light and Medium Duty applications is shown in construction details in internal partitions and walls introduction. Detailing to satisfy BS 5234-2 requirements for Heavy and Severe Duty Rating is shown in construction details in internal partitions and walls introduction. Consult the door manufacturer about door details. Specialist advice should be sought from door manufacturers and Acoustic Consultants to ensure the required acoustic performance is achieved. This becomes more important as acoustic requirements increase.

Framing surround for openings

Predetermine the positioning of services to provide a framed opening when required to penetrate the wall e.g. horizontal ducts, fire dampers or access panels. Construct openings using established metal stud procedures. Refer to our best practice guide on service openings: **british-gypsum.com**

Cavity barriers

Minimum 12.5mm Gyproc plasterboard, screw-fixed into the perimeter channels or vertical studs, will provide a satisfactory closure to flame or smoke. 15mm Gyproc FireLine or Glasroc F FireCase can also be used.

Control joints

Control joints may be needed to allow for expansion and contraction of the main structure. Refer to the construction details in this system. They should coincide with movement joints within the main structure.

Deflection heads

Deflection heads may be necessary to accommodate deflections between partitions and the supporting floor. Deflection heads may also be needed to the underside of roof structures, which are subject to positive and negative pressures. Partition design can incorporate deflection heads with only a slight reduction in sound insulation performance. Refer to the construction details in this system. To minimise the loss of acoustic performance, refer to Building acoustics in system design principles on **british-gypsum.com**

Services

Penetrations

Service penetrations through fire resisting or sound insulating constructions need careful consideration to ensure no loss of performance. Consider the services themselves so they do not act as a mechanism for fire spread or sound transmission. Refer to our best practice guide on service openings: **british-gypsum.com**

Handy hint

Where access is limited to one side at the head, e.g. M+E cages already installed in corridors, refer to GypWall Shaft, Section 5.

Electrical

Install electrical services in accordance with BS 7671. Use cut-outs in the studs for routing electrical and other small services. Refer to the construction details in this system. Support switch boxes and socket outlets by fixing Gypframe 99 FC 50 Fixing Channels horizontally between studs. Use high-performance socket boxes, where acoustic performance is important. Where Gypframe AcouStuds are used, services are routed through 50mm x 28mm 'H' shaped push-outs, at the same centres as shown in construction details in internal partitions and walls introduction for conventional cut-outs. Cables should be protected by conduit, or other suitable precautions taken to prevent abrasion when they pass through the metal frame. Service cut-outs should be aligned to allow easy installation of service. If studs need cutting, cut from the same end of each stud to ensure cut-out alignment.

Independent support

Consider the size and weight of services, such as fire dampers and ductwork, that will be installed through the partition. Determine whether they can be supported directly by the partition or require independent support, referencing specific manufacturer information/guidance. Refer to the construction details in this system.

Fixtures

Lightweight fixtures can be installed directly to the partitions. Medium weight fixtures can be made to Gypframe 99 FC 50 Fixing Channel. Heavyweight fixtures to BS 5234, e.g. shelving, TV's and cupboards, can be fixed using plywood secured with Gypframe Service Support Plates. Refer to Service installations in system design principles on **british-gypsum.com**

Board finishing


Refer to **british-gypsum.com** for our full range and guidance on board finishing products.

Looking for performance selection tables?

We're committed to providing technical information that is transparent, clear, accurate, and always up-to-date. So you can rely on it when making decisions at any stage of the design, specification, installation, use, maintenance and disposal process.

All performance data is now available to view and download on our website.

british-gypsum.com/gypwall-single-frame



Tiling

Tiles can be fixed directly to the surface of lightweight partition systems. Refer to **british-gypsum.com** for our full range and guidance on tiling-related products.

Construction details

Refer to construction details in internal partitions and walls introduction.

Handy hint

If horizontal board joints are necessary, stagger between layers by a minimum of 600mm, to avoid downgrading performance. For alternative stud types/sizes, to increase maximum partition height, further options are available. Refer to the White Book Specification Selector on the British Gypsum website.

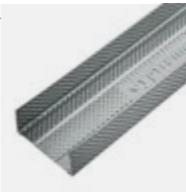
Important

For partition heights over 4200mm, use Gypframe Deep Flange Floor & Ceiling Channels.

GypWall Single Frame

System components

Create all the rooms you need with the industry's original lightweight non-loadbearing drywall partition system.



Folded edge channels
Gypframe Folded Edge Standard Floor & Ceiling Channels are cold-rolled steel with a 'U' shaped profile and a folded edge for improved safety when handling. These channels are fixed to the floor and soffit to retain Gypframe studs in British Gypsum partition and lining systems up to 4200mm high, as defined by the system design.



Gypframe 'C' Studs
Gypframe 'C' studs are cold-rolled steel studs with a 'C' section profile. They include sight lines down the flanges and service cut-outs in the web. These studs provide vertical framing support in British Gypsum partitions and linings, as defined by the system design. They're available in a range of lengths depending on project requirements.



Gyproc WallBoard
Gyproc WallBoard is a basic plasterboard. Use it in a single layer for most wall and ceiling applications where minimal levels of fire, structural and acoustic performance are specified, or in multiple layers for higher performance.

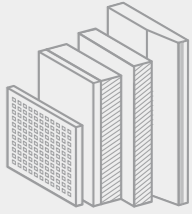


British Gypsum Drywall Screws
Corrosion-resistant self-tapping phosphate coated steel screws with countersunk cross head. Designed for fixing plasterboard to Gypframe 'C' Studs (and associated framing) less than 0.8mm thick, Gypframe 'I' Stud framing less than 0.6mm thick.

Careful product choice is central to maintaining system integrity, performance requirements and eligibility for our **SpecSure®** warranty. **Ensure an optimum standard of build by considering...**

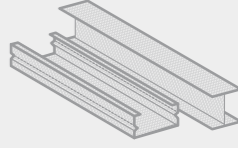
What are you fixing?

Our market leading range of plasterboard linings for walls, ceilings, floors, partitions and encasements for any building type. See **british-gypsum.com** for more details.



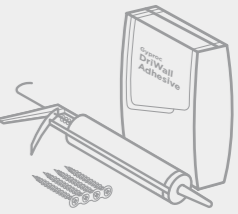
What are you fixing to?

Our Gypframe metal profiles provide a strong and versatile structure for fixing our partition lining, floor and ceiling systems. See **british-gypsum.com** for more details.



What are you fixing with?

Our fixings offer guaranteed compatibility with our systems, and are rigorously tested to meet the highest quality standards. See **british-gypsum.com** for more details.



What are you finishing with?

Plaster
Our wide range of Thistle plasters and Thistle accessories give you everything you need to finish a job to the highest possible standard. See **british-gypsum.com** for more details.



Finishing products
Our Gyproc jointing range gives you everything you need to complete a wall lining, partition or ceiling system, whatever the size and complexity of the project. See **british-gypsum.com** for more details.

Where defined performance requirements are required see our White Book Specification Selector on british-gypsum.com



There are specifications within this system that qualify for our **SpecSure®** warranty. For more information, contact us through **british-gypsum.com**

GypWall Single Frame Installation

The information below is intended to be a basic description of how the system is built.



1 If a deflection head is required start by creating the dropped soffit, cut the appropriate depth and width of Gyproc plasterboard or Glasroc specialist board and attach to your head channel. Locate intumescent Gyproc FireStrip as per the detail.



2 Suitably fix the appropriate Gypframe Floor & Ceiling Channels at the required centres to the floor and soffit.
Important note - for channels 72mm and below a single row of fixings are used. For anything above 72mm two rows of 600mm fixings staggered by 300mm are used.



3 Fix Gypframe 'C' Studs to abutments and openings using suitable fixings.



4 Friction fit Gypframe 'C' or 'I' studs into the Gypframe Floor & Ceiling Channels at required centres.



5 Construct door openings to meet the partitions' duty rating.



6 Add appropriate Isover insulation (Acoustic Partition Roll (1200) as shown) within the partition cavity to contribute to acoustic and thermal performance where required.



7 Stone mineral wool (by others) may be required as part of the partition installation, particularly for situations requiring enhanced fire resistance.



8 Use Gyproc Sealant to seal the perimeter of the partition.



9 Use British Gypsum Drywall Screws to fix Gyproc plasterboards or Glasroc specialist boards to Gypframe framework.



10 **Important note:** For single and double outer layer horizontal board joints use a Gypframe GFS1 Fixing Strap to maintain fixing centres