

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

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For illustration purposes only

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

For illustrative purposes only.

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

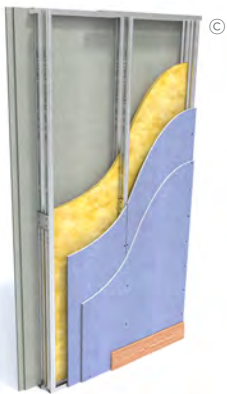


Duty rating
severe

For illustrative purposes only.

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

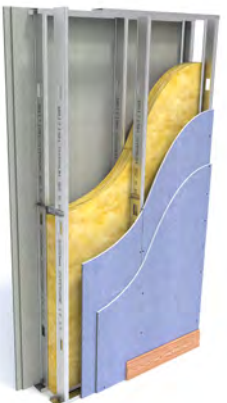


Duty rating
severe

For illustrative purposes only.

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

For illustrative purposes only.

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

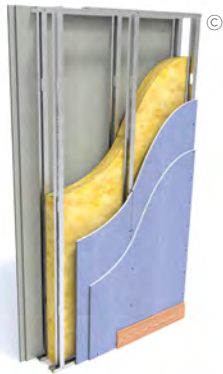


Duty rating
severe

For illustrative purposes only.

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

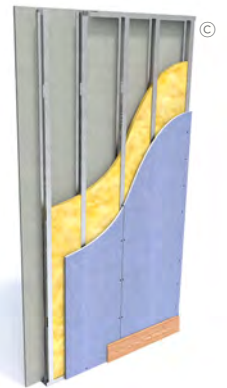


Duty rating
severe

For illustrative purposes only.

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

For illustrative purposes only.

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.

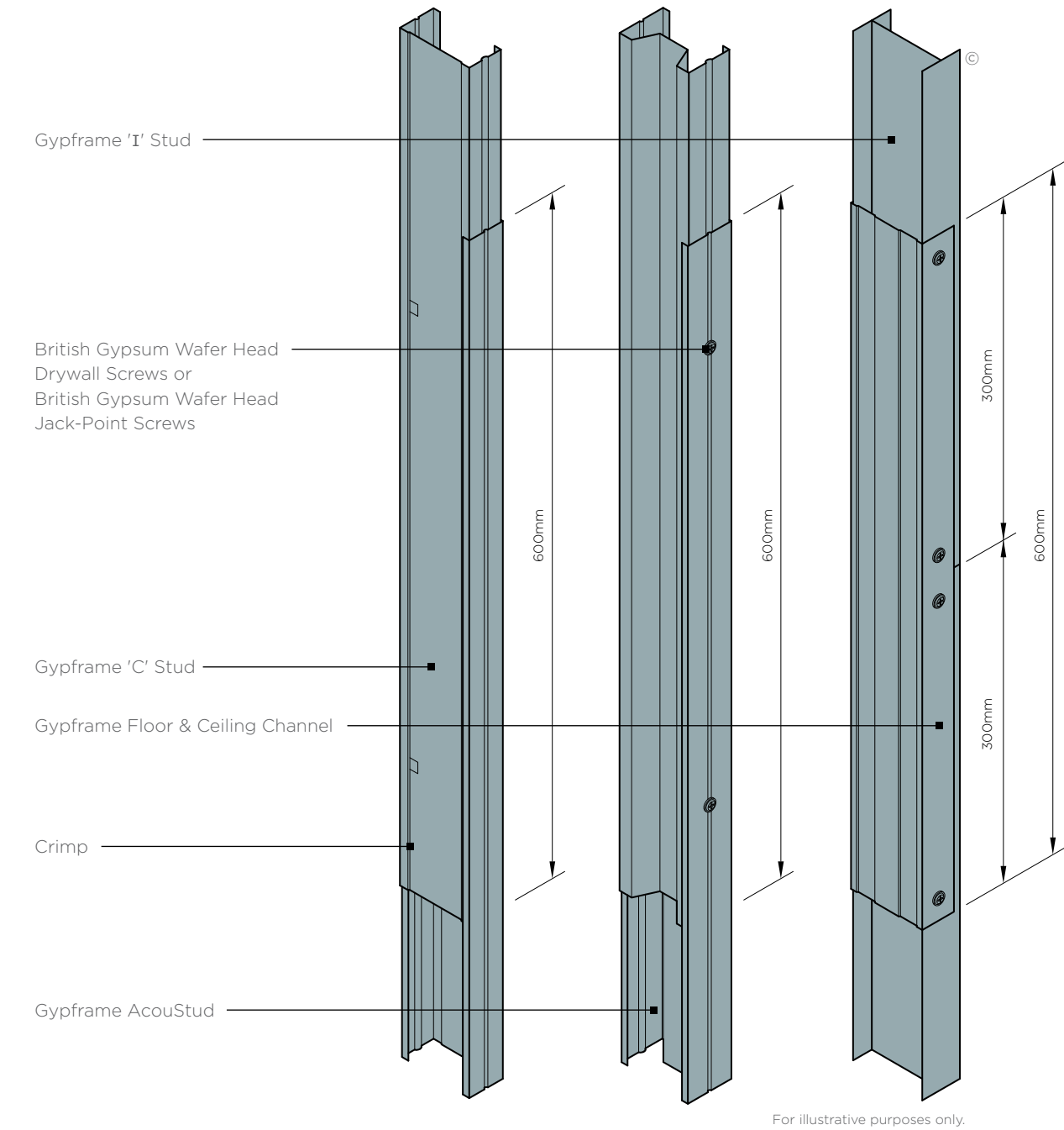
** Minimum solutions provide little or no margin of safety to allow for reduction in performance due to flanking transmission. Recommended solutions have greater potential to satisfy the requirements of Building regulations.

GypWall partitions

Construction details

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

1. Stud splicing detail



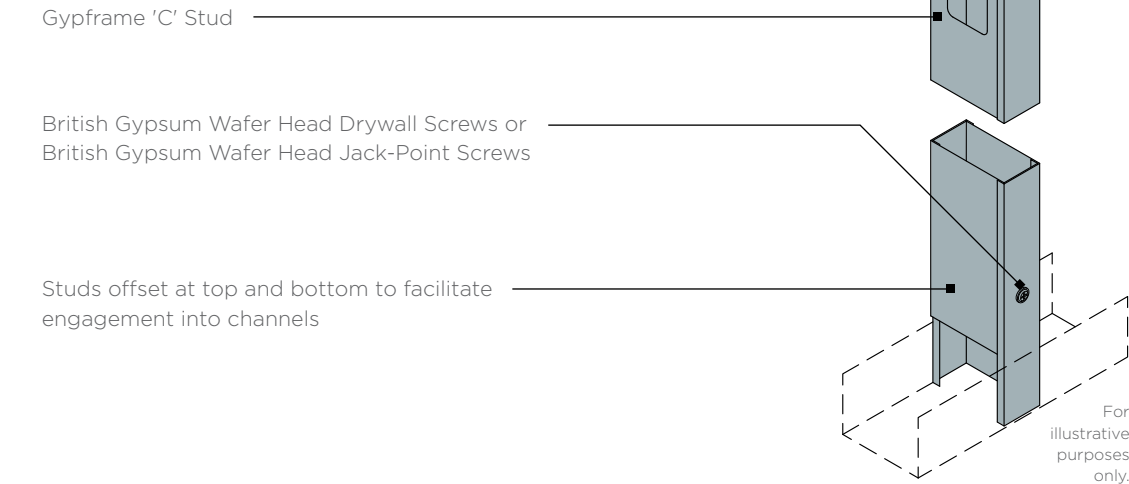
For illustrative purposes only.

GypWall partitions

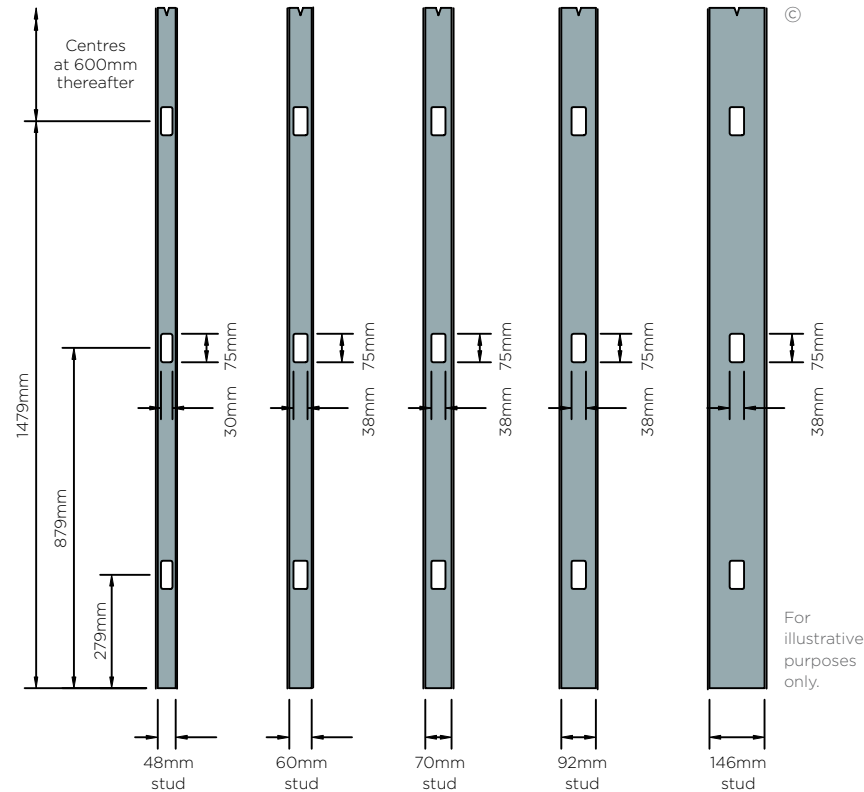
Construction details

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

2. Fully boxed Gypframe 'C' Stud

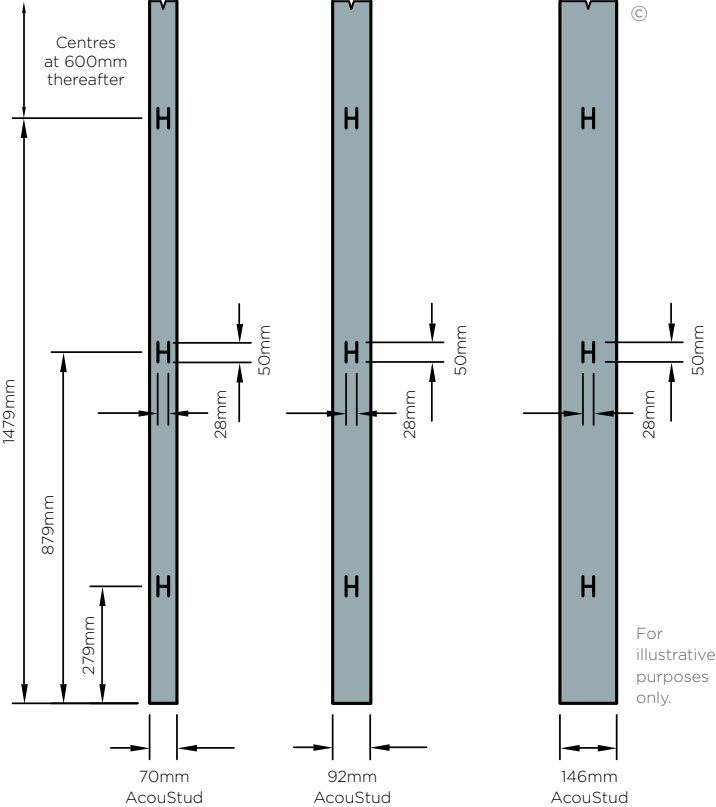


3a. Service cut-outs Gypframe 'C' and Gypframe 'I' Studs

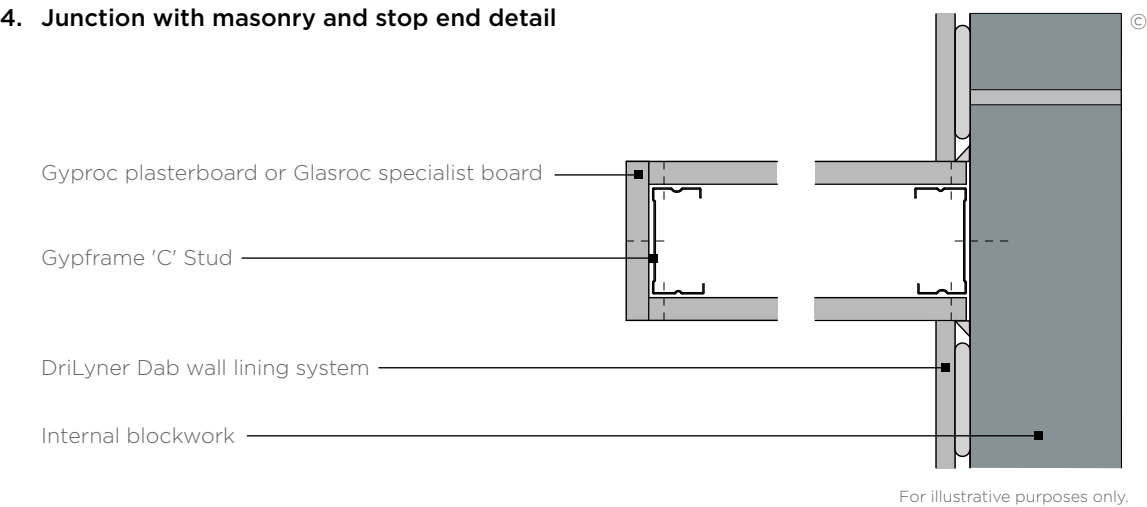


© British Gypsum, 2024.

3b. Service cut-outs Gypframe AcouStuds



4. Junction with masonry and stop end detail



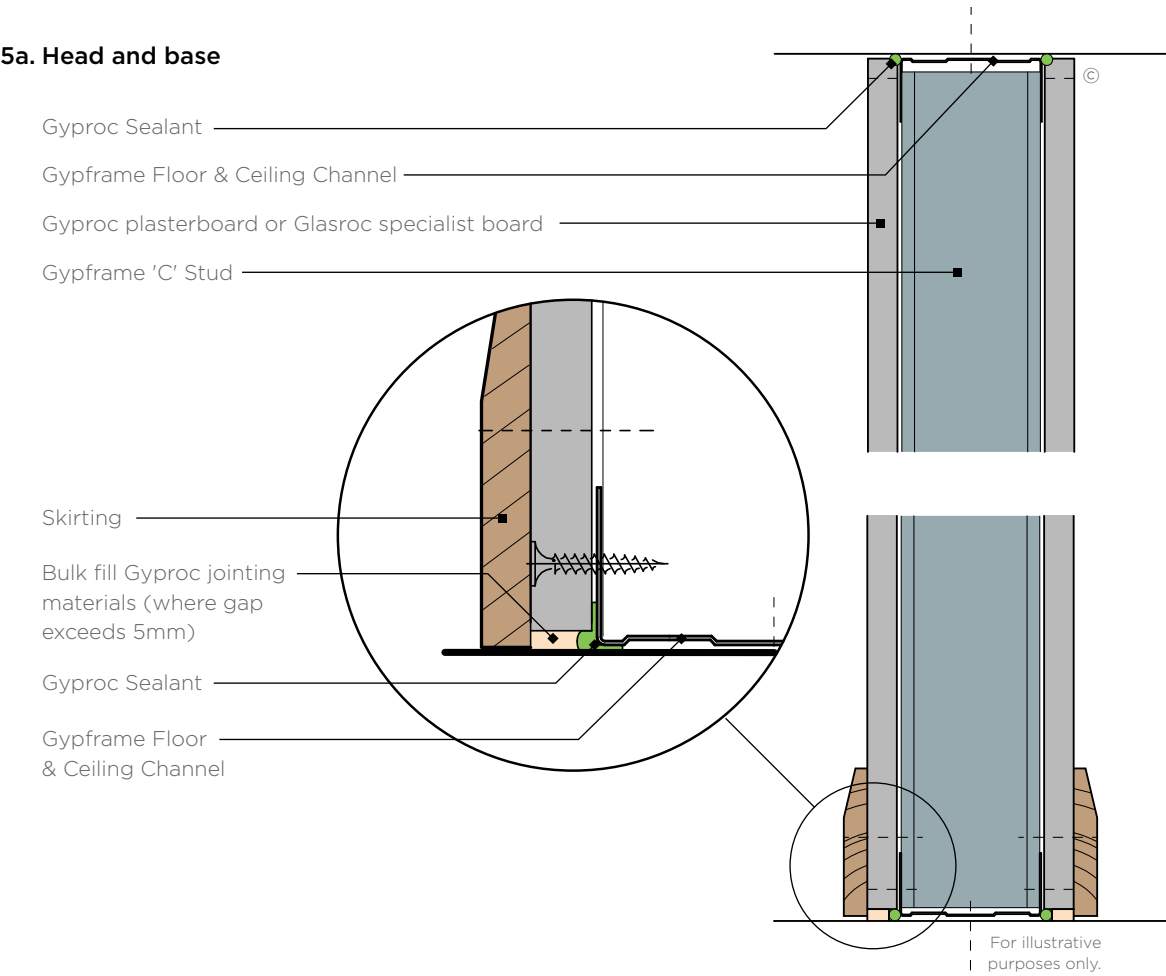
© British Gypsum, 2024.

GypWall partitions

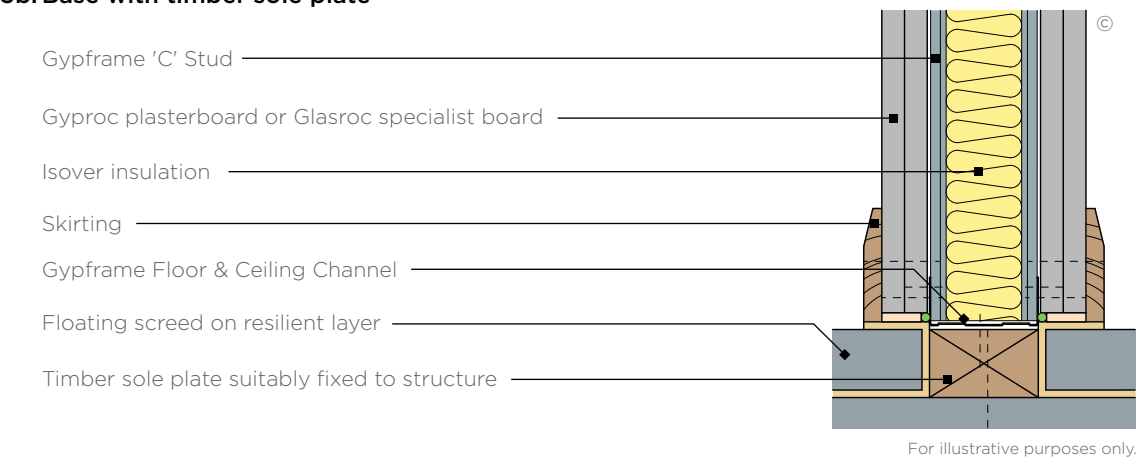
Construction details

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

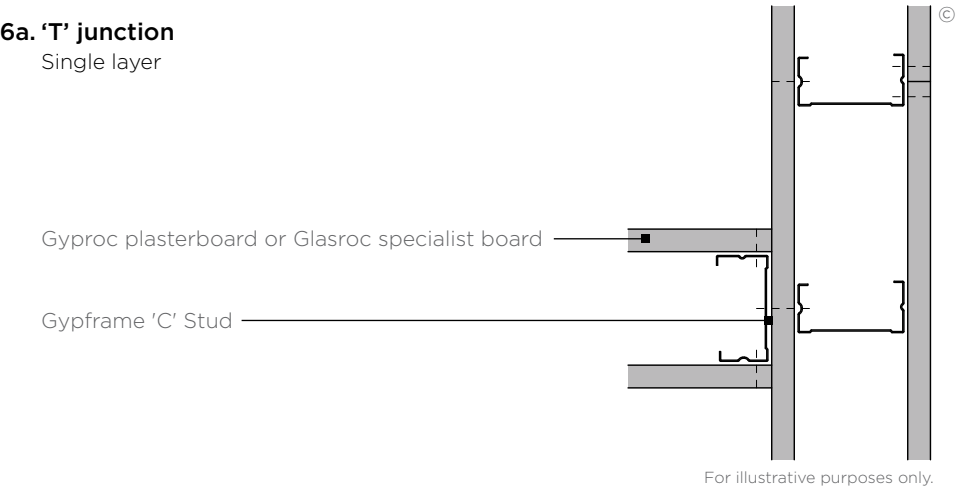
5a. Head and base



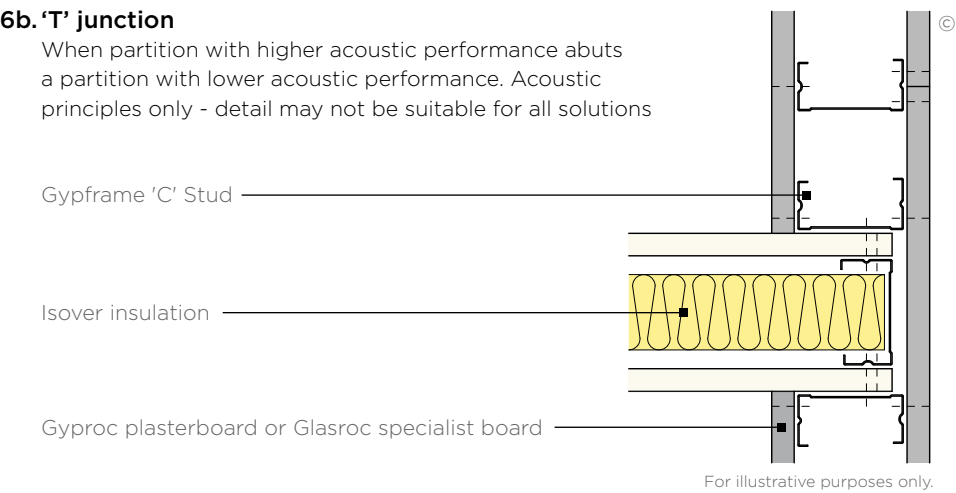
5b. Base with timber sole plate



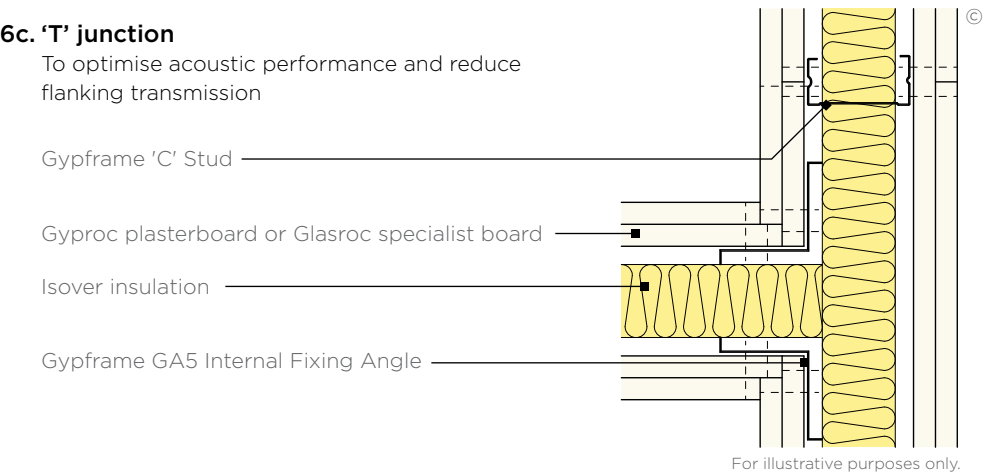
6a. 'T' junction
Single layer



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)

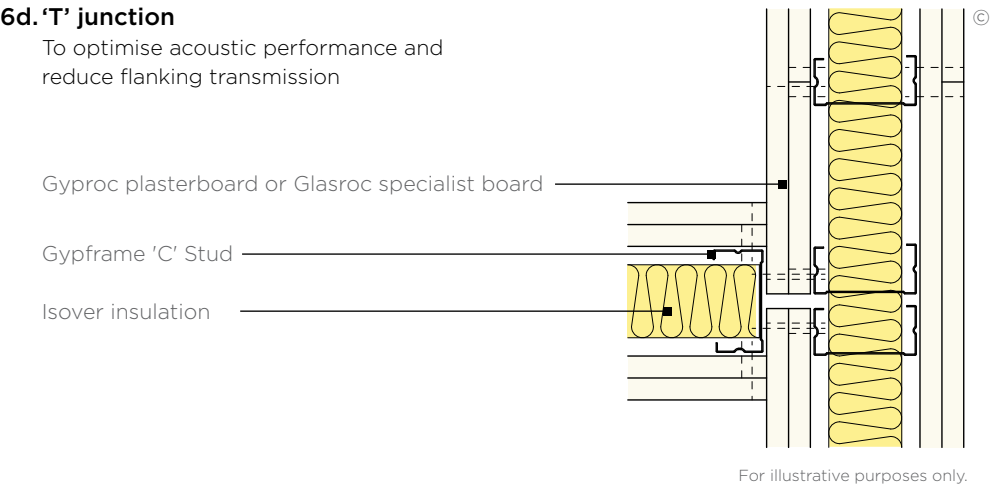
GypWall partitions

Construction details

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

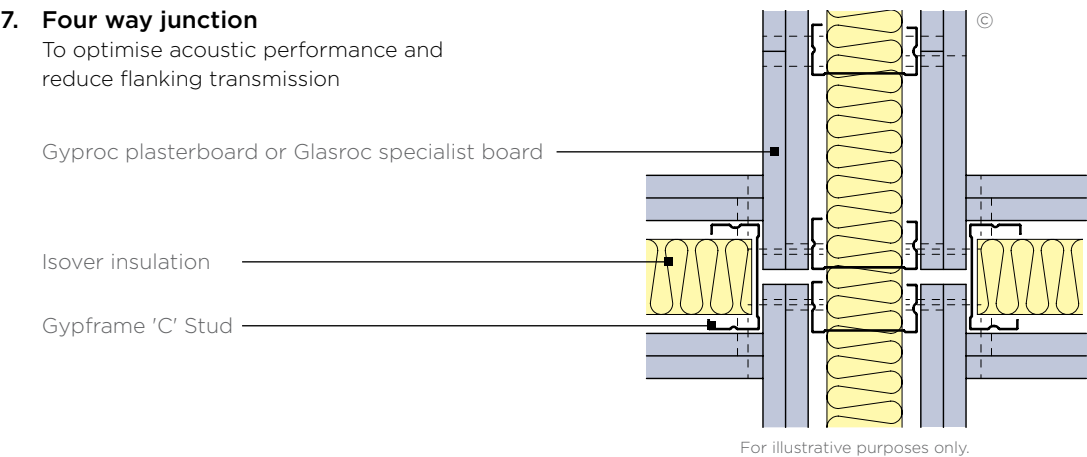
6d. 'T' junction

To optimise acoustic performance and reduce flanking transmission

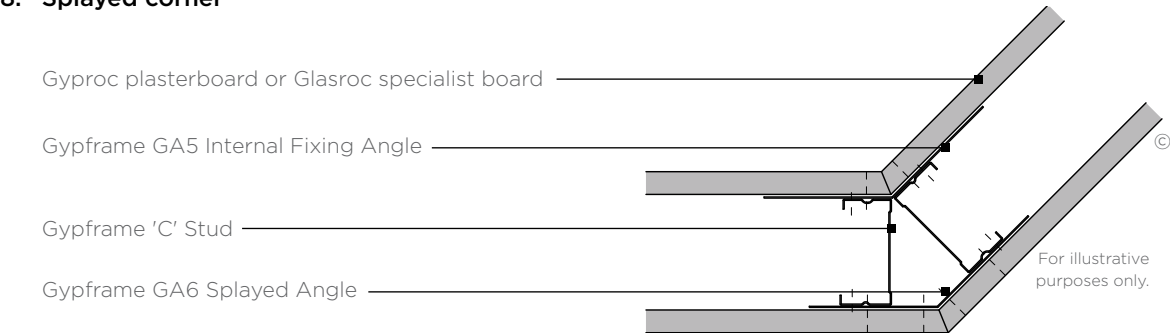


7. Four way junction

To optimise acoustic performance and reduce flanking transmission

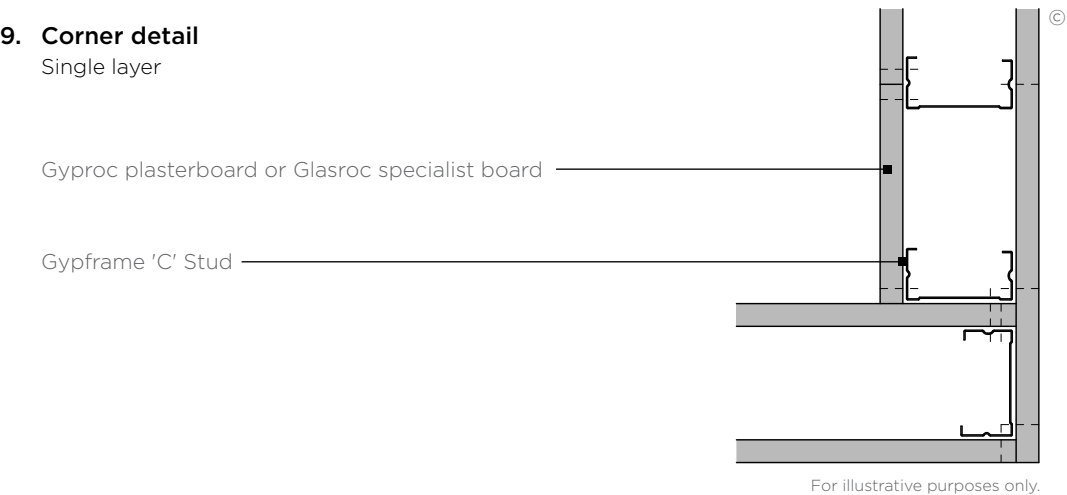


8. Splayed corner



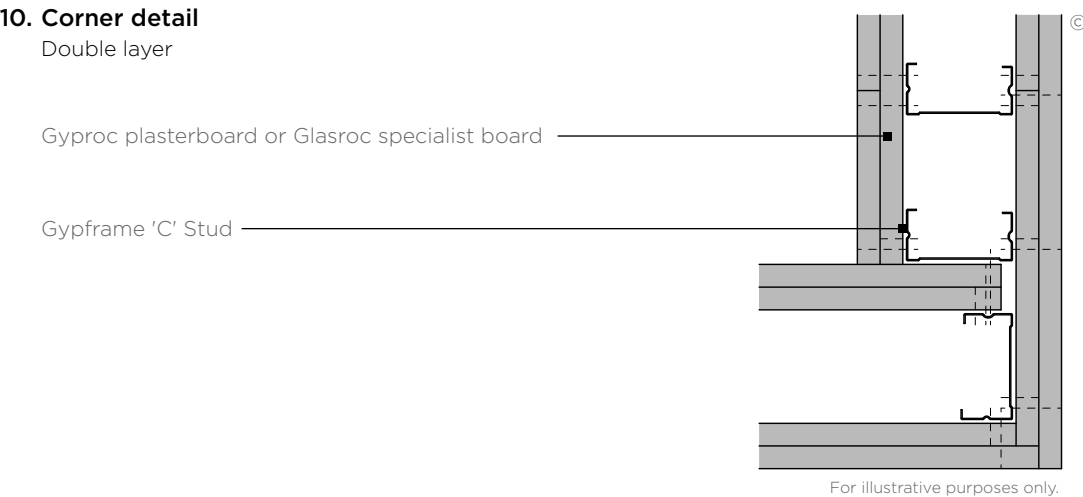
9. Corner detail

Single layer

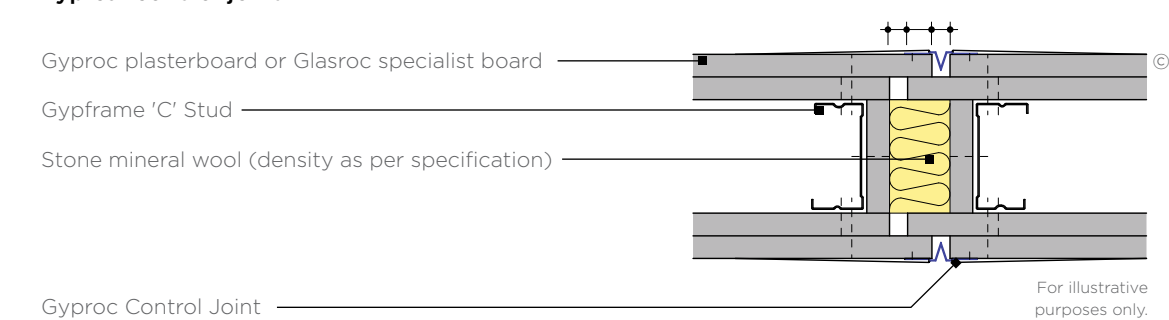


10. Corner detail

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)

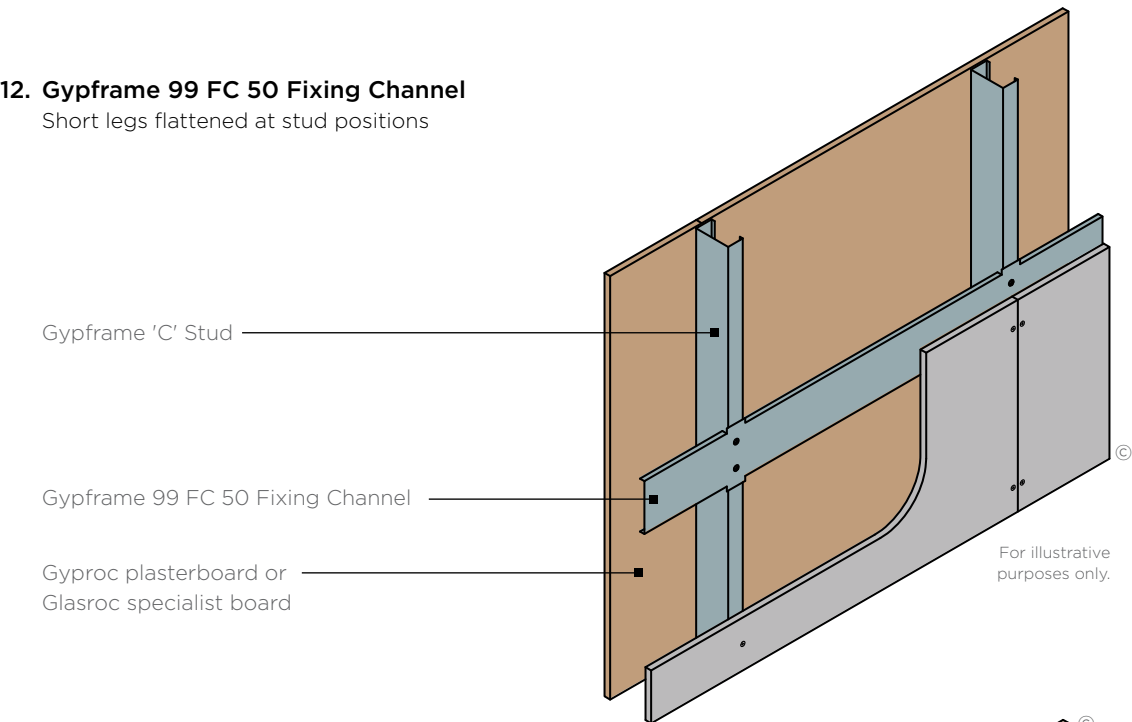
GypWall partitions

Construction details

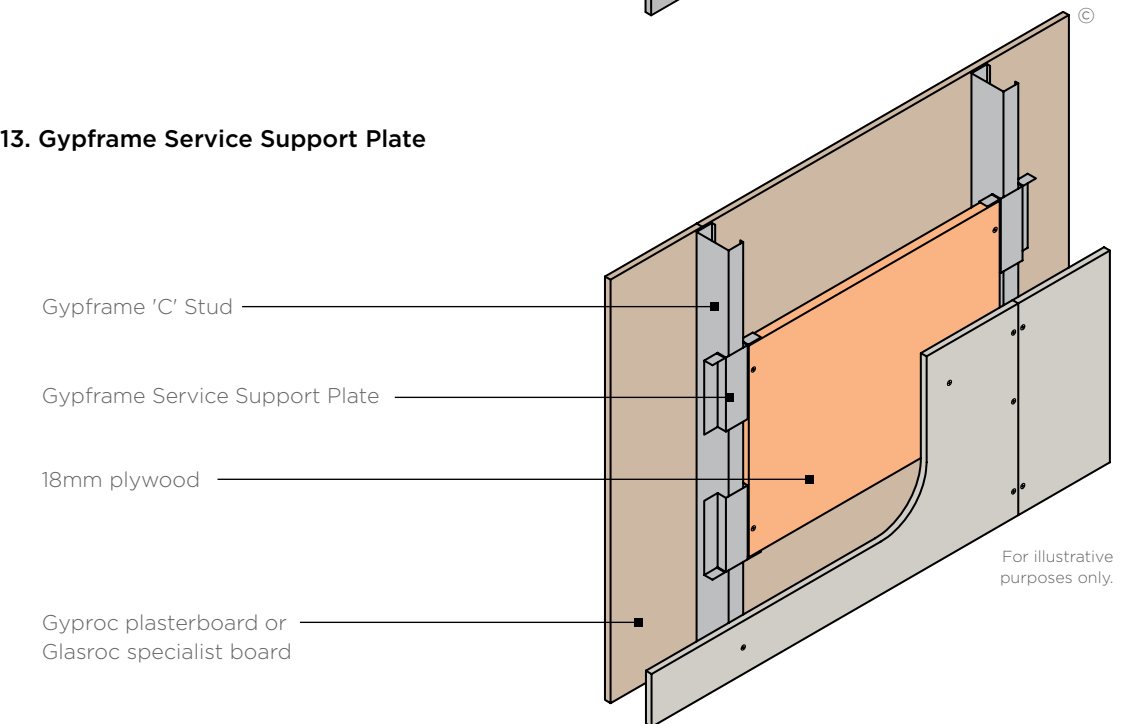
To be read in conjunction with system specific details. Refer to relevant system sections.

12. Gypframe 99 FC 50 Fixing Channel

Short legs flattened at stud positions



13. Gypframe Service Support Plate

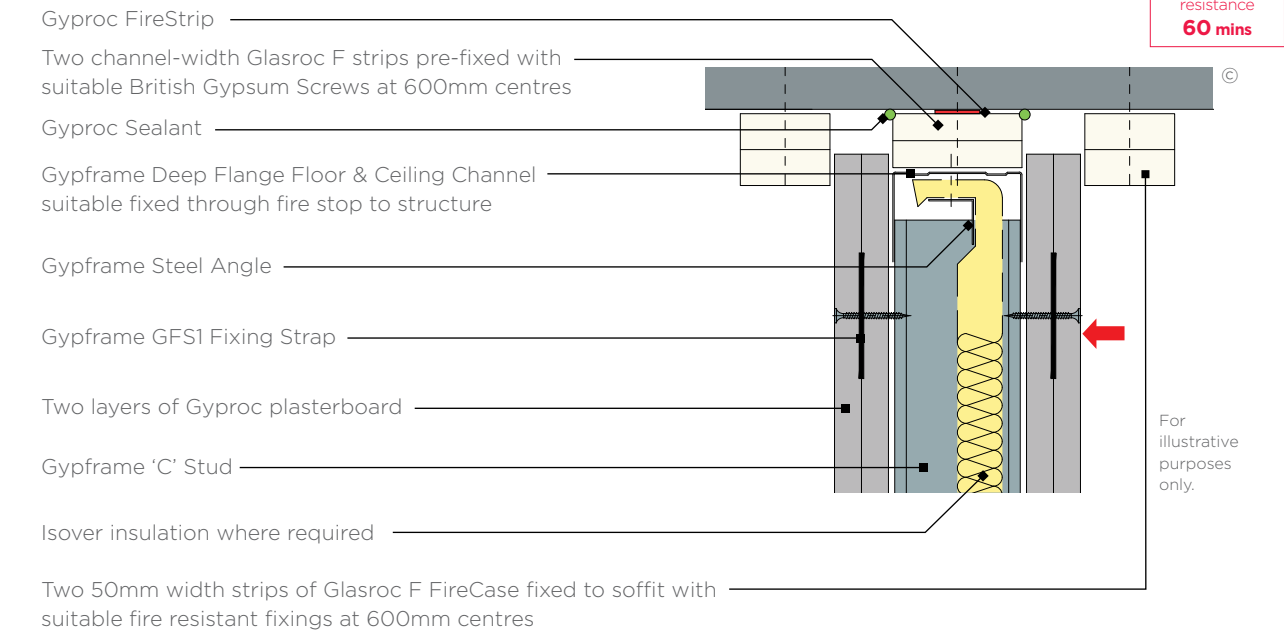


Installing the screw into the side of the Gypframe Service Support Plate and the web of the Gypframe 'C' Stud will avoid creating excessive distortion to the lining board.

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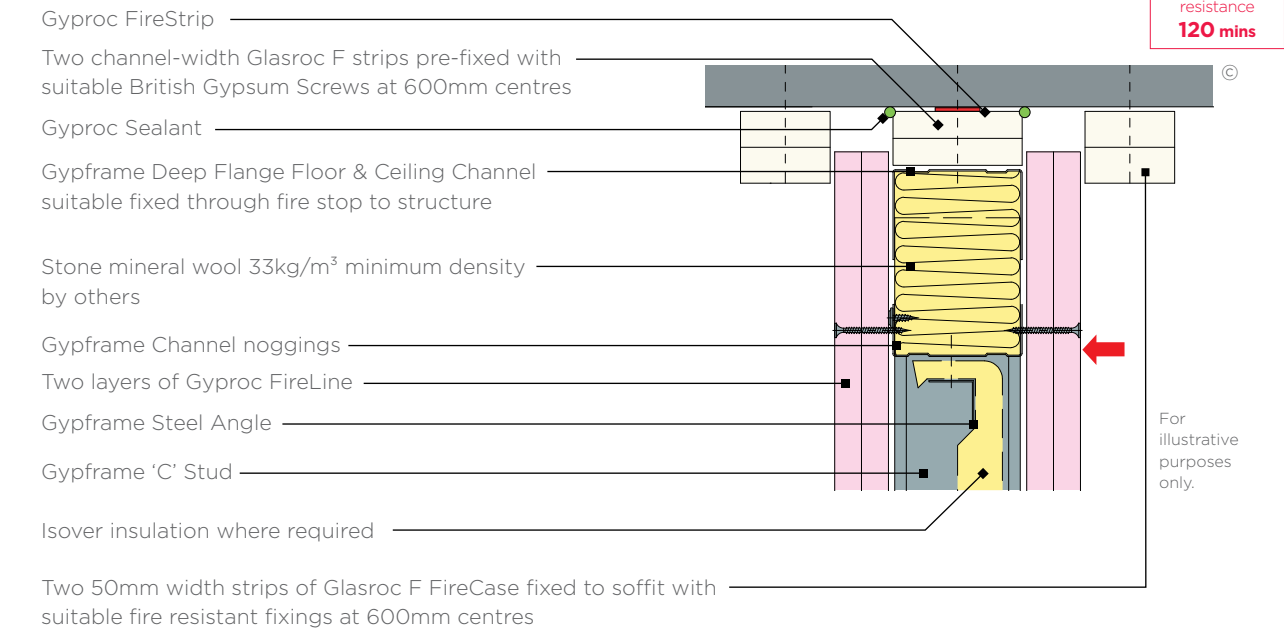
14. Deflection head

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

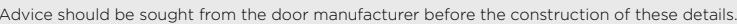


N.B. No fixings should be made through the boards into the flanges of the head channel. The arrow (↔) denotes the position of the uppermost board fixing, which should be made into Gypframe GFS1 Fixing Strap. Continuous Gyproc FireStrip must be installed as shown to maintain fire performance.

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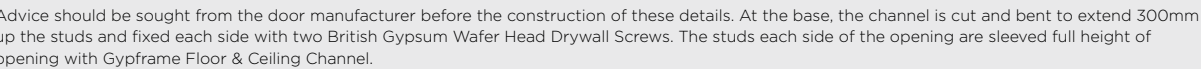
To be read in conjunction with system specific details. Refer to relevant system sections.

Gypframe Floor & Ceiling Channel



Internal partitions and walls / british-gypsum.com / Last updated 16.9.24

Gypframe Floor & Ceiling Channel
cut and bent to extend up studs



british-gypsum.com / **Internal partitions and walls**

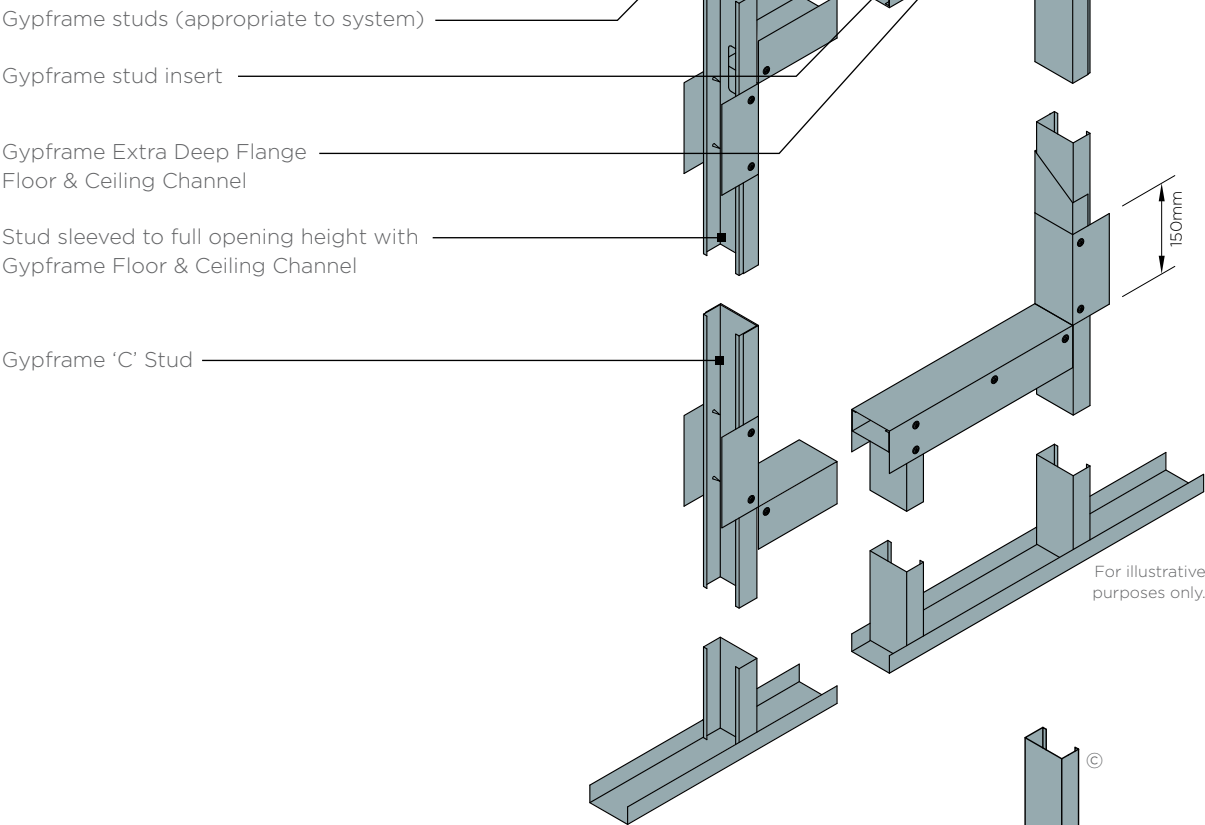
GypWall partitions

Construction details

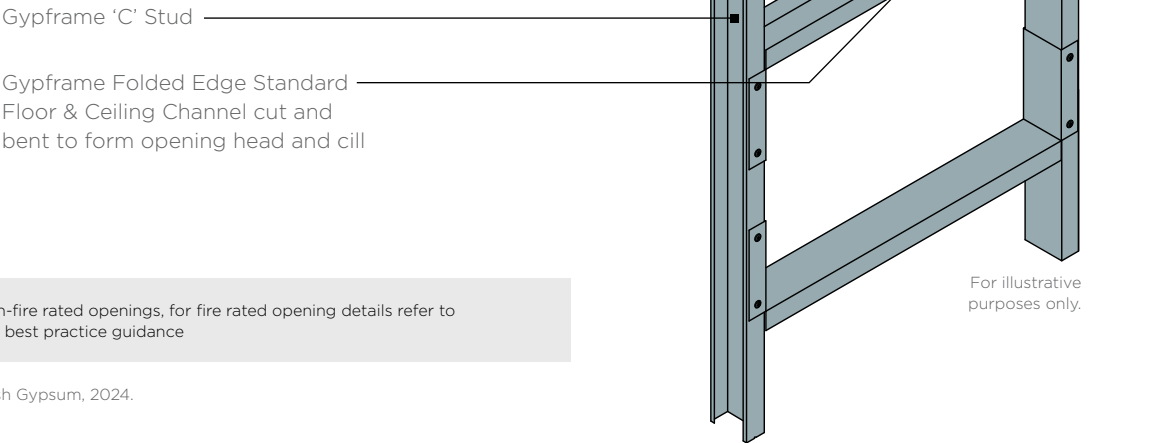
To be read in conjunction with system specific details. Refer to relevant system sections.

18a. Openings

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



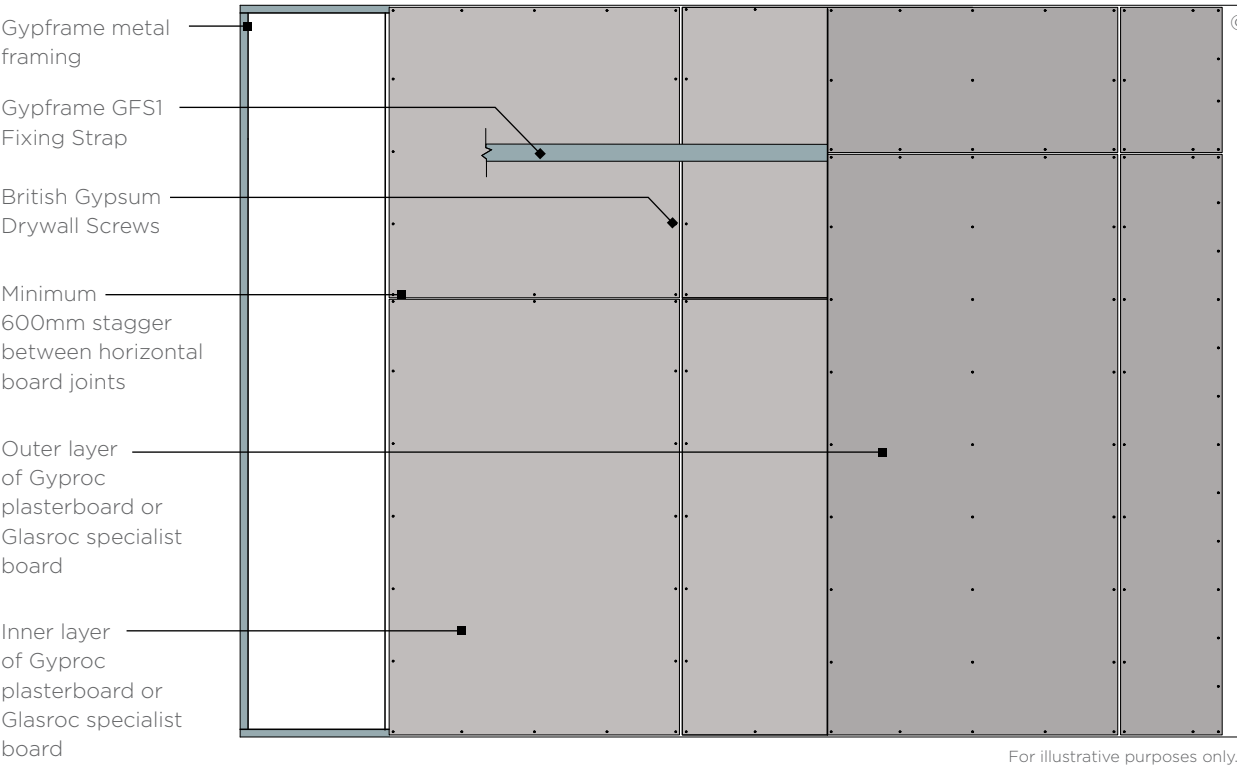
18b. Opening up to 600mm wide for services



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

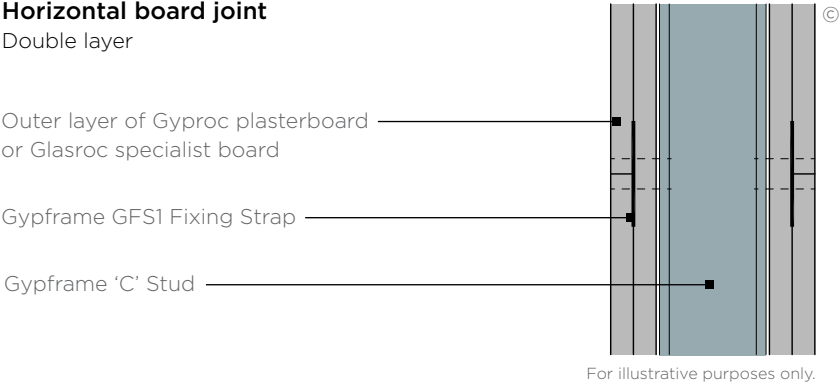
© British Gypsum, 2024.

19. Board layout – typical configuration



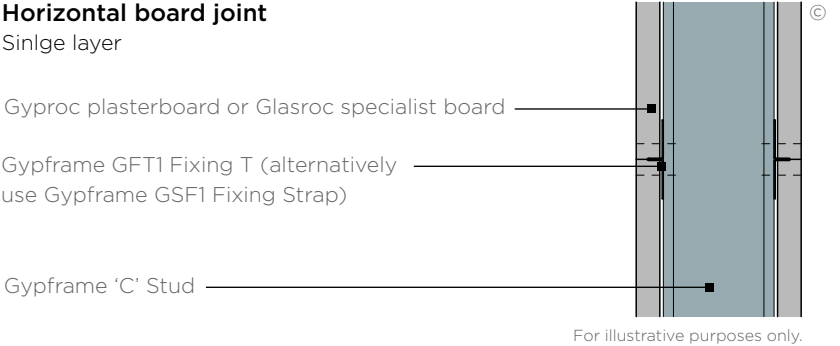
For illustrative purposes only.

20. Horizontal board joint Double layer



For illustrative purposes only.

23. Horizontal board joint Single layer



For illustrative purposes only.

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GypWall Twin Frame Audio

Identification

Build an acoustic sanctuary without losing floor space.

GypWall Twin Frame Audio is a non-loadbearing wall system that gives you exceptionally high levels of sound insulation while saving space. It's ideal for separating multi-use facilities such as lecture theatres, music rooms, multi-screen cinemas, exhibition venues and leisure centres.

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
60-120 mins

Sound rating
67-80 R_wdB

Duty rating
severe



Why specify GypWall Twin Frame Audio?

Brings you outstanding acoustic performance by combining Gyproc plasterboard, Isover insulation, Gypframe metal twin framing, and the Gypframe Acoustic Brace

Comes with our **SpecSure®** lifetime warranty

Up to 120 minutes fire resistance

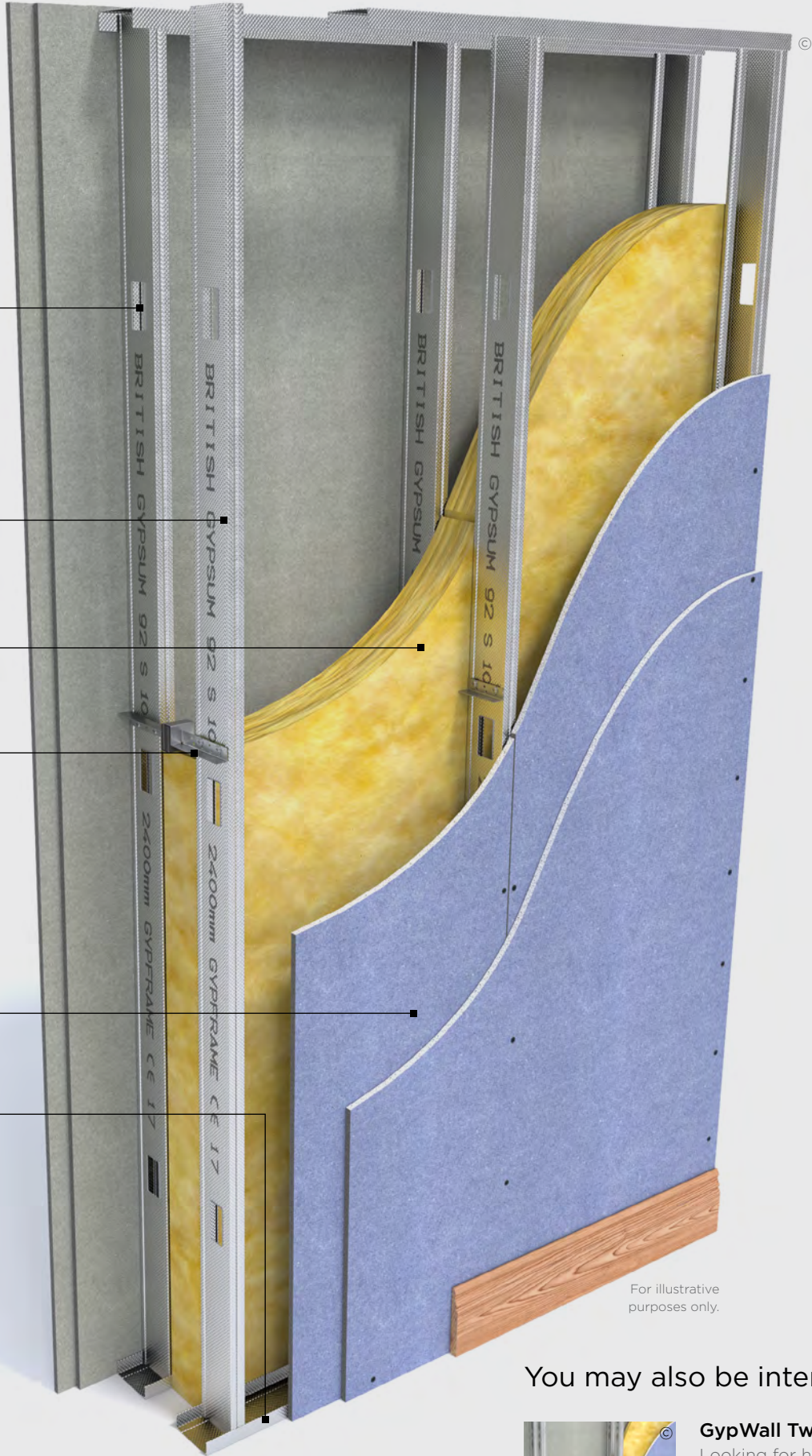
Reduces sound transmission by up to 80 R_wdB through larger cavities with minimal bridging between Gyproc plasterboard linings

Offers Severe Duty Rating for partitions up to 9.5 metres high

Takes up less space than masonry alternatives

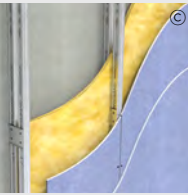


There are specifications within this system that qualify for our **SpecSure®** warranty. For more information, contact us through **british-gypsum.com**



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You may also be interested in...



GypWall Twin Frame Braced
Looking for high performance twin frame wall system to reduce sound transmission between adjoining spaces? **See page 4.63.**

GypWall Twin Frame Audio

Design considerations

Building design – GypWall Twin Frame Audio comprises braced twin rows of Gypframe 92 S 10 ‘C’ Studs installed at 600mm centres, within Gypframe Floor & Ceiling Channels.

Planning – key factors

Predetermine the positioning and installation of service penetrations and heavy fixtures before the frame erection stage. Consider the potential exposure of GypWall Twin Frame Audio to differential pressures, such as wind loadings during installation. All penetrations need fire stopping.

Fixing floor and ceiling channels

Fix Gypframe Floor & Ceiling Channels securely at 600mm maximum centres. For channels of 94mm and above, use two rows of fixings staggered by 300mm, each row fixed 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 studs, overlap by a minimum of 600mm. Use British Gypsum Wafer Head Jack-Point Screws to fix together. Use two screws per flange. Refer to this construction details in this system.

Partition to structural steelwork junctions

When designing room layouts, separated by sound insulating walls abutting structural steelwork, consider the potential loss of acoustic performance through the steelwork. GypWall Twin Frame Independent or GypWall Twin Frame Braced can also be used to fully encompass steelwork. Also refer to Building acoustics in system design principles on british-gypsum.com

Door openings

Openings require careful detailing to minimise the loss of acoustic performance through the wall. If in doubt, speak to an Acoustic Consultant. Specialist heavy acoustic doorsets may require additional support. Refer to Opening Guidance document: british-gypsum.com

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 Opening Guidance document: british-gypsum.com

Cavity barriers

Stone mineral wool (by others) cut neatly to fit across the cavity will form a suitable closure. Minimum 12.5mm Gyproc plasterboard, screw-fixed into the perimeter channels or vertical studs, will also provide a satisfactory closure to flame or smoke.

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 Building acoustics in system design principles on british-gypsum.com

Maximum partition height

Fire height (for fire-rated applications) is the maximum height permitted by fire resistance tests in accordance with BS EN 1364-1. Cold state height (for non-fire rated applications) is the mechanical limit for the system based on its construction. Our recommendation is to build to a deflection limit of L/240 @ 200Pa, however it is common for this system to be built to L/125 at 200Pa. Partitions built to a maximum height based on L/125 @ 200 Pa will

exhibit greater flex during installation and use compared to those built to a maximum height based on L/240 @ 200 Pa. Acceptance of the greater deflection should be verified with the relevant interested parties before specifying/installing partitions based on L/125 @ 200 Pa criteria.

Cross bracing

We have undertaken laboratory tests on walls without bracing. The results are a realistic representation of site conditions in which Gypframe 99 FC 50 Fixing Channel cross-braces are fitted at the recommended 3600mm maximum centres, provided that appropriate measures are taken on site to eliminate flanking sound transmission. All braces must be staggered by half distance of the brace centres.

Test evidence is provided by British Gypsum Report ATR 1299, where a site test on a large multi-screen cinema wall achieved comparable performance to the equivalent specification tested in the laboratory without bracing. Acoustic designers may prefer the Gypframe GAB3 Acoustic Brace, which has been shown in tests not to downgrade acoustic performance. However, fixing centres should be reduced from 3600mm to 3300mm, staggered by half distance of brace centres.

Maximum recommended wall heights will vary. The minimum and maximum wall widths for which Gypframe GAB3 Acoustic Brace can be used, without modification, are 300mm and 600mm respectively. The same is for the minimum and maximum cavity width between the two stud frames for which Gypframe GAB3 Acoustic Brace can be used. Cut the Gypframe GAB3 Acoustic Brace using a hacksaw or power tool. If required, the Gypframe GAB3 Acoustic Brace can be extended by fixing a short length of Gypframe 92 S 10 ‘C’ Stud to one brace with four British Gypsum Wafer Head Jack-Point Screws (ensuring a 75mm minimum overlap to each stud with no contact to board lining).

The short length of stud should also be fixed to the vertical studs with four British Gypsum Wafer Head Jack-Point Screws. Ensure Gypframe GAB3 Acoustic Braces are correctly and fully engaged and not mis-aligned. Where partition heights are specified based on lateral restraint from a suitable ceiling, either this ceiling should be in place at the time of installation or temporary restraint should be used. Each pair of studs must be braced at least once, staggered to the adjacent pairs, irrespective of the partition height or specified bracing centres.

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-twin-frame-audio



Board fixing

For good practice, the twin frame wall should be boarded progressively from each side of the partition. This will help prevent differential loadings on the framework.

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.

GypWall Twin Frame Audio

Design considerations

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

Electrical

Install electrical services in accordance with BS 7671. Use cut-outs in the studs for routing electrical and other small services (refer to this 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.

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 need independent support. 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. cupboards, can be fixed using plywood secured with Gypframe Service Support Plates. Refer to Service installations in system design principles on british-gypsum.com

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.

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.

Looking for performance selection tables?

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

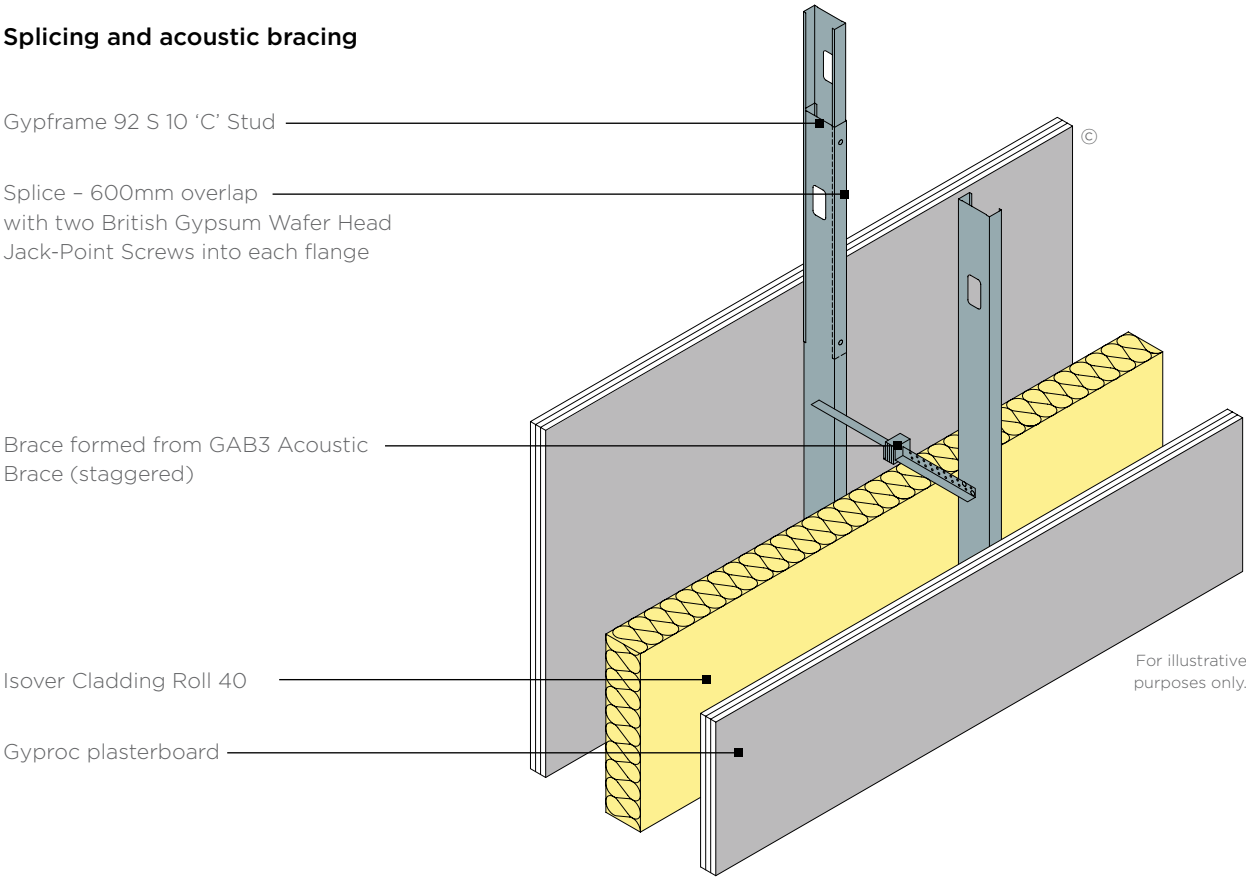
british-gypsum.com/gypwall-twin-frame-audio



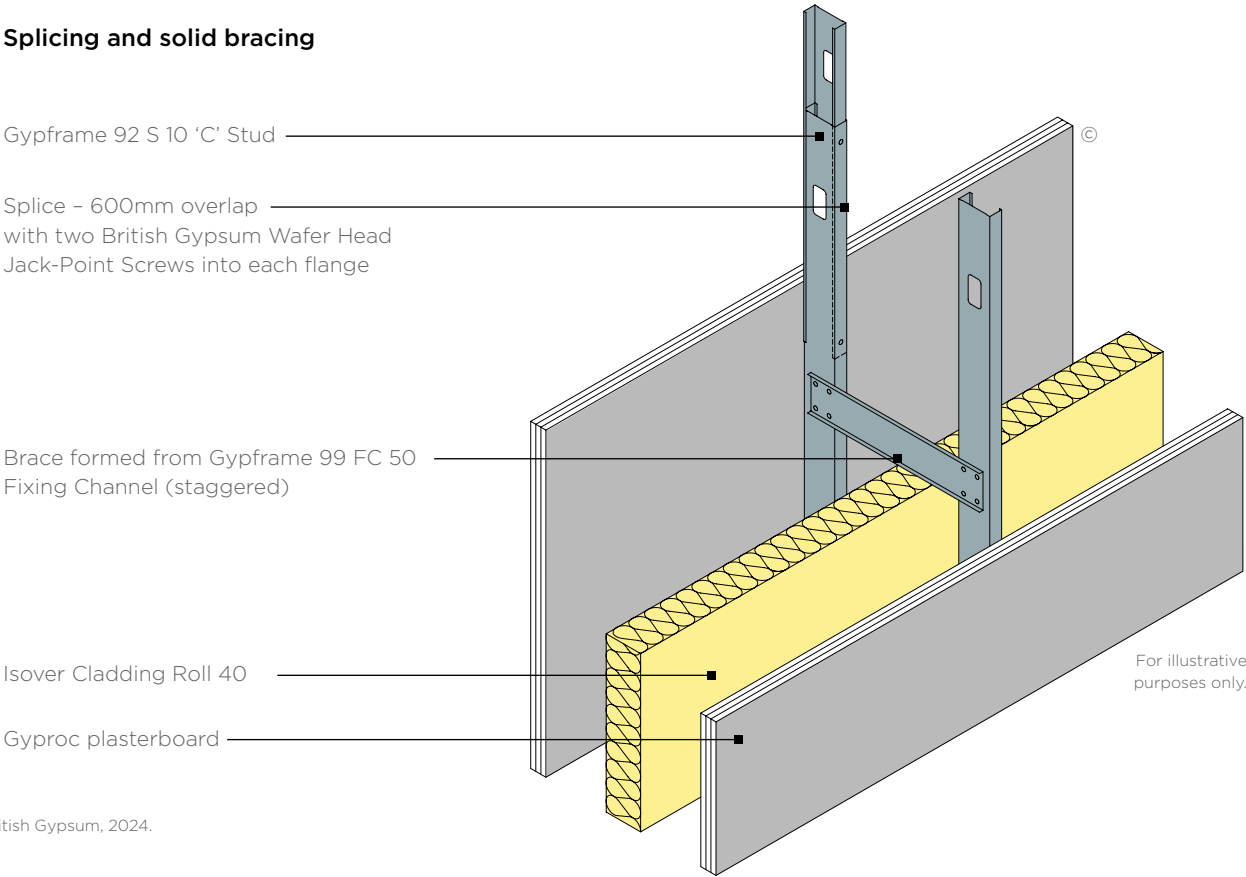
GypWall Twin Frame Audio

Construction details

1. Splicing and acoustic bracing



2. Splicing and solid bracing

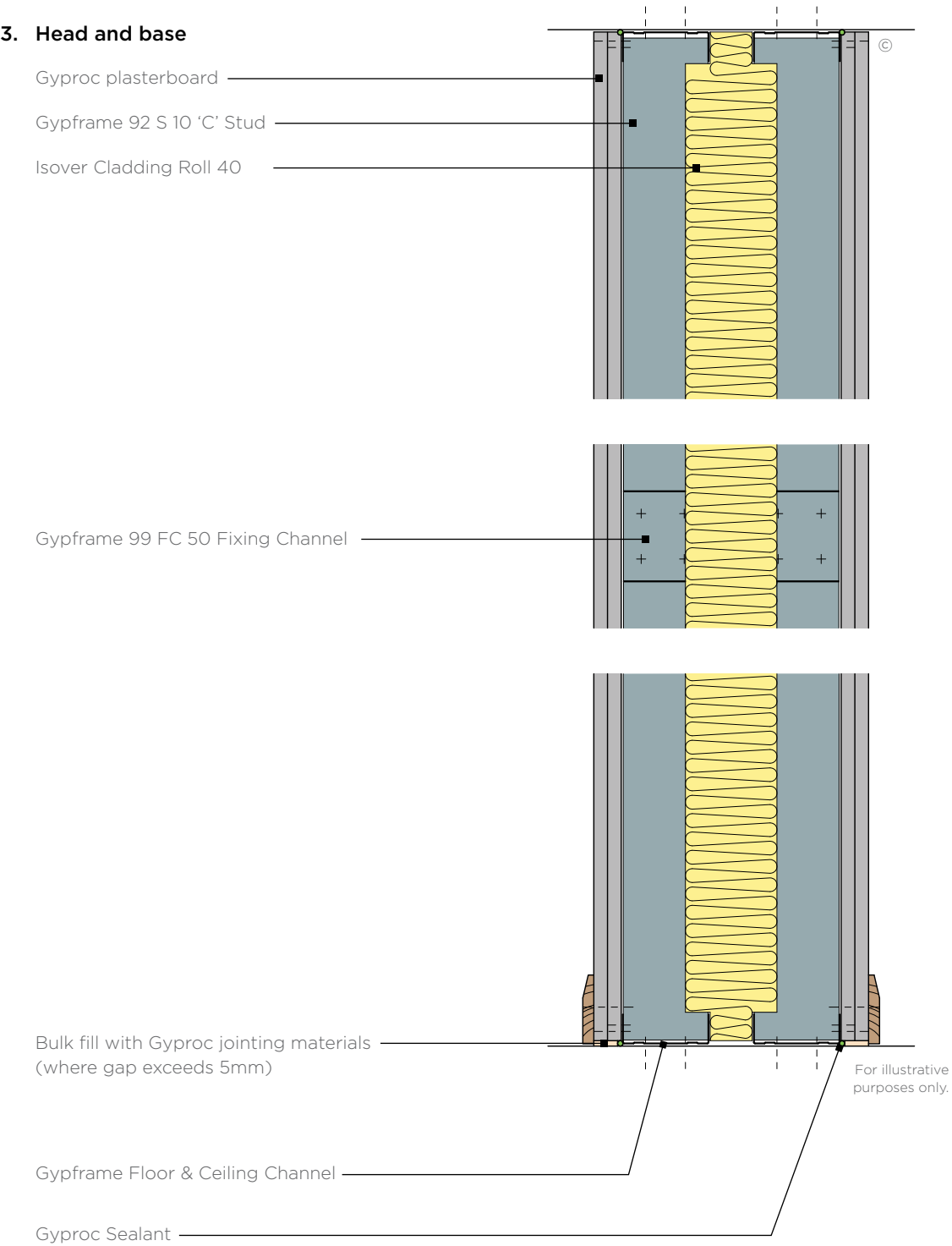


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GypWall Twin Frame Audio

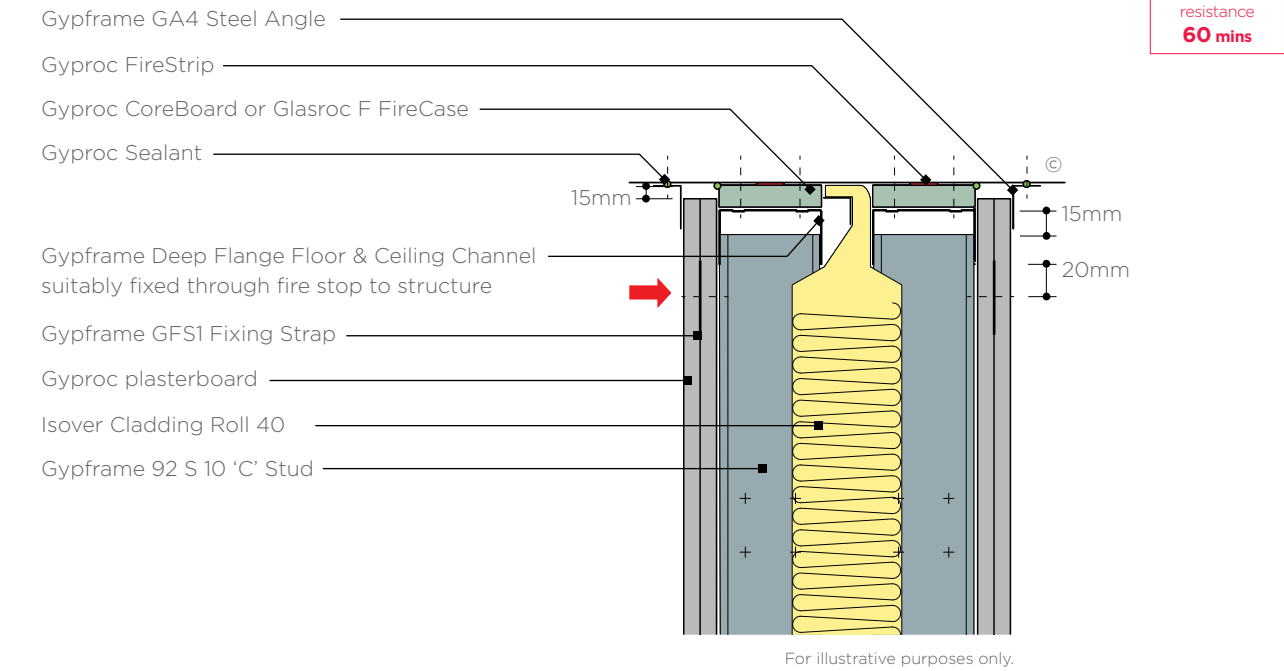
Construction details

3. Head and base



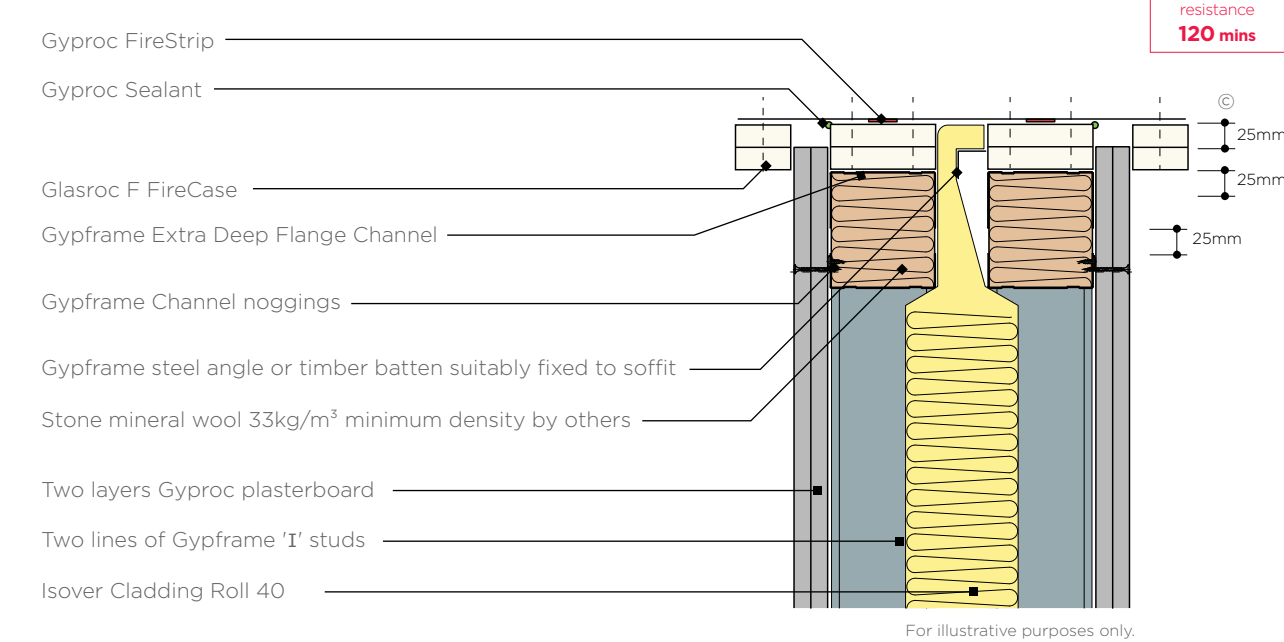
4. Deflection head

15mm downward movement and 60 minutes fire resistance



5. Deflection head

±25mm movement and 120 minute fire resistance

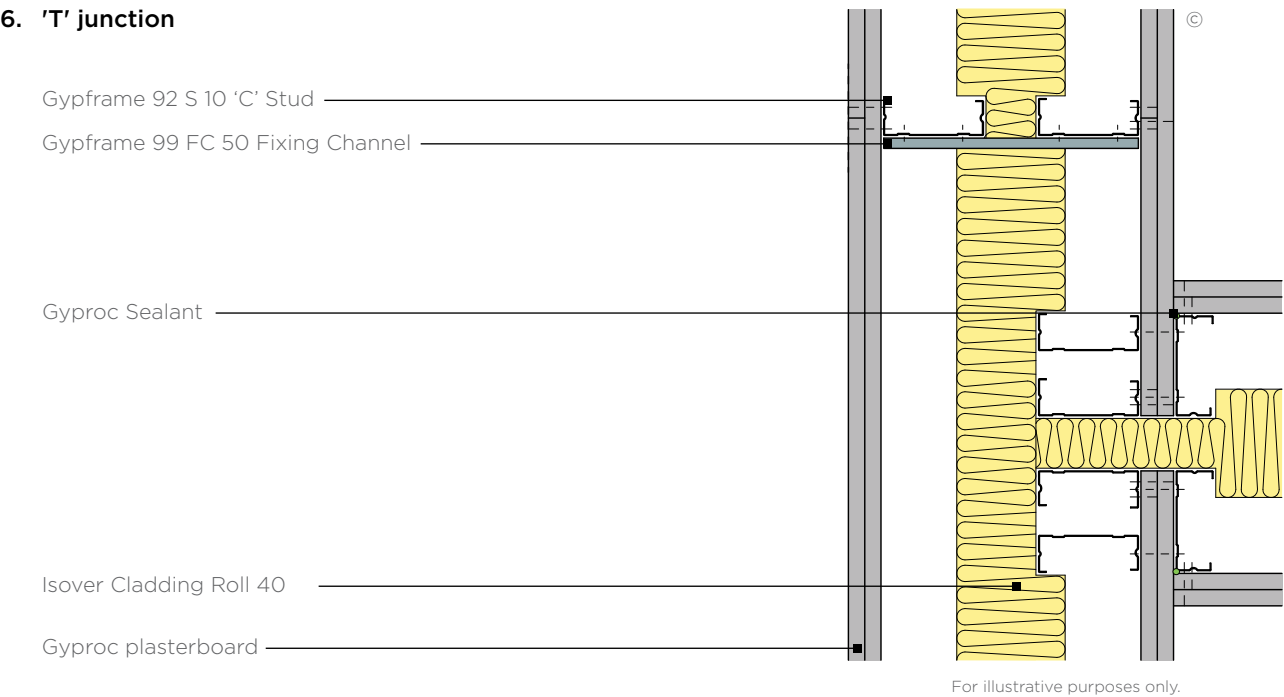


N.B. No fixings should be made through the boards into the flanges of the head channel. The arrow (→) denotes the position of the uppermost board fixing, which should be made into Gypframe GFS1 Fixing Strap or channel nogging. Continuous Gyproc FireStrip must be installed as shown to maintain fire performance.

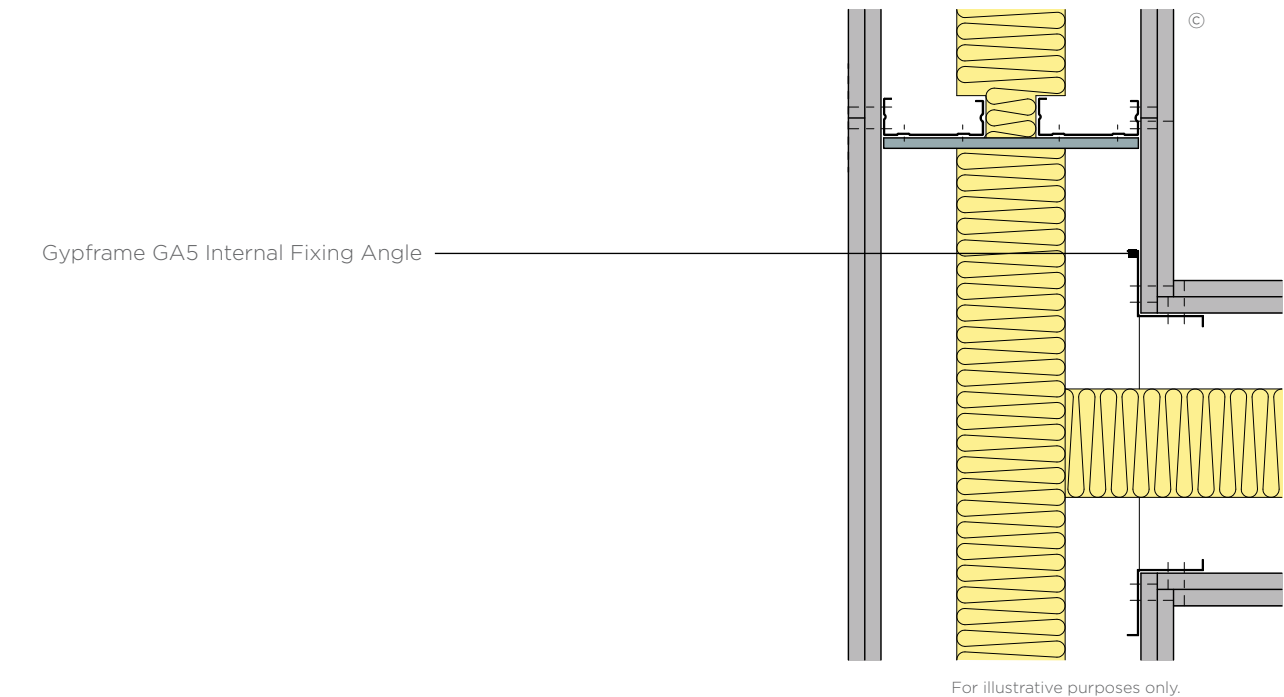
GypWall Twin Frame Audio

Construction details

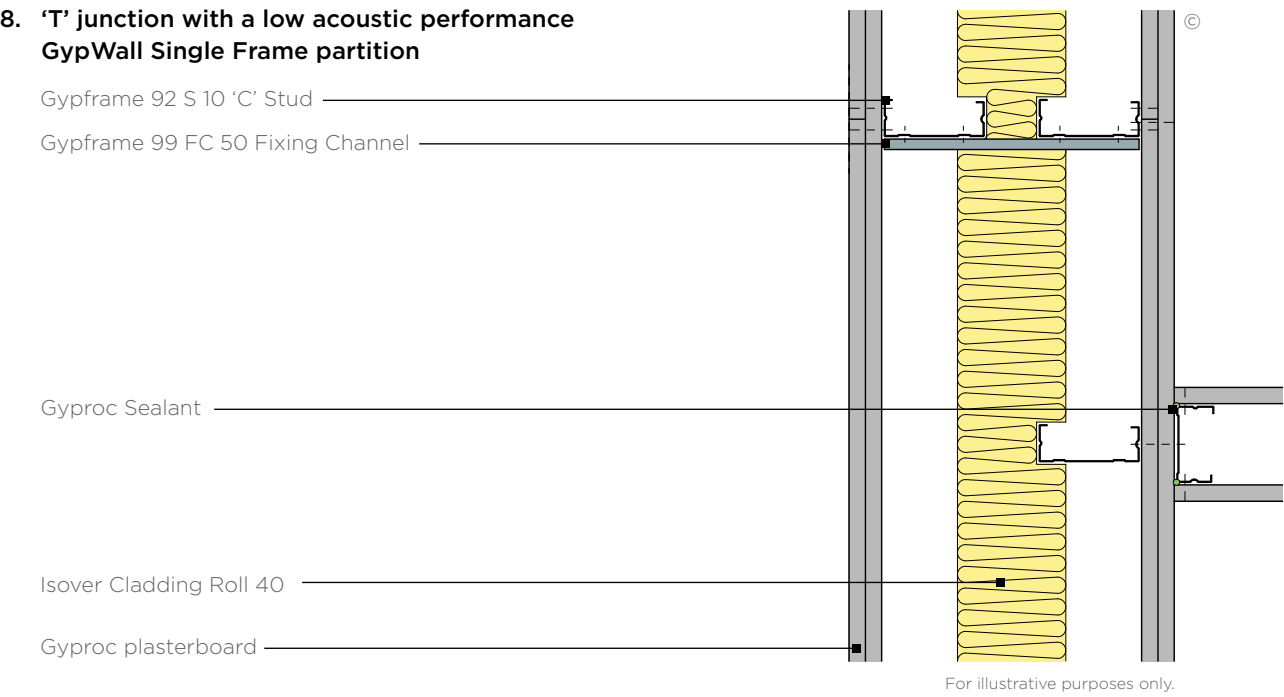
6. 'T' junction



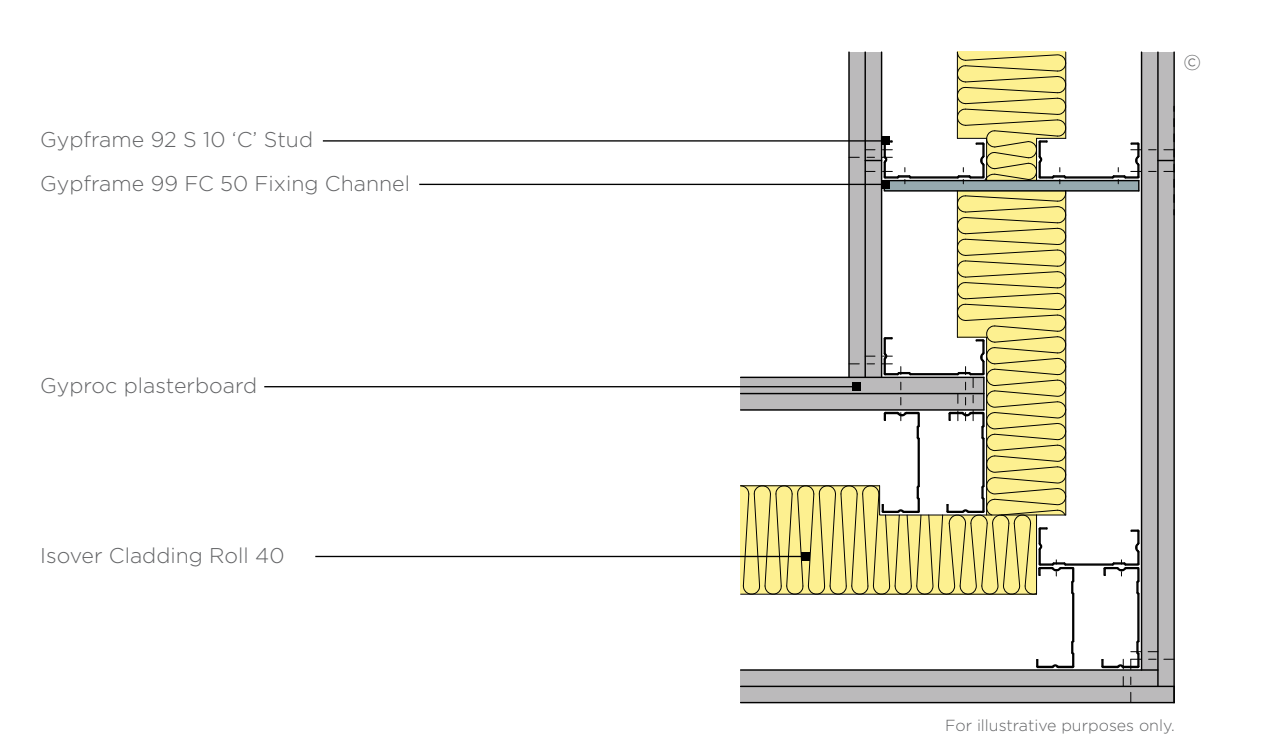
7. Alternative 'T' junction using GA5 Internal Fixing Angle



8. 'T' junction with a low acoustic performance GypWall Single Frame partition



9. Internal/external corner



Note: 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 Twin Frame Audio

System components

Build an acoustic sanctuary without losing floor space.



Gypframe 92 S 10 'C' Stud
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.

Gypframe GAB3 Acoustic Brace
Acoustic brace used in GypWall Twin Frame Audio system providing improved acoustic insulation. It is specially engineered to optimise the acoustic performance of the twin frame system by effectively maintaining a decoupling effect between frames whilst still providing structural integrity for the system. It is ideal for use in high performance applications such as cinemas and sound studio.

Isover Cladding Roll 40
Glass mineral wool for enhanced acoustic and thermal performance.

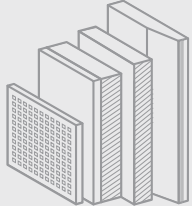
Gyproc SoundBloc
Gyproc SoundBloc is a plasterboard with a high density core. Use it to achieve specified sound insulation levels through walls, ceilings and floors.

Gyproc Plank
Gyproc Plank is a 19mm thick version of Gyproc WallBoard, used in systems with high sound insulation. Use it in systems that require high levels of acoustic performance including GypFloor Silent, GypWall Twin Frame Audio, GypWall Twin Frame Braced and GypWall Single Frame.

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...**

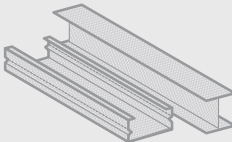
What are you fixing?

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.



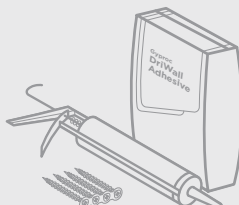
What are you fixing to?

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 Twin Frame Audio Installation

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

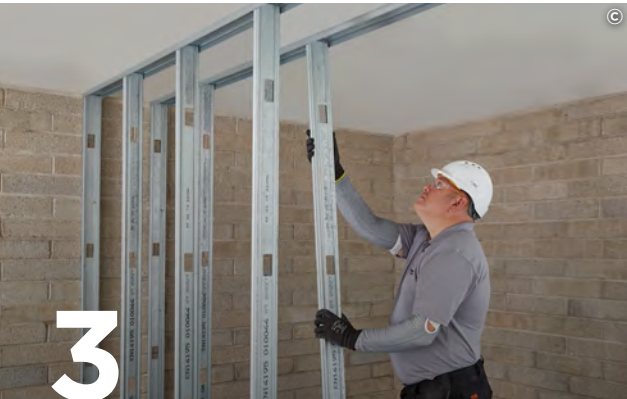


Suitably fix the appropriate Gypframe Floor & Ceiling Channels at the required centres to the floor and soffit.

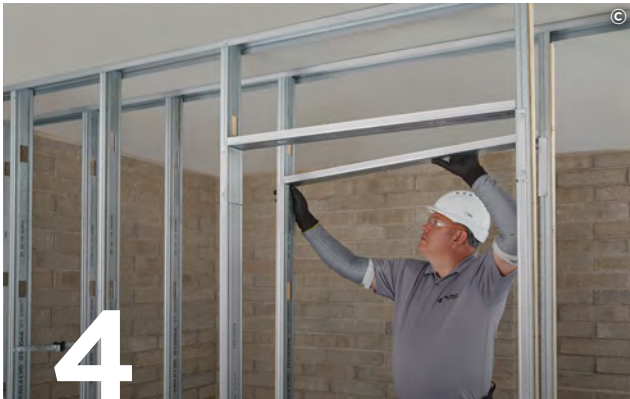
Important note – for channels 72mm and below a single row of fixings are used. For anything above 72mm two rows of 600mm fixings staggered by 300mm are used. For deflection heads see suitable details.



Fix Gypframe 92 S 10 'C' Studs at abutments and door openings in two rows using suitable fixings.



Friction fit Gypframe 92 S 10 'C' Studs into the appropriate Gypframe Channels at the required centres.



Construct door openings to the Severe Duty rating door detail.

Important note – Twin frame systems require additional plywood around door openings, see details for specifics



Brace the Gypframe 92 S 10 'C' Studs together in pairs. Brace with either a staggered Gypframe GAB3 Acoustic Brace or a Gypframe 99 FC 50 Fixing Channel. For Gypframe GAB3 Acoustic Braces fix at 3300mm centres with two British Gypsum Wafer Head Drywall Screws. For 99 FEC 50 fix at 3600mm centres with four British Gypsum Wafer Head Drywall Screws.



Add Isover Cladding Roll 40 insulation to the partition cavity for optimal acoustic and thermal performance.



Use Gyproc Sealant to seal the perimeter of the partition.



Use British Gypsum Jack-Point Screws to fix Gyproc plasterboards to the Gypframe framework.