INTERNAL PARTITIONS AND WALLS

For illustration purposes only

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.

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**

Internal partitions and walls

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**

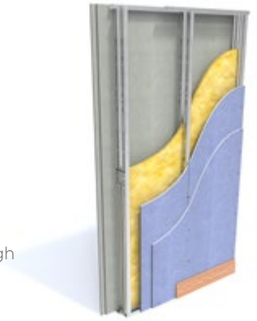
GypWall Single Frame Enhanced

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

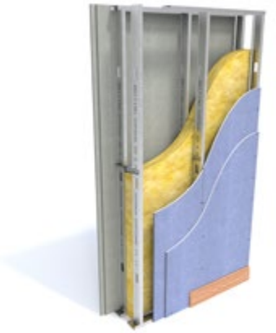
Keep the peace by reducing sound transmission through separating walls.
See page 4.63.



Fire resistance **60-120 mins** | Sound rating **59-64 R_wdB** | Duty rating **severe**

GypWall Twin Frame Audio

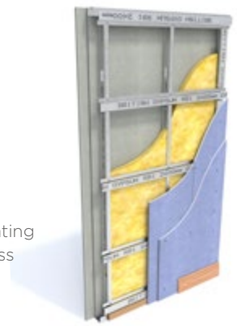
Build an acoustic sanctuary without losing floor space.
See page 4.75.



Fire resistance **60-120 mins** | Sound rating **67-80 R_wdB** | Duty rating **severe**

GypWall Resilient

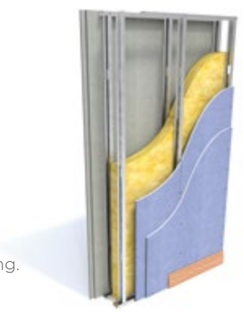
Improve acoustic performance of your partitions and separating walls with minimal loss of floor space.
See page 4.39.



Fire resistance **60-120 mins** | Sound rating **61-65 R_wdB** | Duty rating **severe**

GypWall Twin Frame Independent

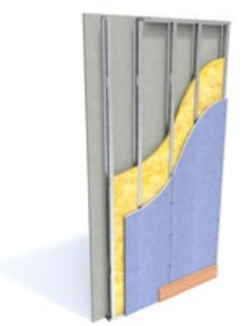
Reduce sound transmission without the need for pre-completion testing.
See page 4.51.



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

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.

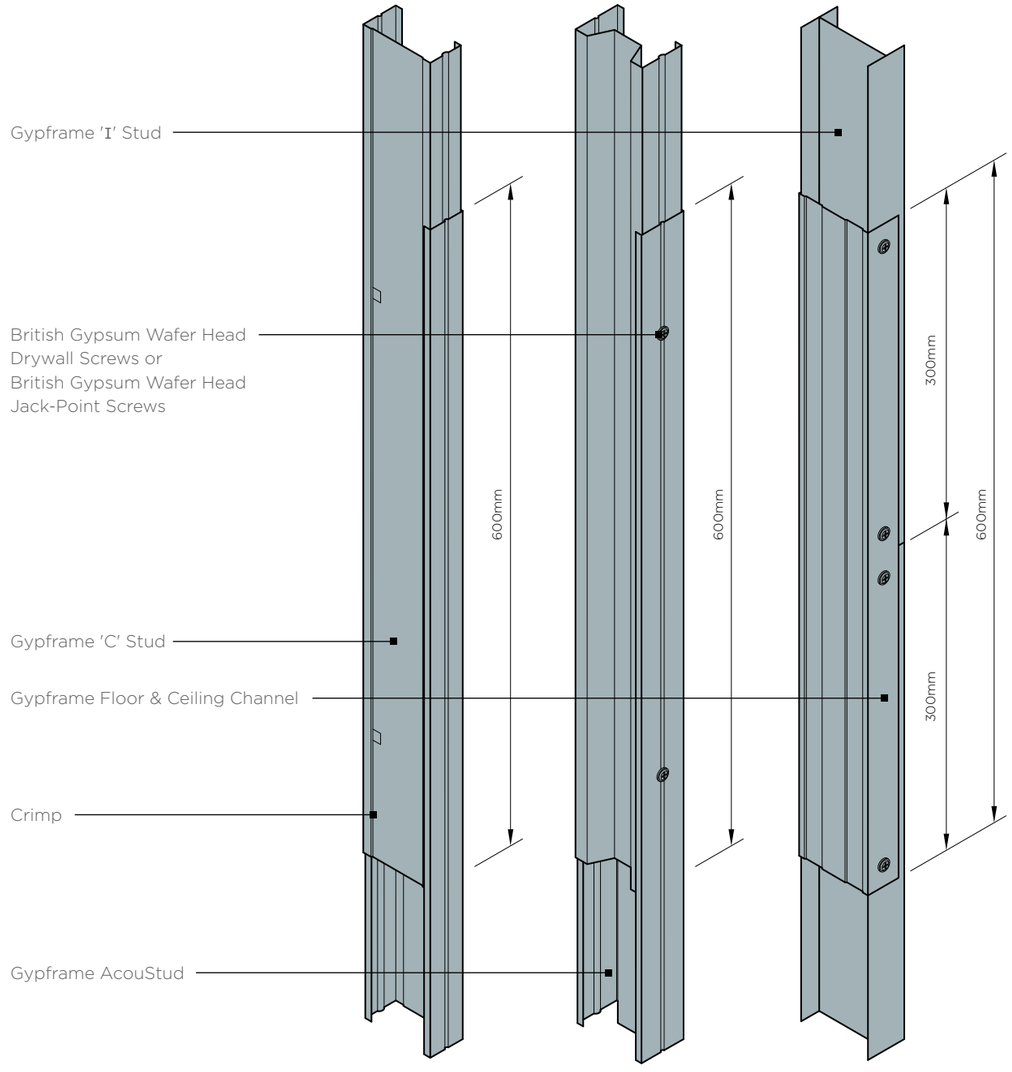
** Minimum solutions provide little or no margin of safety to allow for reduction in performance due to flanking transmission. Recommended solutions have greater potential to satisfy the requirements of Building regulations.

GypWall partitions

Construction details

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

1. Stud splicing detail



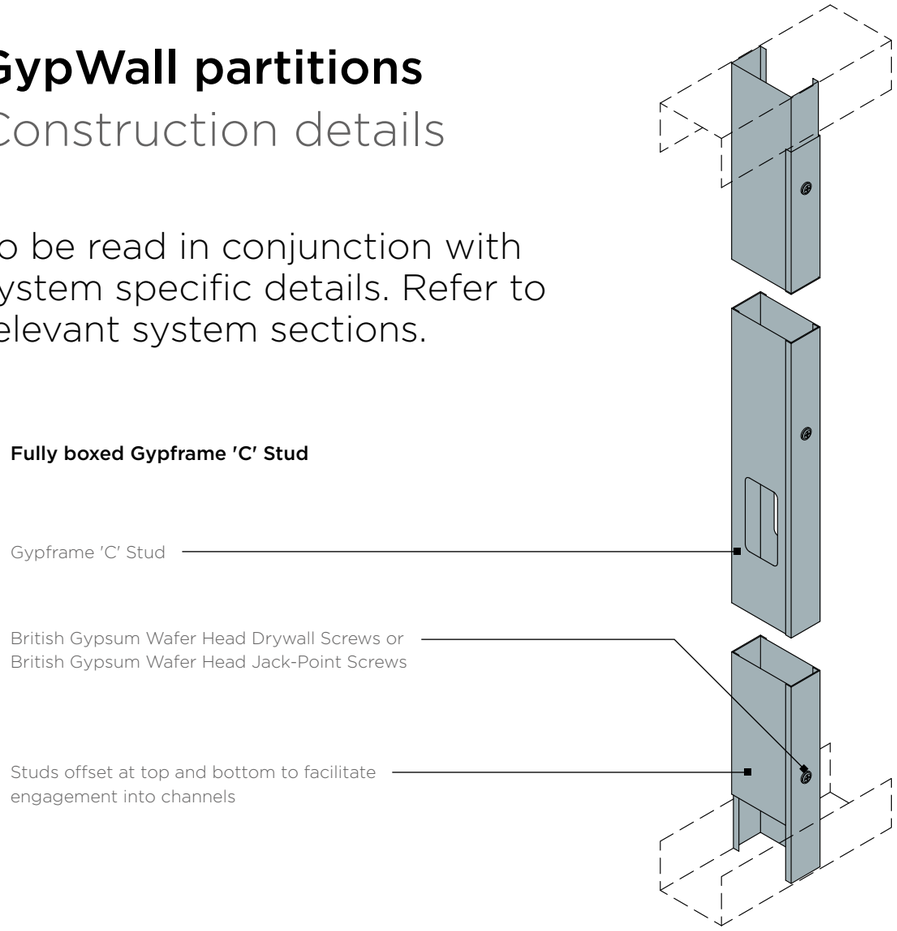
Internal partitions and walls

GypWall partitions

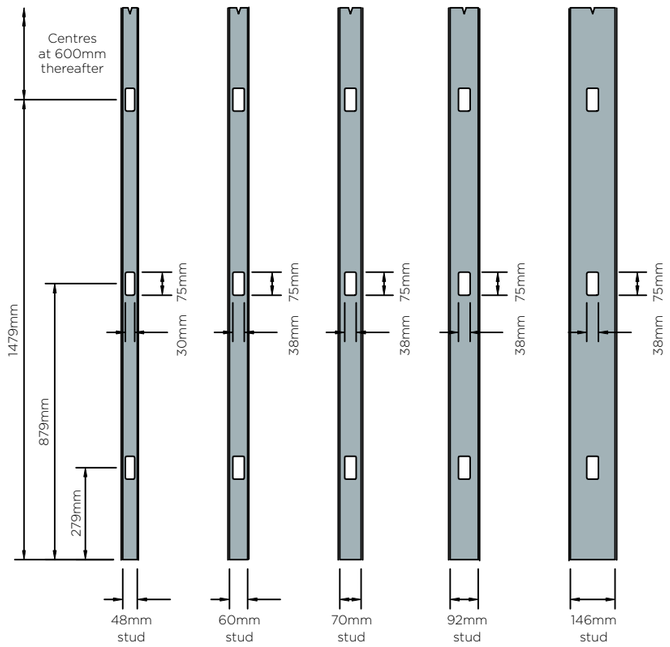
Construction details

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

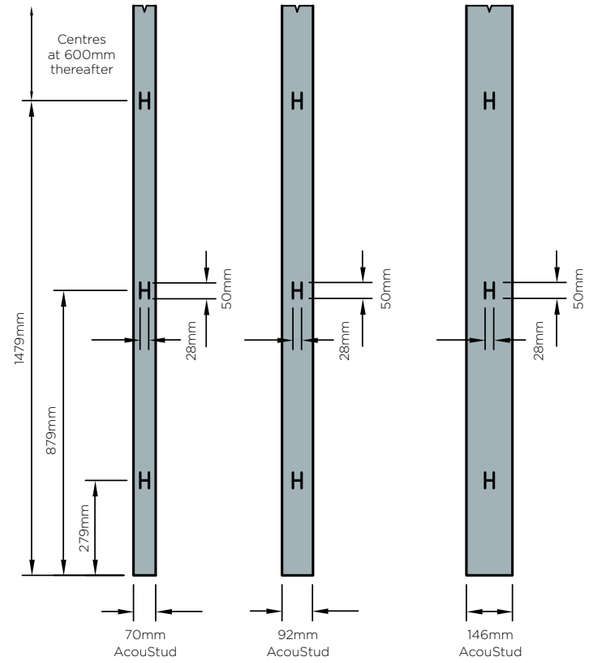
2. Fully boxed Gypframe 'C' Stud



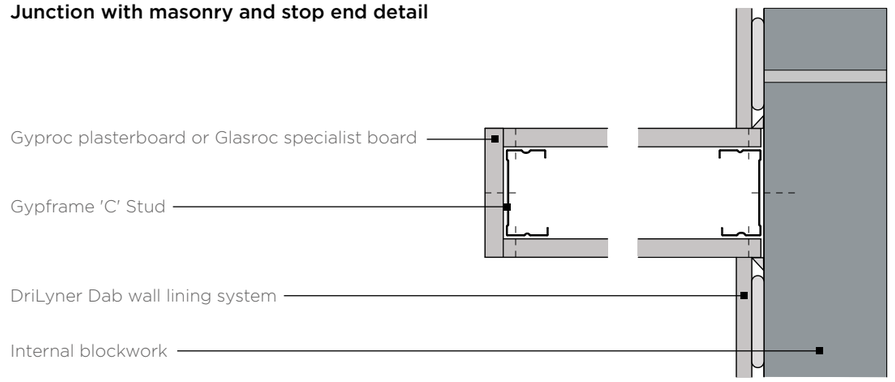
3a. Service cut-outs
Gypframe 'C' and
Gypframe 'I' Studs



3b. Service cut-outs
Gypframe AcouStuds



4. Junction with masonry and stop end detail



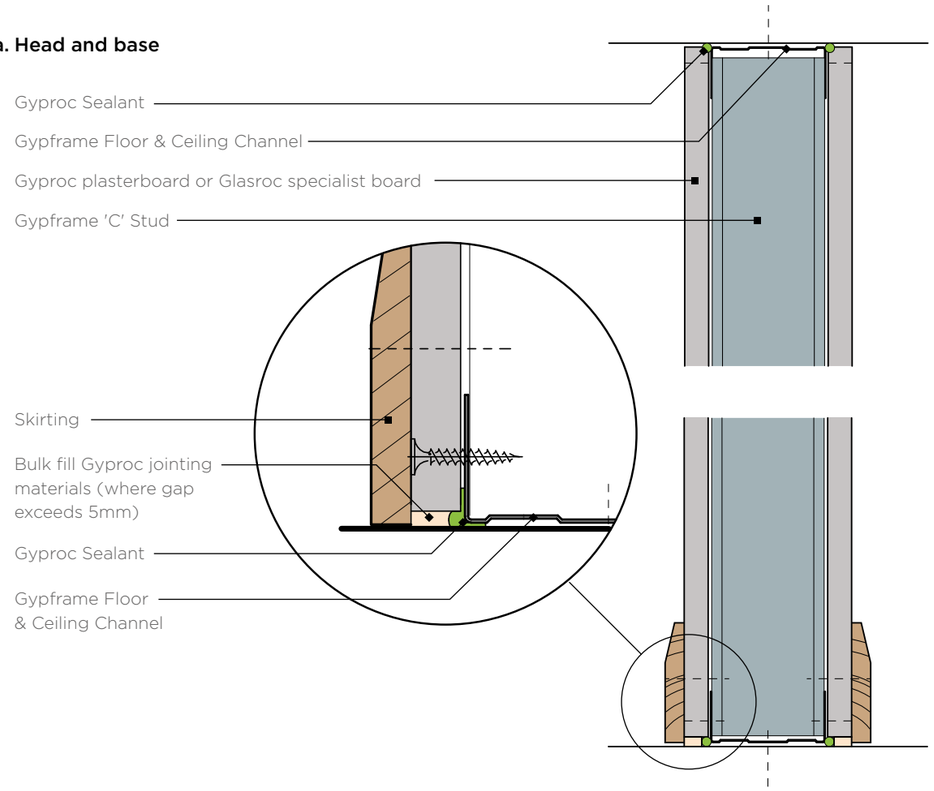
Internal partitions and walls

GypWall partitions

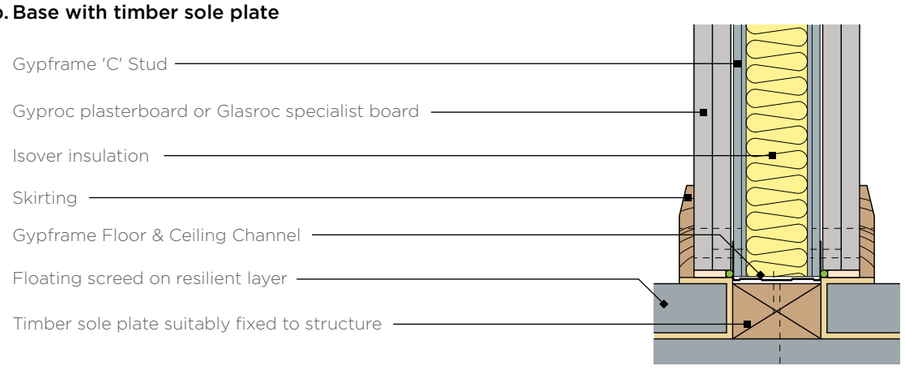
Construction details

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

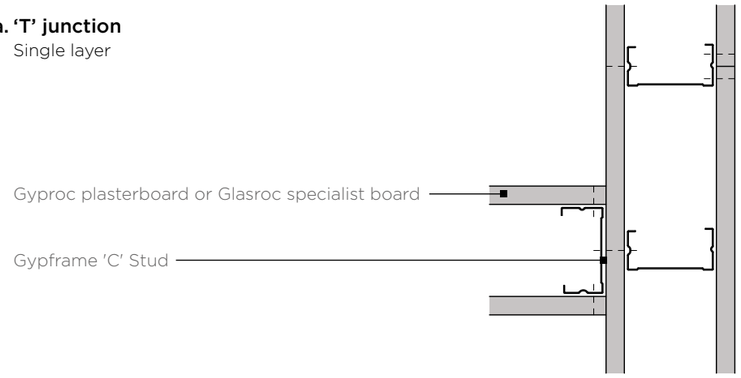
5a. Head and base



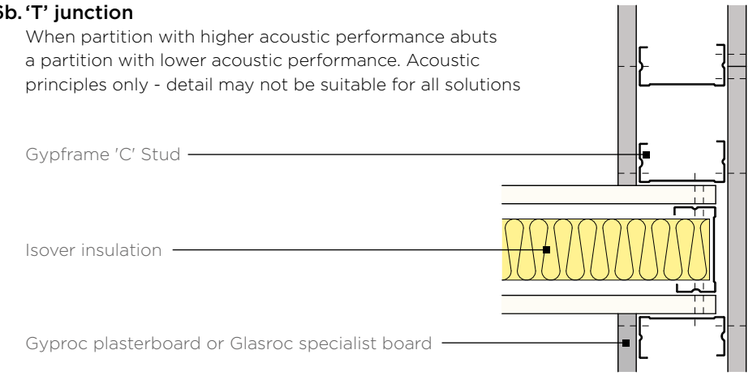
5b. Base with timber sole plate



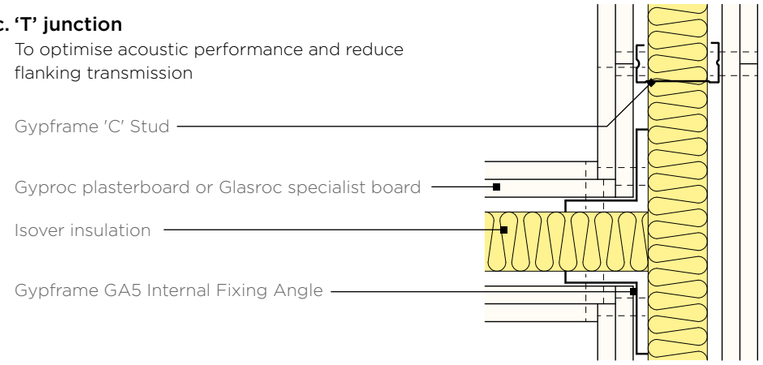
6a. 'T' junction
Single layer



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



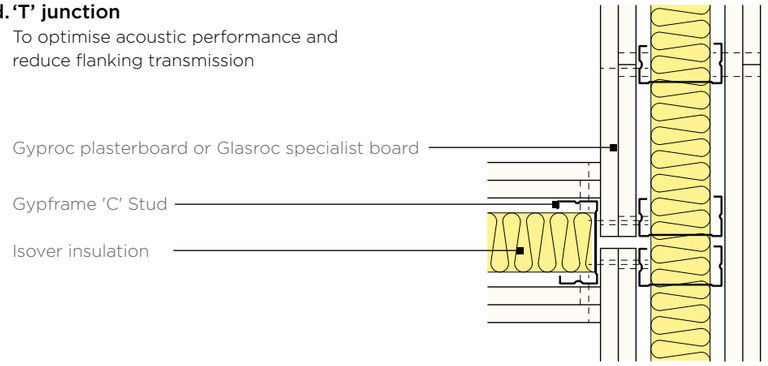
Guidance must be sought from the relevant approval authority e.g. Building Control to establish if a cavity barrier is required (Approved Document B)

Internal partitions and walls

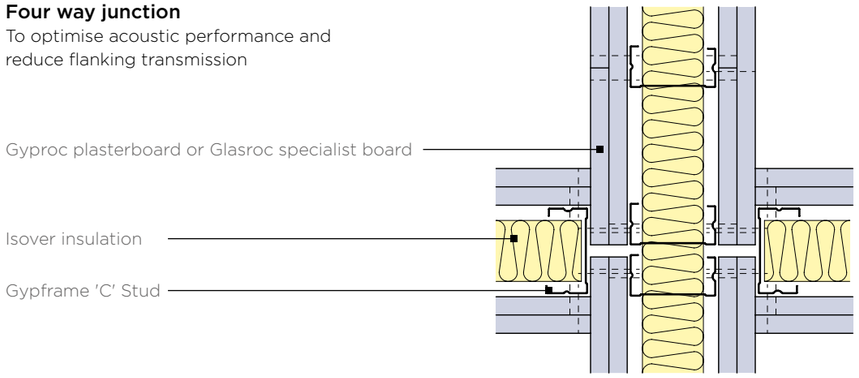
GypWall partitions
Construction details

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

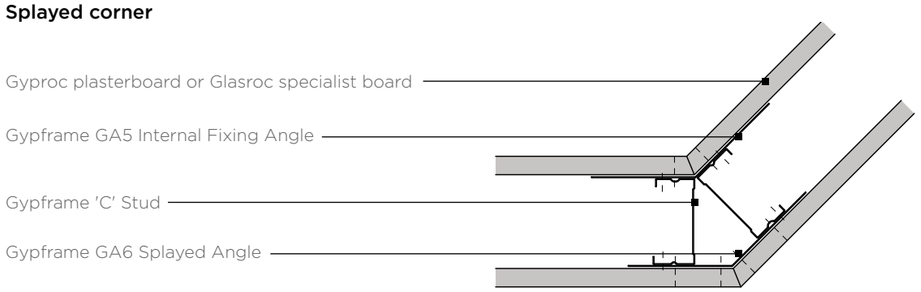
6d. 'T' junction
To optimise acoustic performance and reduce flanking transmission



7. Four way junction
To optimise acoustic performance and reduce flanking transmission

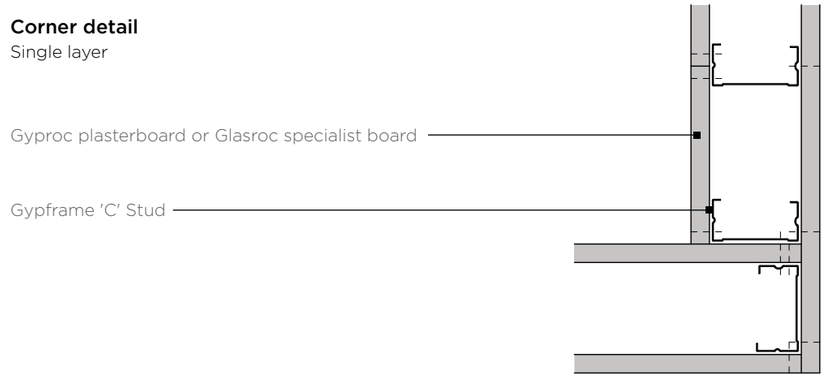


8. Splayed corner

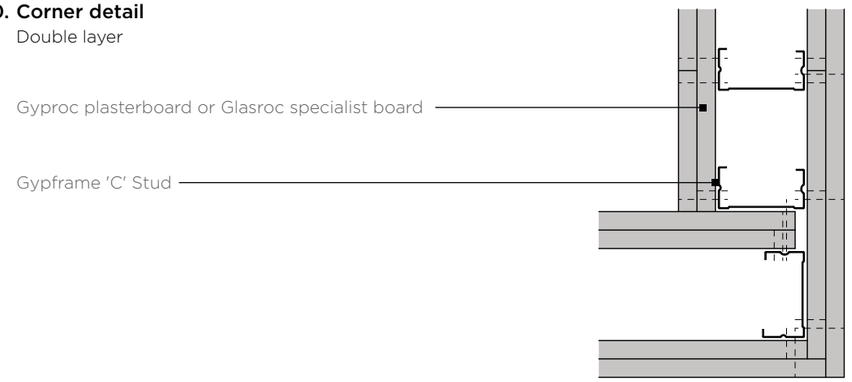


Guidance must be sought from the relevant approval authority e.g. Building Control to establish if a cavity barrier is required (Approved Document B)

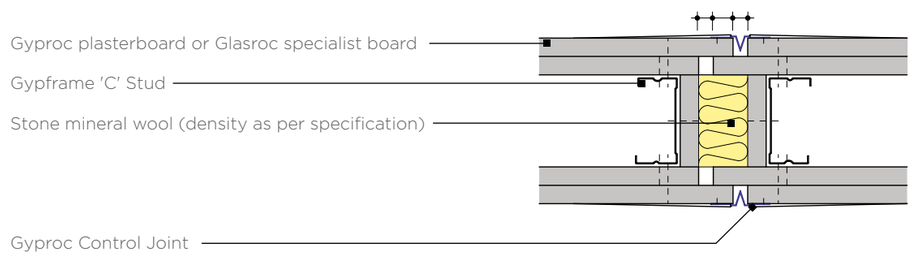
9. Corner detail
Single layer



10. Corner detail
Double layer



11. Typical control joint

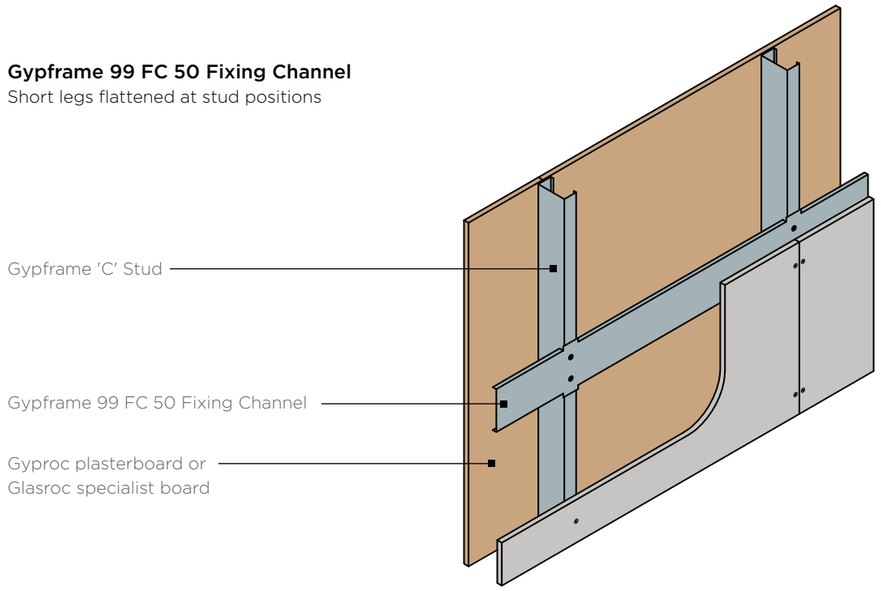


GypWall partitions

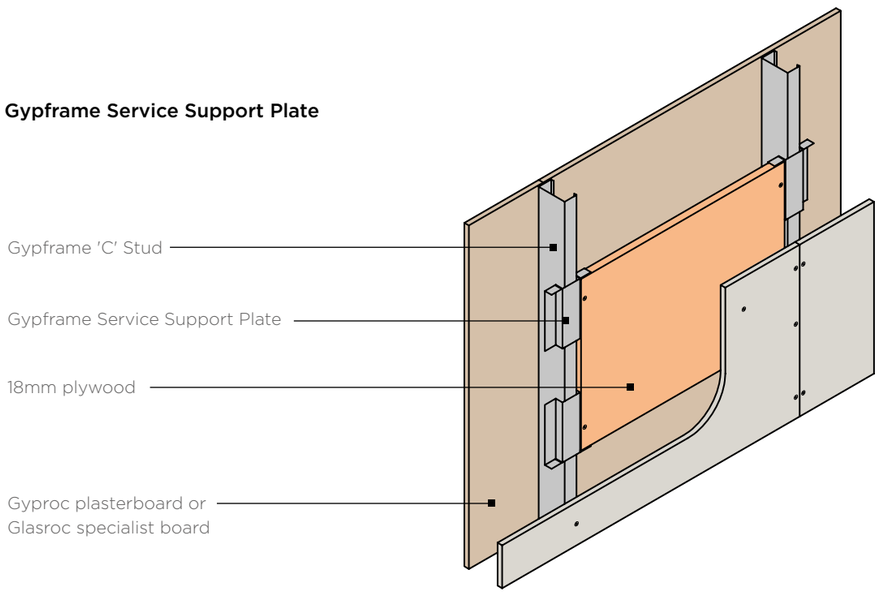
Construction details

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



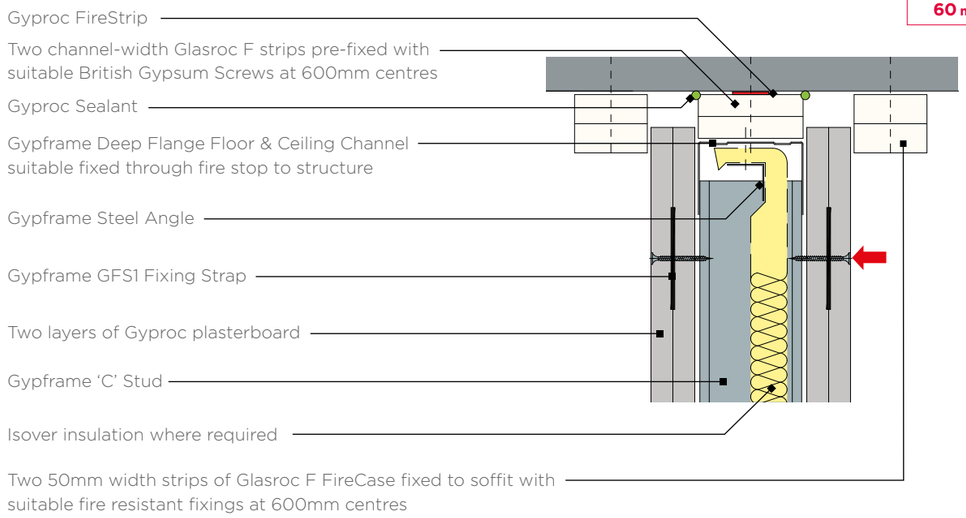
13. Gypframe Service Support Plate



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.

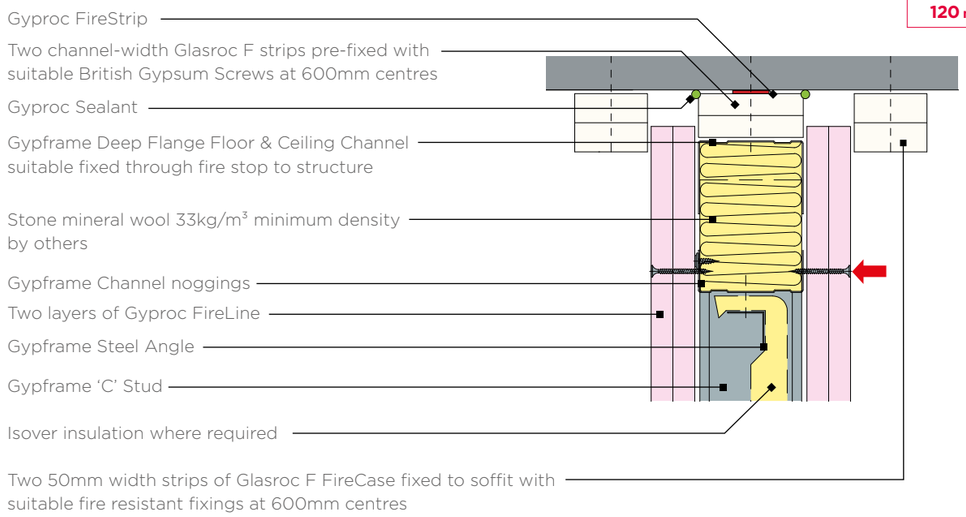
14. Deflection head
25mm downward movement and 60 minutes fire resistance to BS EN 1364-1

Fire resistance **60 mins**



15. Deflection head
25mm downward movement and 120mins fire resistance to BS EN 1364-1

Fire resistance **120 mins**



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.

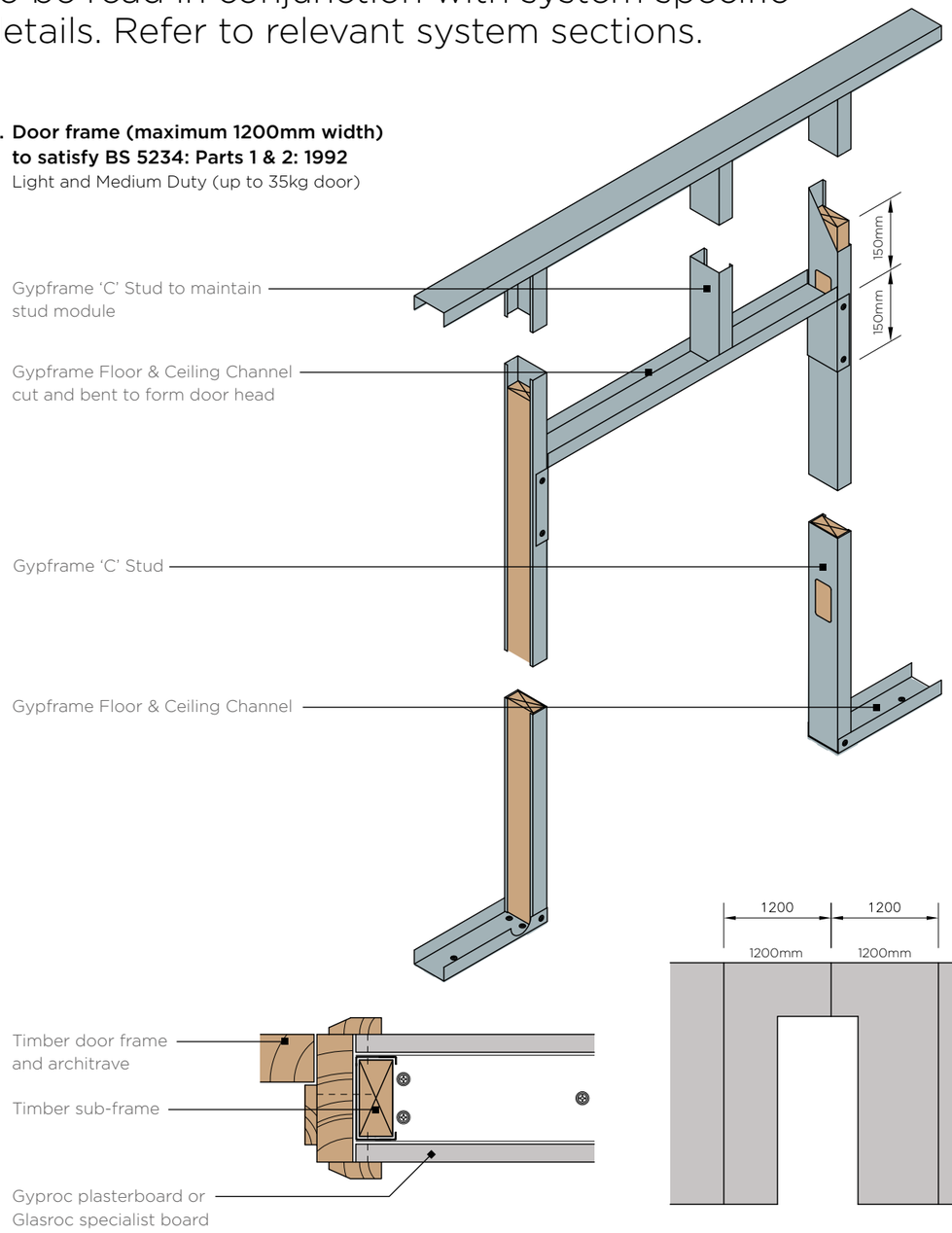
Internal partitions and walls

GypWall partitions

Construction details

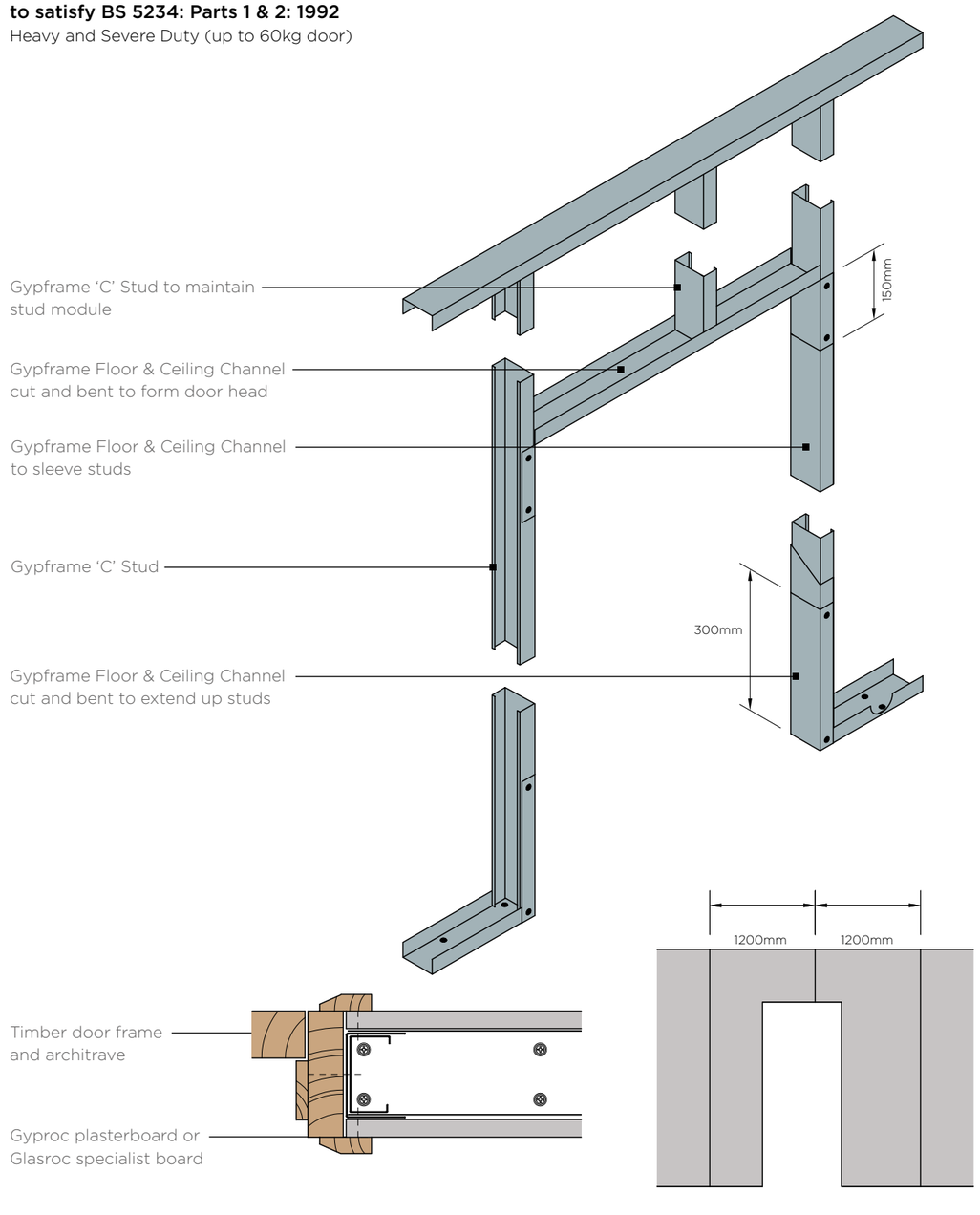
To be read in conjunction with system specific details. Refer to relevant system sections.

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.

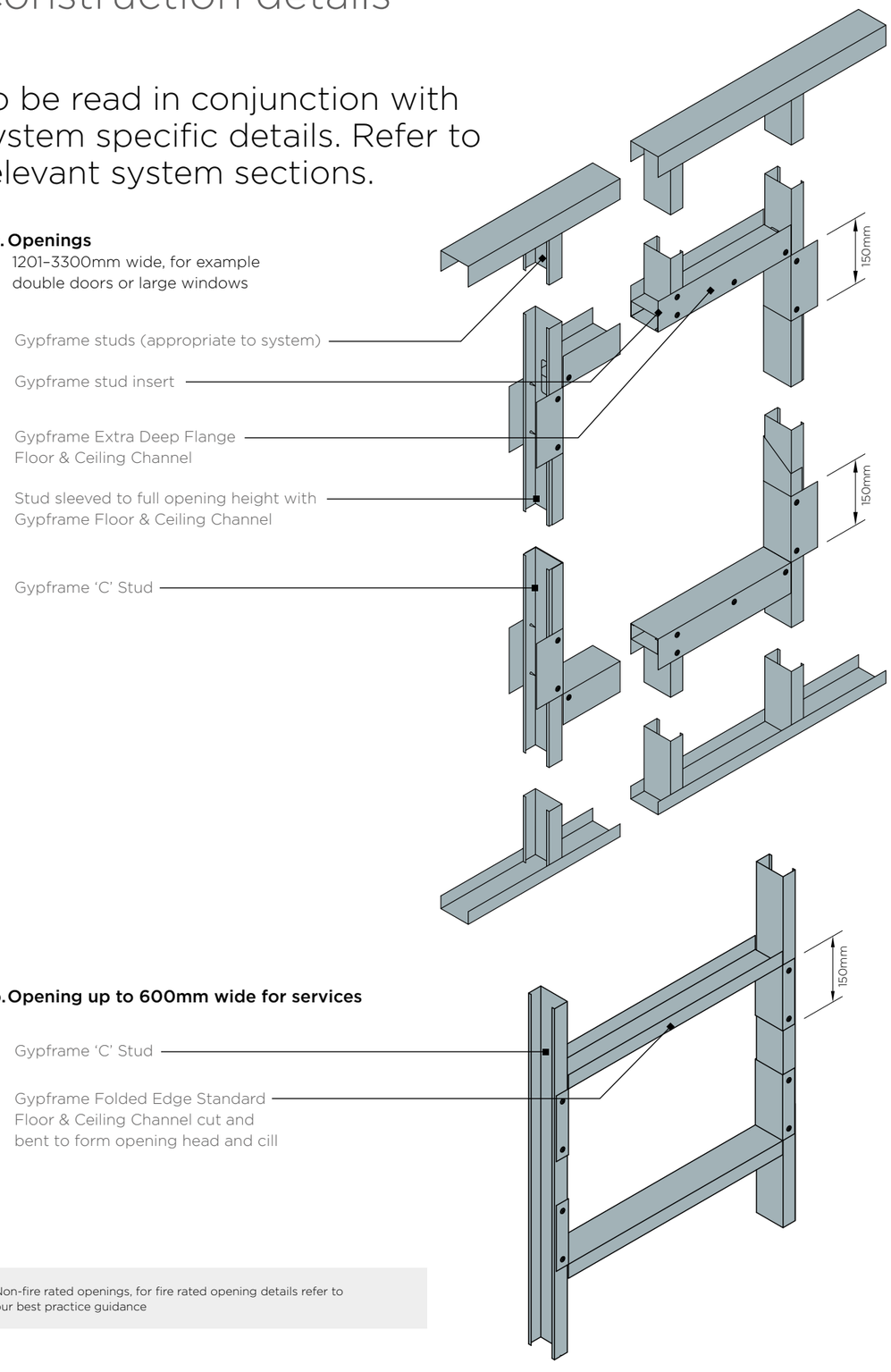
Internal partitions and walls

GypWall partitions

Construction details

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

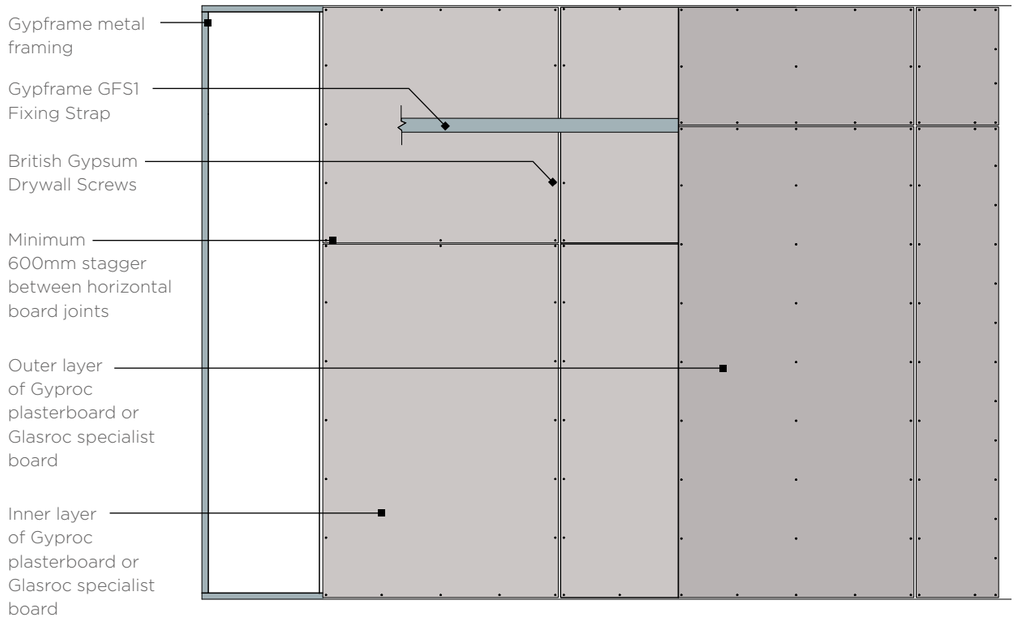
18a. Openings
1201–3300mm wide, for example double doors or large windows



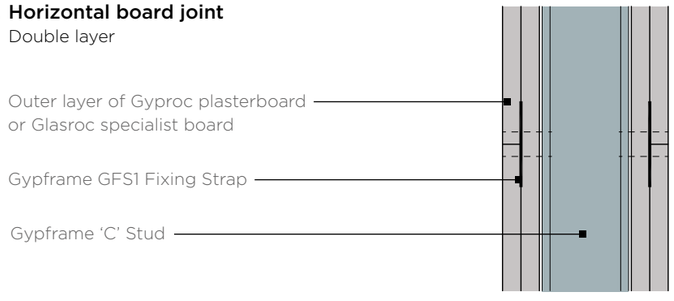
18b. Opening up to 600mm wide for services

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

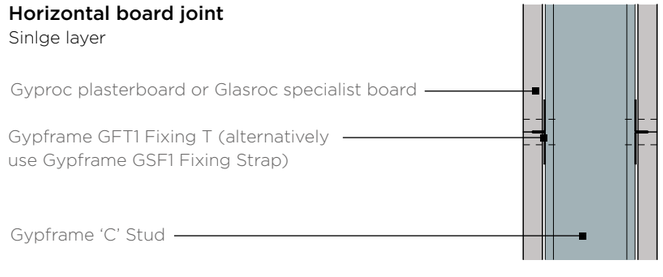
19. Board layout – typical configuration



20. Horizontal board joint
Double layer



23. Horizontal board joint
Sinlge layer



Internal partitions and walls

GypWall Single Frame Enhanced

Identification

Keep busy areas in great condition with robust partitions.

This non-loadbearing partition system reduces possible damage in spaces like school and hospital corridors, meaning walls won't need as much maintenance. GypWall Single Frame Enhanced uses Gyproc DuraLine plasterboard or Rigidur H reinforced gypsum board to resist impact and achieve Severe Duty Rating. It's also lightweight and easy to install, and has a slim design that saves space.

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.

ACTIV air

Fire resistance **30-120 mins**

Sound rating **38-60 R_w dB**

Duty rating **severe**

Why specify GypWall Single Frame Enhanced?

Uses Gyproc DuraLine, Rigidur H and Gypframe metal profiles to achieve Severe Duty Rating for partitions that need less maintenance

Comes with our **SpecSure®** lifetime warranty

Up to 120 minutes fire resistance

Reduces sound transmission by 42 to 60dB, making it ideal for classrooms and hospital consulting rooms

Compatible with all other GypWall partitions

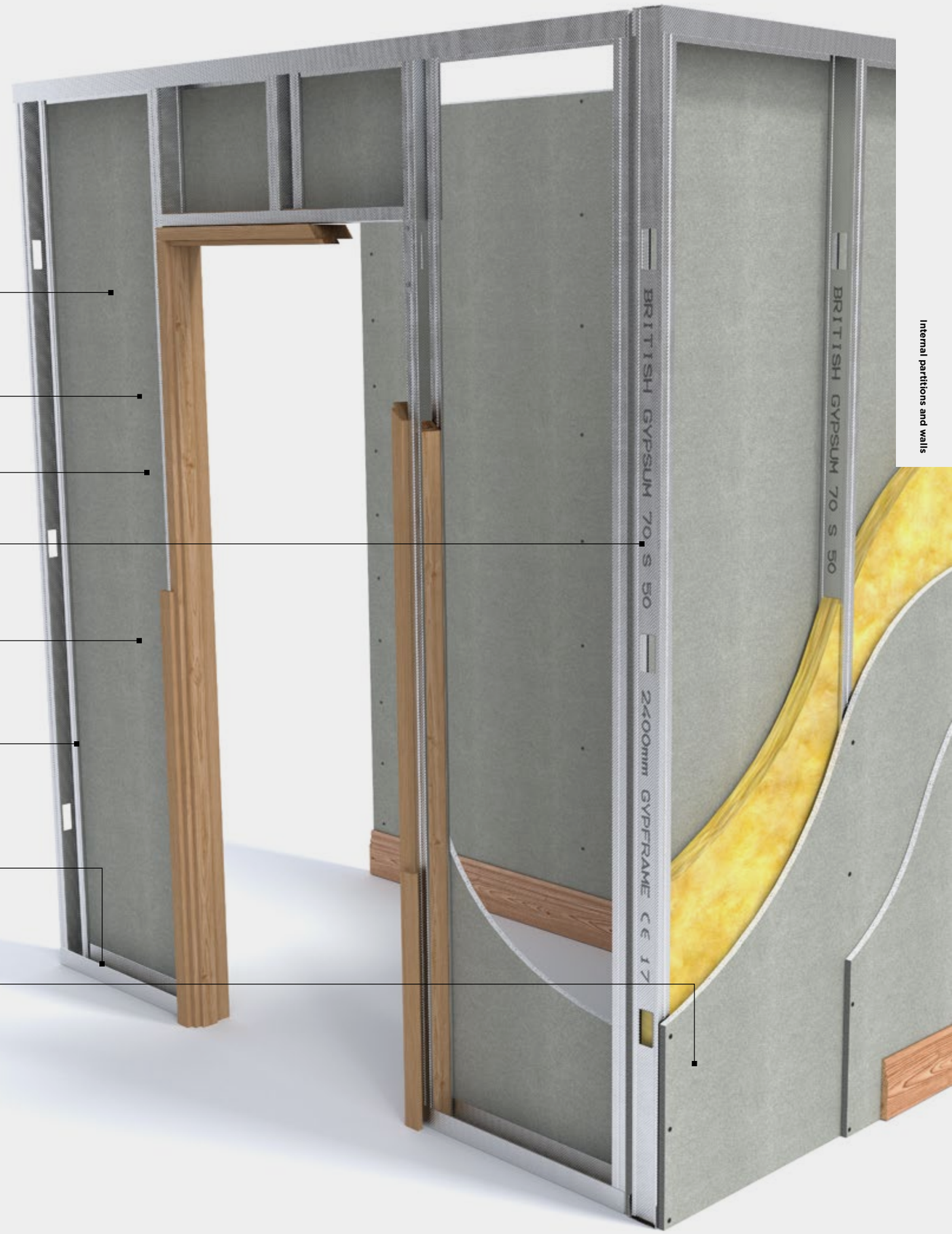
Lightweight and easy to install

Frees up floor space with its narrow footprint

Resists abrasion when you skim with ThistlePro DuraFinish plaster

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

Design considerations

Building design – GypWall Single Frame Enhanced partition systems are non-loadbearing. However, they also resist 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 Enhanced comprises Gypframe 'C', 'I' and 'AC' 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 at maximum 600mm 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. Refer to the construction details in this system.

Important notes

Use Gypframe Deep Flange Floor & Ceiling Channels (DC) with GypWall Single Frame Enhanced systems. Refer to the construction details in this system.

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

Door openings

Consider the thickness tolerances of the partition types in relation to the proposed door frame detail. To satisfy BS 5234-2 requirements for Heavy and Severe Duty Rating partitions, door framing should be specified. Consult the door manufacturer about detailing. Refer to the construction details in this system.

Important information

Take extra care to choose the correct length of British Gypsum Drywall Screws for fixing Gyproc DuraLine to Gypframe AcouStuds. Screws must not penetrate the web of the stud. Doing so creates a physical bridge which could reduce sound insulation performance.

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**

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-enhanced

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**

GypWall Single Frame Enhanced
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**

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 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. 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 need independent support, referencing specific manufacturer information/guidance. Refer to this construction details in this system

Fixtures

Lightweight fixtures can be installed directly to the partitions. Medium weight fixtures can be fixed through 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.

Tiling

Tiles up to 32kg/m^2 can be applied to the surface of lightweight partition systems. Refer to **british-gypsum.com** for our full range and guidance on our tiling-related products.

Construction details

For standard GypWall construction details, refer to to internal partitions and walls introduction. Use Gypframe 70 S 60 C studs for Rigidur H constructions and AcouStuds for hybrid systems.

Handy hint

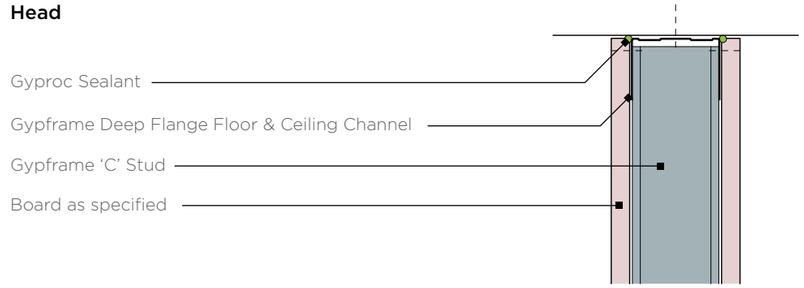
Rigidur H is available to special order in sizes up to 2.5m x 6.0m, reducing the amount of tape and jointing required. Using insulation within the partition cavity to provide a higher acoustic performance than required, will futureproof for changes of room use. Use the cut-outs in the Gypframe studs to accommodate horizontal service runs. Installers should be made aware of this to avoid vertical misalignment of cut-outs between adjacent studs

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.

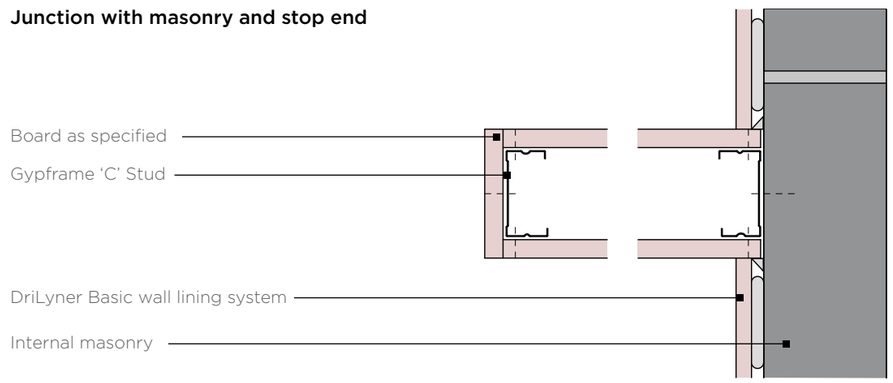
GypWall Single Frame Enhanced
Construction details

1. Head



2. Base

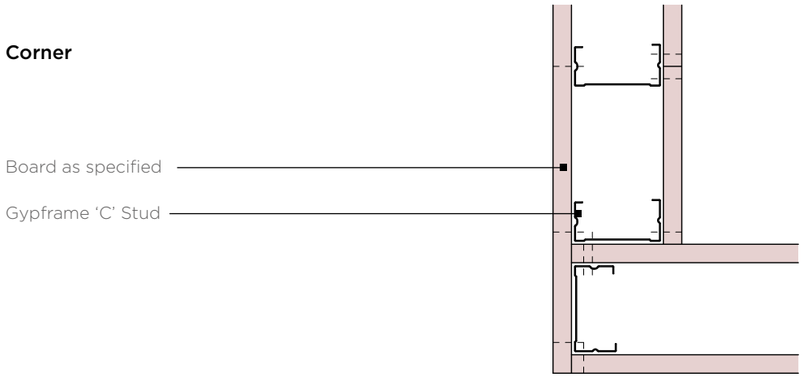
3. Junction with masonry and stop end



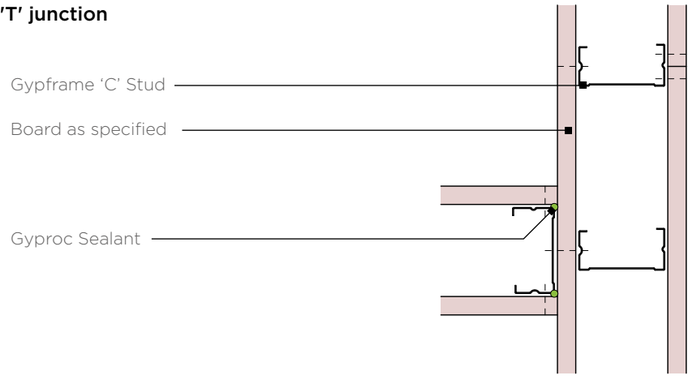
GypWall Single Frame Enhanced

Construction details

4. Corner

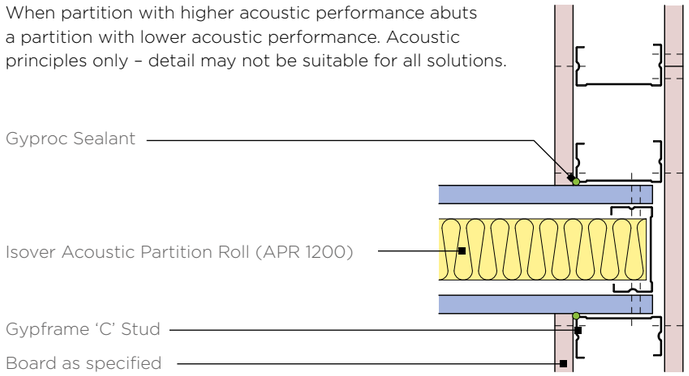


5. 'T' junction



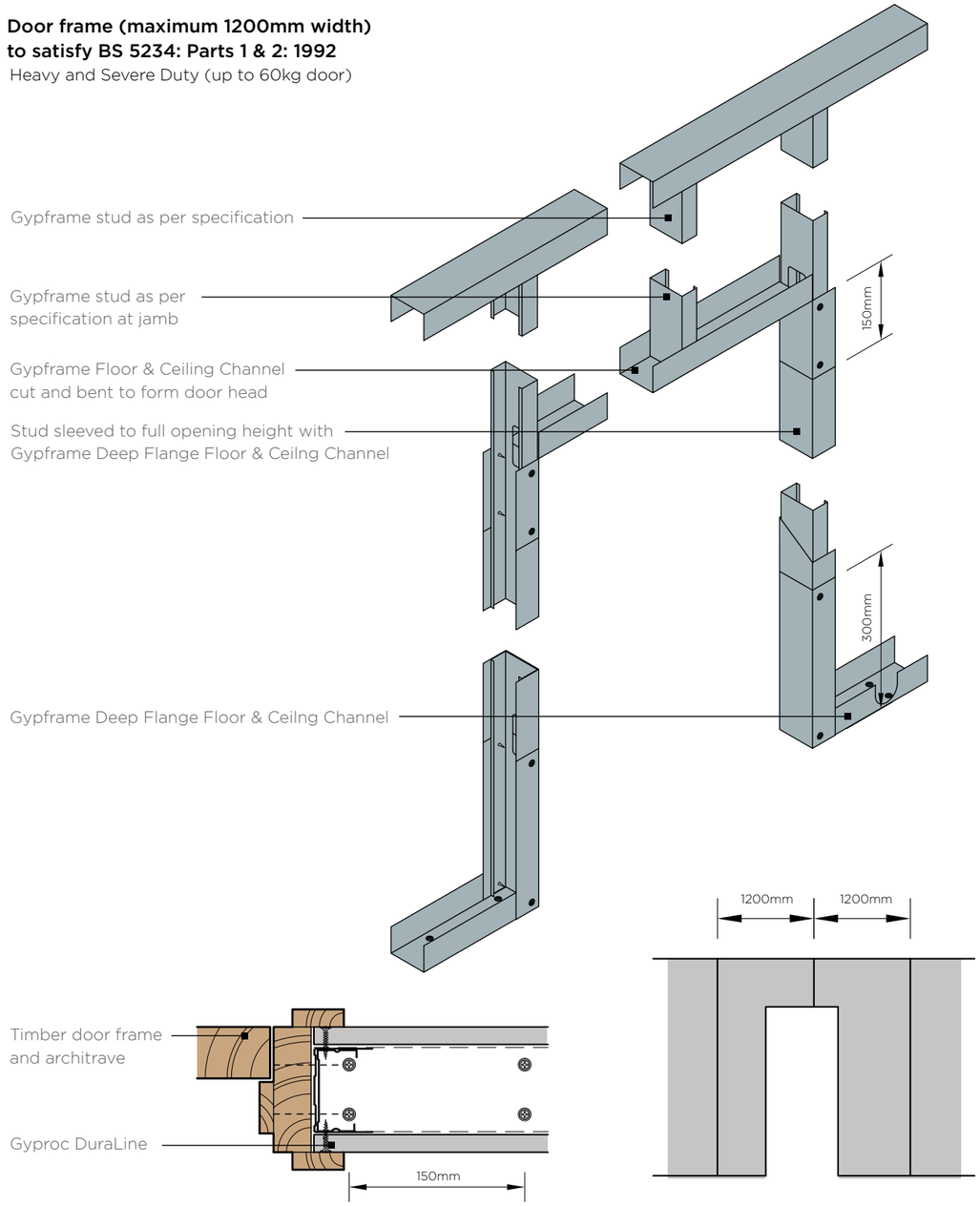
6. ‘T’ Junction

When partition with higher acoustic performance abuts a partition with lower acoustic performance. Acoustic principles only – detail may not be suitable for all solutions.



7. 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.

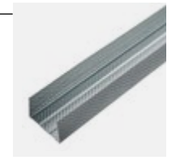
GypWall Single Frame Enhanced

System components

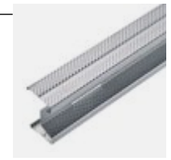
Keep busy areas in great condition with robust partitions.

SpecSure®
BRITISH GYPSUM SYSTEMS WARRANTY

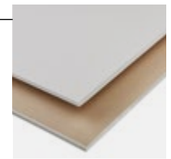
There are specifications within this system that qualify for our **SpecSure**® warranty. For more information, contact us through **british-gypsum.com**



Gypframe Deep Flange Floor & Ceiling Channels
Gypframe Deep Flange Floor & Ceiling Channels are cold-rolled steel with a 'U' shaped profile. These channels are fixed to the floor and soffit to retain Gypframe studs in British Gypsum partition and lining systems that are either between 4200mm and 8000mm high, include a deflection head, or provide a higher Duty Rating as defined by the system design.



Gypframe AcouStuds
Gypframe AcouStuds are cold-rolled steel studs with a sigma shaped profile. They include sight lines down the flanges. 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.



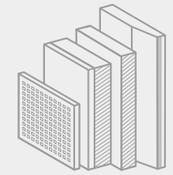
Gyproc DuraLine
Gyproc DuraLine is a plasterboard with a high density core combining impact, sound insulation and fire resistant properties. Use it in schools, hospitals and busy areas that are prone to impact damage.

Rigidur H
A gypsum fibre plasterboard with additives for rigidity, durability and mechanical strength. Use it as part of GypWall Single Frame Enhanced, a system with increased rigidity and durability, high levels of sound insulation and excellent fixing strength. Use it in offsite manufacture and high traffic areas where robust characteristics and/or fixing strength are required.

ThistlePro DuraFinish
An extra hardwearing finish plaster that resists impact to keep walls in high traffic areas damage free for longer, cutting maintenance costs. It is a gypsum finish plaster that provides a smooth, inert and high quality surface to internal walls and ceilings, as well as a durable base for applying decorative finishes.

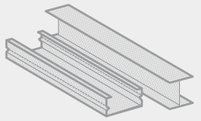
Careful product choice is central to maintaining system integrity, performance requirements and eligibility for our **SpecSure**® warranty. **Ensure an optimum standard of build by considering...**

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

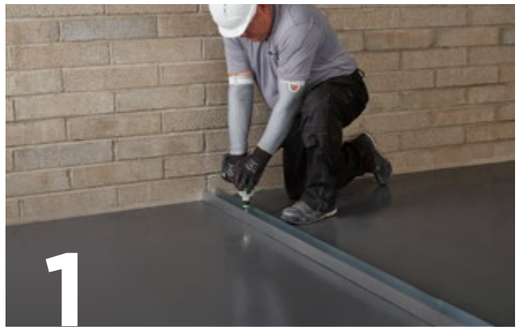
Our wide range of Thistle plasters and Thistle accessories give you everything you need to finish a job to the highest possible standard see **british-gypsum.com** for more details.

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

GypWall Single Frame Enhanced
Installation

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

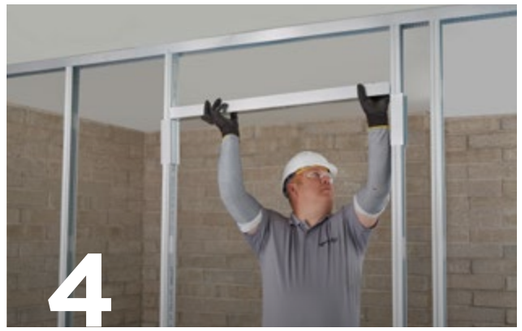


Suitably fix the appropriate Gypframe Floor & Ceiling Channels at the required centres to the floor and soffit.

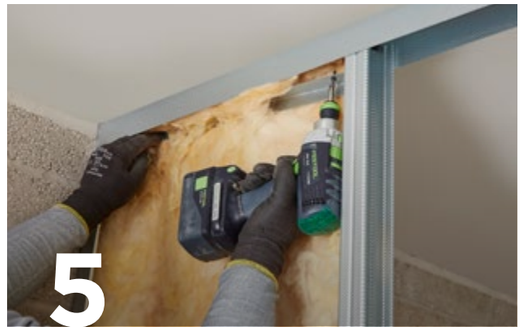
Important note – for channels 72mm and below a single row of fixings are used. For anything above 72mm two rows of 600mm fixings staggered by 300mm are used. For deflection heads see suitable details.

Fix Gypframe 'C' studs at appropriate centres to the perimeter construction.

Depending on the system, friction fit either Gypframe 'C', 'I' or AcouStuds into the Gypframe Floor & Ceiling Channels at required centres.

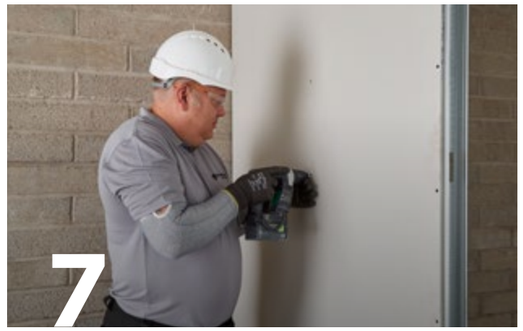


Construct door openings to the Heavy and Severe rating door detail.



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

Use Gyproc Sealant to seal the perimeter of the partition.



Use British Gypsum Drywall Screws to fix Gyproc DuraLine (and Gyproc SoundBloc inner layer if required) plasterboards to the Gypframe framework.

For an even more robust solution use Rigidur Screws to fix Rigidur H as the outer layer to all Gypframe framing members.

Important note – it is recommended that Rigidur H boards are pre-drilled and countersunk screw locations for improved ease of installation.