GypWall Shaft
Identification

Protect elements in confined spaces with our shaft encasement system

GypWall Shaft provides a lightweight, fire resistant structure to protect elements in confined spaces where access is limited to one side only. You can incorporate it at an early stage of construction without needing scaffolding.

The system lets you specify Glasroc F FireCase if you require non-combustible board linings. It uses components common to many other GypWall partition systems, particularly in 70mm stud solutions.

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 **38-52 R_wdB**

Duty rating **severe**

Why specify GypWall Shaft?

Reduces sound transmission by 38 to 52 R_wdB, backed up by laboratory tests incorporating deflection head detailing

Comes with our **SpecSure®** lifetime warranty

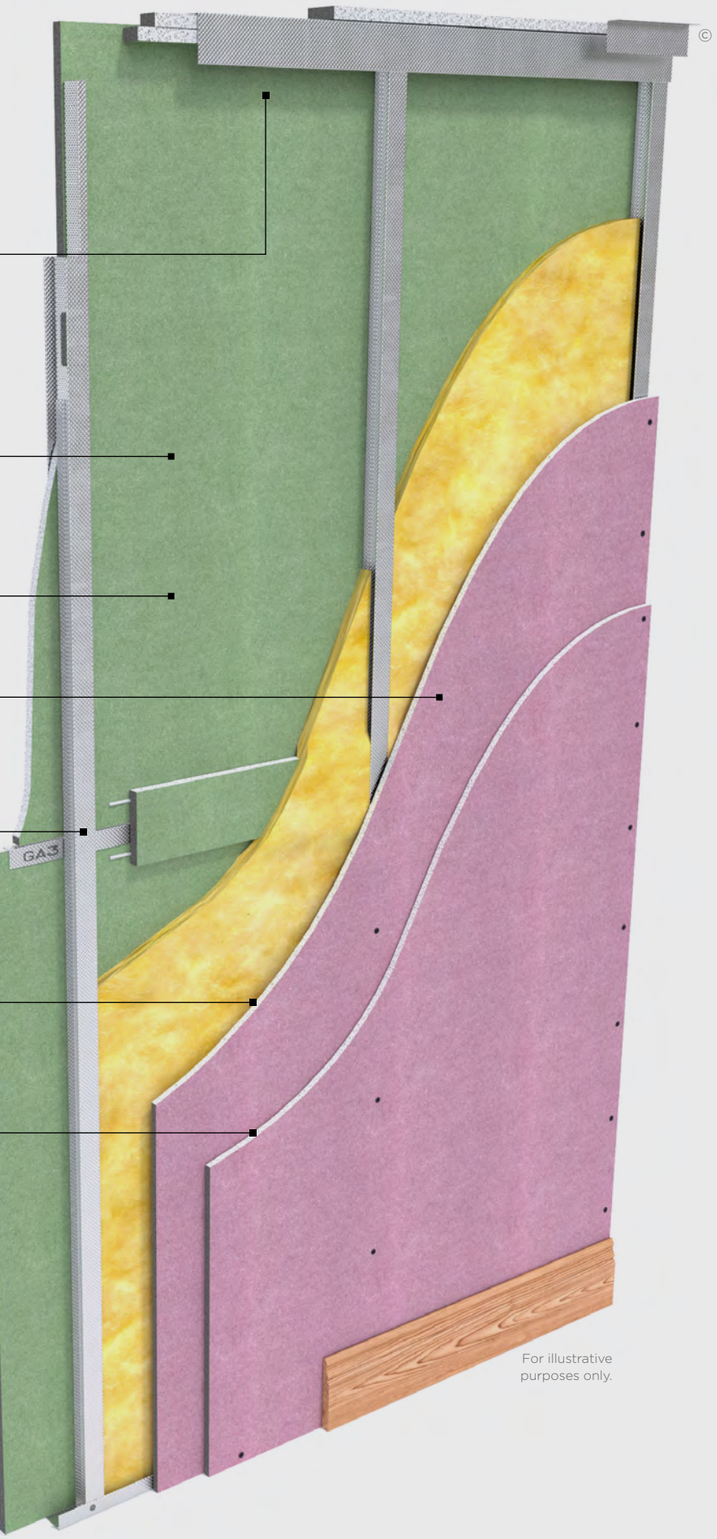
Up to 120 minutes fire resistance

Lets you specify non-combustible Glasroc F FireCase board linings

Protects elements in confined spaces wherever access is limited to one side only

Severe Duty rated

Ideal when access is limited to one side at the head, such as where mechanical and electrical (M&E) cages are already installed in corridors



For illustrative purposes only.

SpecSure®
BRITISH GYPSUM SYSTEMS WARRANTY

There are specifications within this system that qualify for our **SpecSure®** warranty. For more information see **british-gypsum.com/specsure**

GypWall Shaft

Design considerations

GypWall Shaft comprises Gypframe 'I' Studs and Gypframe Starter Channels within Gypframe Floor and Ceiling Channels.

The shaft-side boards are retained between the Gypframe Floor & Ceiling Channels and adjacent studs using Gypframe Retaining Channels.
This enables construction from one side only.

Planning – key factors

Predetermine the positioning and installation of service penetrations and heavy fixtures before the frame erection stage. Consider Timber sole plates where the floor is uneven. All penetrations need fire stopping. It is important that the drylining process is fully integrated into the site planning programme prior to construction. If the building envelope is left unsealed while GypWall Shaft is under construction, Gyproc FireLine MR or Glasroc F FireCase should be used for the lining.

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-shaft

Fixing floor and ceiling channels

Securely fix Gypframe Floor & Ceiling Channels at the base with a row of fixings at 600mm maximum centres, and, at the head, at 300mm centres. For channels of 94mm and above, two rows of staggered fixings are needed: each row at 600mm centres and each fixing 25mm in from the flange. The channel must have continuous support along its length to maintain specified performance levels.
If continuous support is not provided by the structure, e.g. Z-sections running transverse to a steel beam, a rigid non-combustible material between the Z-sections needs to be designed in. Z-sections need to be protected and remain in-situ in the event of a fire, taking into account any loads they are supporting.

Handy hint

Where the floor channel is not fully supported, e.g. at the edge of a floor slab, please refer to Technical Support on **british-gypsum.com**

Fixing to metal decking

Where GypWall Shaft is to be located transverse to the decking profiles, seal all slots or perforations above the head channel using a proprietary fire barrier or fire spray. Apply the fire stopping material prior to the head channel being positioned, ensuring that any surplus is removed flush with the steel decking.

Fixing to structural steel encasements

Where GypWall Shaft abuts a column or beam encasement, the framing will generally need fixing to the structural steelwork. Where GypWall Shaft abuts the web of the steelwork, install a Z-section to provide a fixing point level with the flanges of the steelwork.

Limiting heights at different air pressures

The maximum heights quoted in the online performance tables for vertical elements are based on a limiting deflection of L/240 at 200Pa, or by the fire state field of application. In practice, deflection from L/125 to L/360 may be allowed and at varying pressure conditions. These variations will affect the maximum wall height.

Important notes

For GypWall Shaft systems using Gypframe 60 I 70 'I' Studs, use Gypframe 62 JC 70 'J' Channel with its asymmetrical legs at the perimeter to facilitate the installation of the Gyproc CoreBoard. The shorter leg is installed facing the corridor side. For GypWall Shaft systems that use wider Gypframe 'I' studs, the appropriate Gypframe Extra Deep Flange Floor & Ceiling Channel should be used.

Connection to the structure

Structural steelwork and connections often result in complex junctions around shafts. If GypWall Shaft is built on the same line as the beamwork framing, problems may occur in sealing the wall up to the steelwork. It is recommended that, wherever possible, the wall should be located to one side of the beams, and fixed from structural floor to structural soffit.

Partition to structural steelwork junctions

When designing the layout of rooms requiring separation by sound insulating walls abutting structural steelwork, consider the potential loss of sound insulation performance through the steelwork.

Door openings

In the case of both normal access doors and lift doors, the door and frame assembly must have been shown by test to achieve the required fire rating. Lift doors must be substantiated in conjunction with GypWall Shaft complete with their framing members and transom panels. To achieve a satisfactory level of compatibility, mechanically fix a suitable starter channel to the door frame at 300mm centres. Refer to construction details 19 to 21 on page 5.17.

Pressurised airshafts and service risers

To allow for pressure conditions in GypWall Shaft and service risers the boards must be sealed into the frame using Gyproc Sealant (in addition to the normal sealing of the frame to adjoining structures). It is essential that these areas are identified at a very early stage of the build.
All trades should be instructed to recognise the need for the application of sealant and its replacement if damaged or removed. To maintain the integrity of the pressurised system, Gyproc Sealant should be specified for all board-to-metal applications, and the sealing of Gyproc CoreBoard or Glasroc F FireCase to the frame. Refer to construction details 13 to 16 on pages 5.13 and 5.14.

Control joints

Consider using control joints where excessive movement is likely to occur, or to coincide with constructional expansion joints. In order that the deflection criteria can be maintained throughout the building, it is necessary to introduce horizontal movement joints in the lining where this would normally be needed to extend through the height of the building, e.g. stairwells. The horizontal movement joint can be accommodated adjacent to the floor slab. Refer to construction detail 23 on page 5.18.

Deflection heads

Deflection heads, by definition, must be able to move and, therefore, achieving an airtight seal is difficult. In most cases, a suspended ceiling will help minimise loss of performance. Refer to construction details 11 and 12 on page 5.12 for standard head details. Apply Gyproc FireStrip as a continuous seal where indicated to maintain fire performance. Board fixings must not be inserted above the uppermost line depicted by the red arrow in each drawing. Designs incorporating Gypframe Retaining Clips are not suitable for live loads. Where greater deflection needs to be accommodated please refer to Technical Support on **british-gypsum.com**

GypWall Shaft
Design considerations

Services

Penetrations
Service penetrations through fire resisting or sound insulating constructions require 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**

Independent support
Consider the size and weight of services, such as fire dampers and associated ductwork, which may be installed through a partition once it has been erected. Determine whether they can be supported directly by the partition or require an independent support. Refer to Internal Partitions and Walls, Section 4

Openings bridging studs
Construct openings using channels for the trimming members. Rebate the web of the channel to allow the flanges to oversail the stud. Secure the flanges with two fixings. Cut channels and insert to maintain a 25mm gap surround. Fix to the trimming channels. Secure the stud with two fixings. Cut and insert channels with the webs folded to provide fixings. Insert a plasterboard packer adjacent to the stud. Refer to construction detail 17 on page 5.15.

Electrical services

Install electrical services in accordance with BS 7671. Pre-determine positions for light switches and other electrical outlets, to provide for support, and also for fire integrity. Gypframe 99 FC 50 Fixing Channel should be cut to bridge adjoining studs, with the edges flattened to permit fixing. The fixing channel should be backed with stone mineral wool. Gyproc FireLine (or Glasroc F FireCase) linings should be cut to allow a close fitting entry of the switch box which can be secured to the fixing channel. Refer to construction detail 7 on page 5.10.

Access for maintenance

Frame access door openings to avoid impairing the structural or fire-resistant properties of GypWall Shaft. To provide an opening ready to receive a door set, the jambs to storey height should be capped with Gypframe ‘J’ Channel incorporating a plasterboard packer. Insert a pre-formed spandrel panel assembled between starter channels, inserted between jambs and engaged into the head channel, retaining the 15mm gap for deflection at the head. Refer to construction detail 19 on page 5.17. Support is provided by a Gypframe ‘J’ Channel transom.

Secure the door frame to both Gypframe ‘I’ Stud and Gypframe ‘J’ Channel jambs and also to the transom member. Refer to construction detail 21 on page 5.17.

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british-gypsum.com/gypwall-shaft

Board finishing

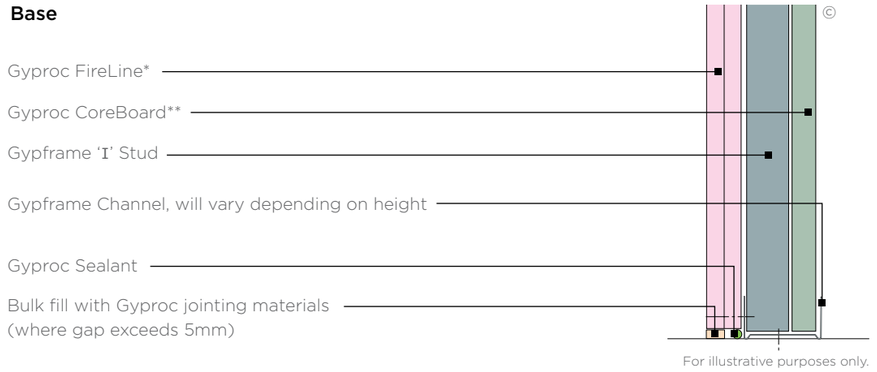
Refer to **british-gypsum.com** for our full range and guidance surrounding board finishing products.

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 our tiling-related products.

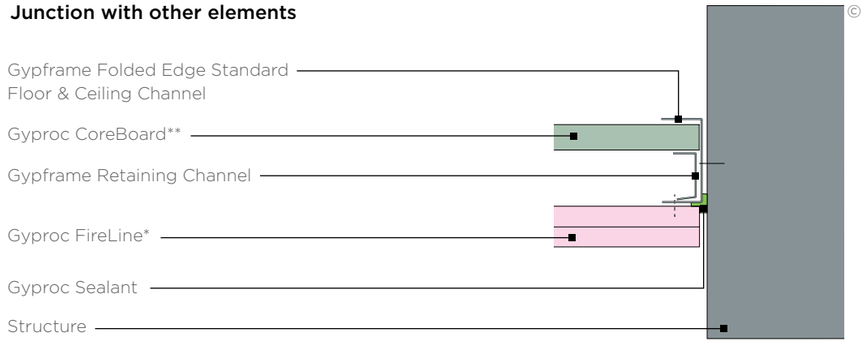
GypWall Shaft
Construction details

1. Base



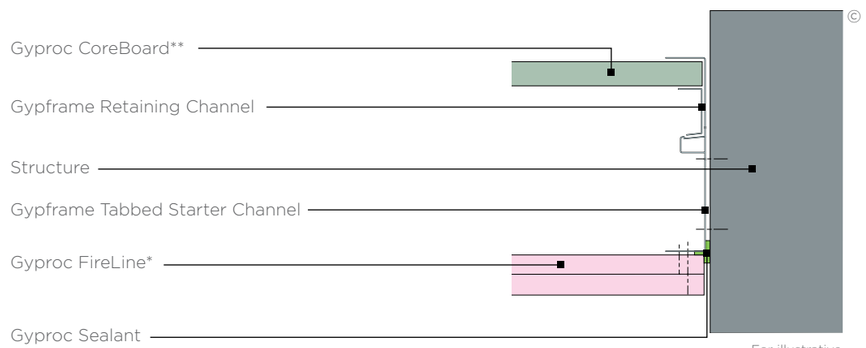
For illustrative purposes only.

2. Junction with other elements



For illustrative purposes only.

3. Junction with other elements (146mm)
Framework showing Gypframe Tabbed Starter Channel.



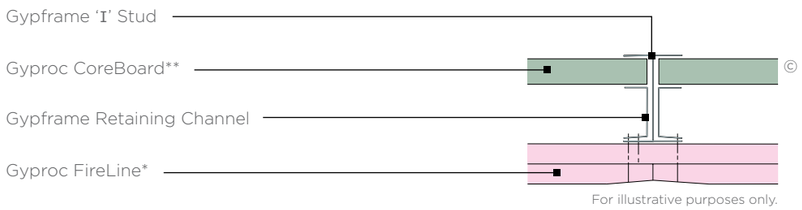
For illustrative purposes only.

* Replace with Glasroc F FireCase 15mm for systems with non-combustible linings.
** Replace with Glasroc F FireCase 20mm for systems with non-combustible linings.

GypWall Shaft

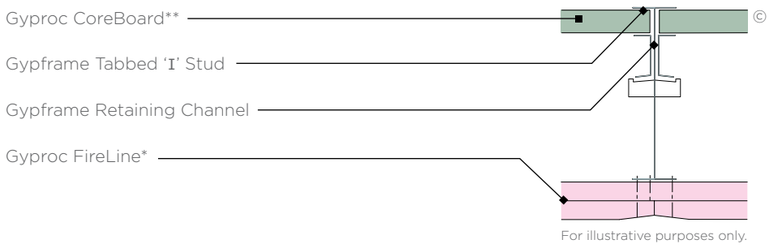
Construction details

4. Intermediate stud



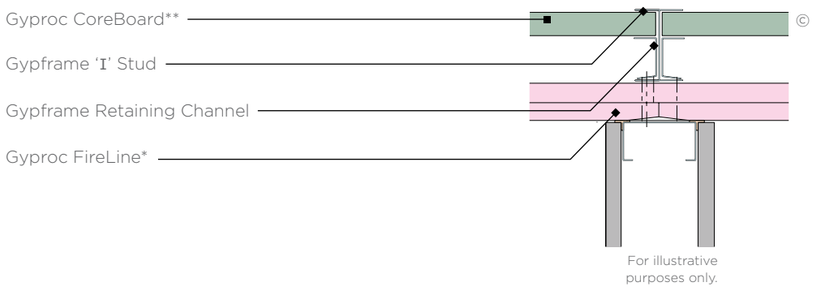
5. Intermediate stud (146mm)

Framework showing Gypframe Tabbed 'I' Stud.



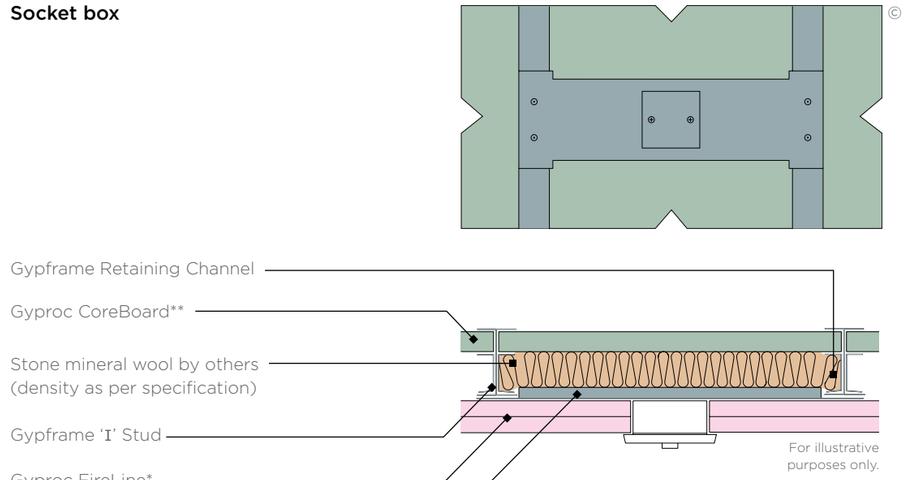
6. Partition junction

On-stud.



* Replace with Glasroc F FireCase 15mm for systems with non-combustible linings.
** Replace with Glasroc F FireCase 20mm for systems with non-combustible linings.

7. Socket box



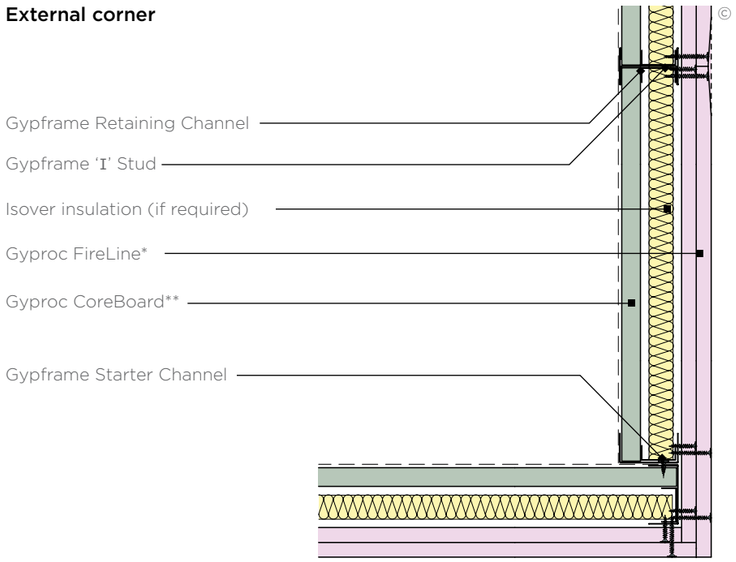
8. Horizontal Gyproc CoreBoard joints

* Replace with Glasroc F FireCase 15mm for systems with non-combustible linings.
** Replace with Glasroc F FireCase 20mm for systems with non-combustible linings.

GypWall Shaft

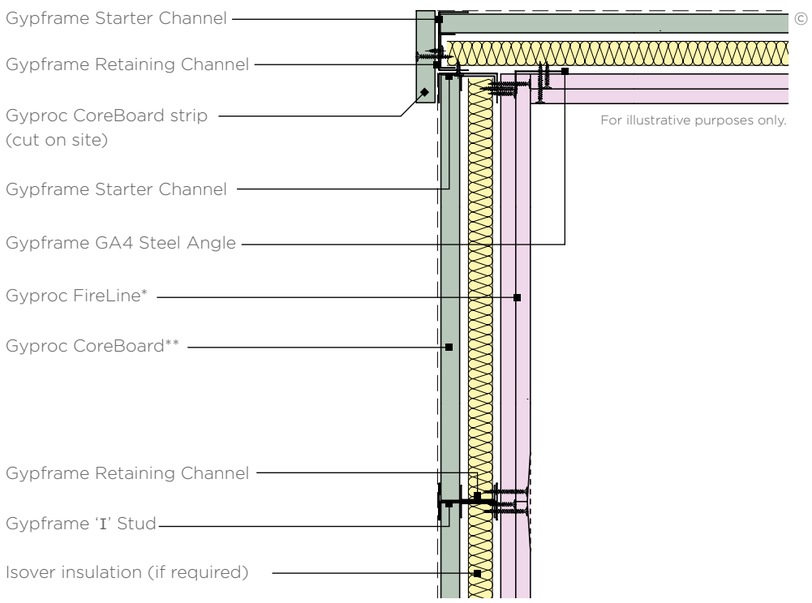
Construction details

9. External corner



For illustrative purposes only.

10. Internal corner



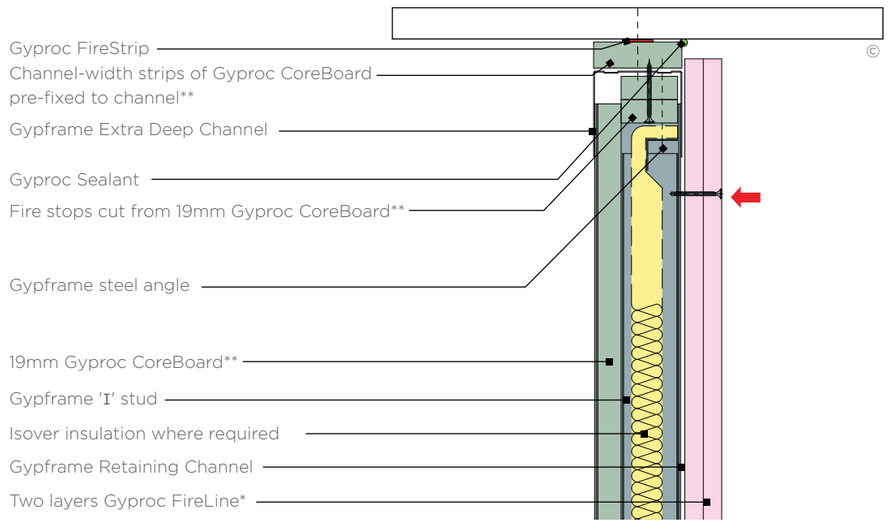
For illustrative purposes only.

* Replace with Glasroc F FireCase 15mm for systems with non-combustible linings.
** Replace with Glasroc F FireCase 20mm for systems with non-combustible linings.

11. Head detail incorporating 15mm downward deflection

60 minutes fire resistance to BS EN 1364-1

Fire resistance **60 mins**

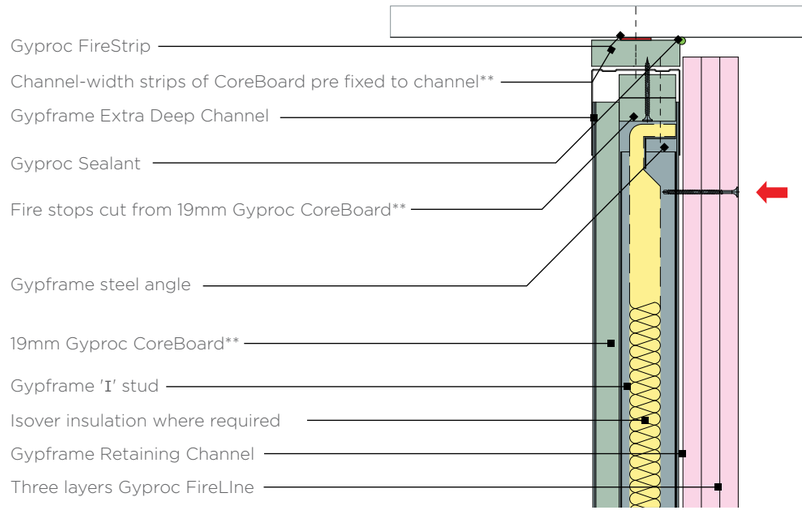


For illustrative purposes only.

12. Head detail incorporating 15mm downward deflection

120 minutes fire resistance to BS EN 1364-1

Fire resistance **120 mins**



For illustrative purposes only.

* Replace with Glasroc F FireCase 15mm for systems with non-combustible linings.
** Replace with Glasroc F FireCase 20mm for systems with non-combustible linings.

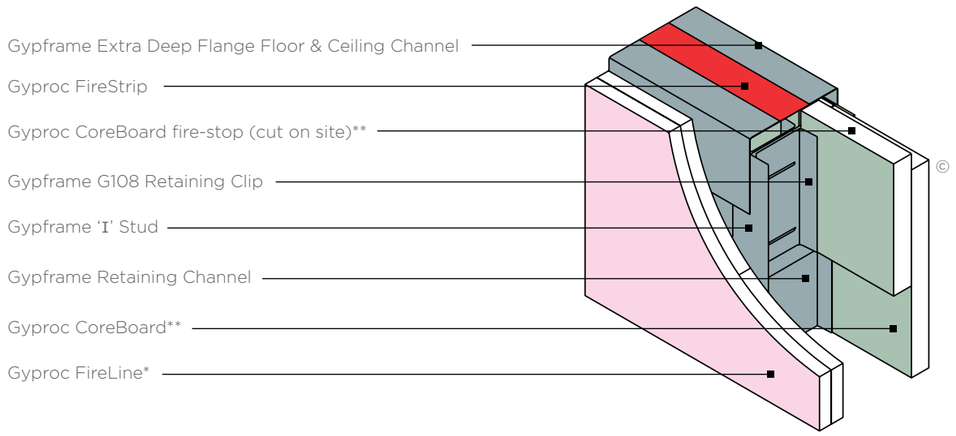
No fixings should be made through the boards into the flanges of the head channel. The arrow (⬅) denotes the position of the uppermost board fixing.

GypWall Shaft

Construction details

13. Head detail with retaining clips

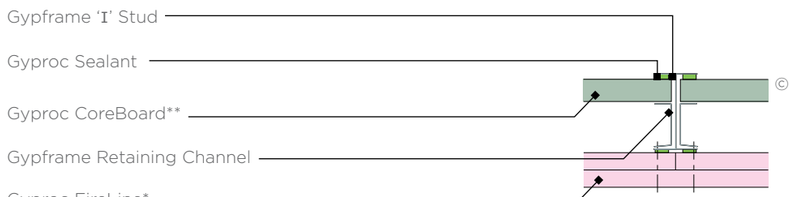
Incorporating Gypframe G108 Retaining Clip (92mm)
(Not suitable for live loads).



For illustrative purposes only.

14. Sealing pressurised air shafts and service risers

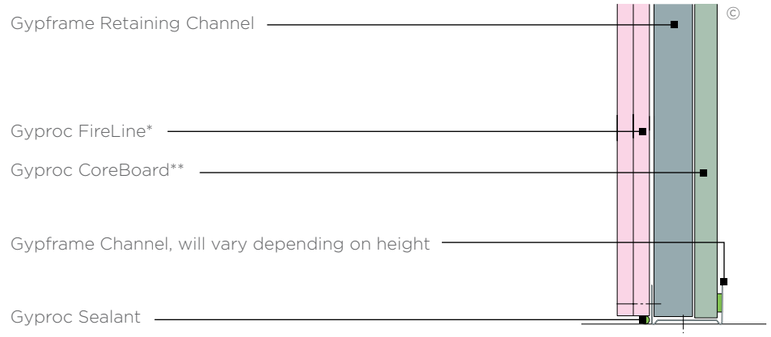
Intermediate stud (sealed structure).



For illustrative purposes only.

15. Sealing pressurised air shafts and service risers

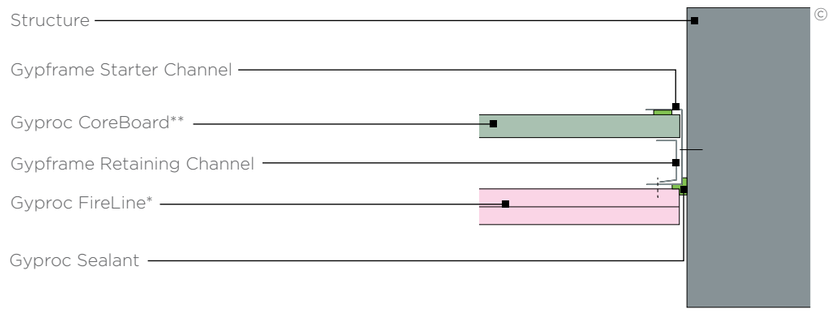
Base (sealed structure)



For illustrative purposes only.

16. Sealing pressurised air shafts and service risers

Junction with other elements (sealed structure)



For illustrative purposes only.

* Replace with Glasroc F FireCase 15mm for systems with non-combustible linings.
** Replace with Glasroc F FireCase 20mm for systems with non-combustible linings.

* Replace with Glasroc F FireCase 15mm for systems with non-combustible linings.
** Replace with Glasroc F FireCase 20mm for systems with non-combustible linings.

© British Gypsum, 2024.

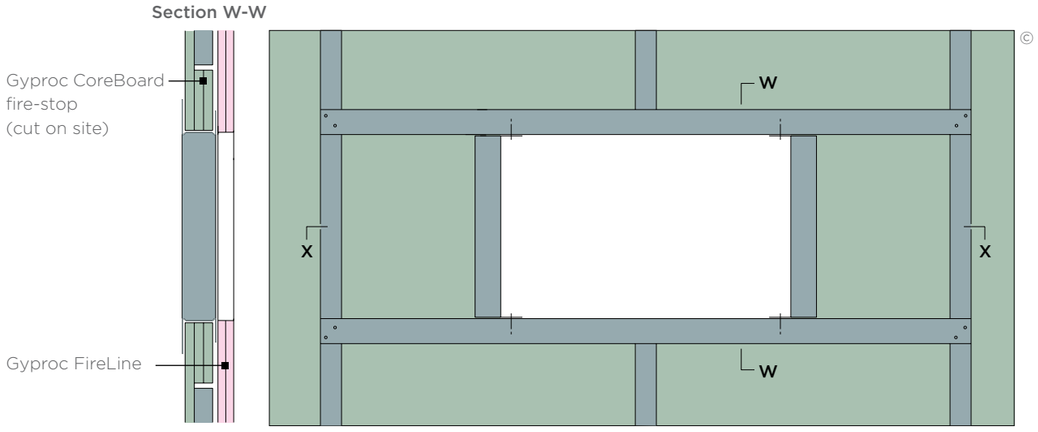
Shaftwall

GypWall Shaft

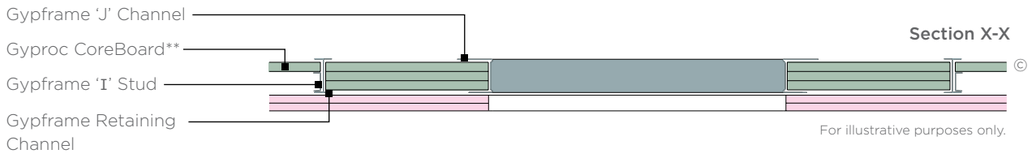
Construction details

17. Opening bridging studs

Example shows 60mm stud (refer to our website for maximum opening sizes and best practice guidance)



For illustrative purposes only.

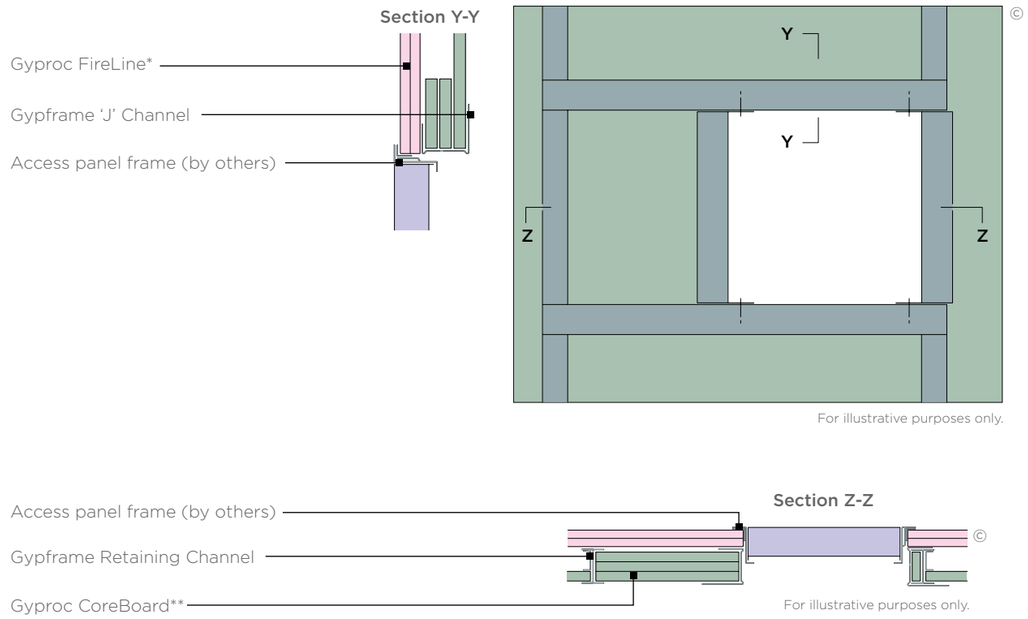


For illustrative purposes only.

* Replace with Glasroc F FireCase 15mm for systems with non-combustible linings.
** Replace with Glasroc F FireCase 20mm for systems with non-combustible linings.

18. Opening between studs

Example shows 60mm stud



For illustrative purposes only.

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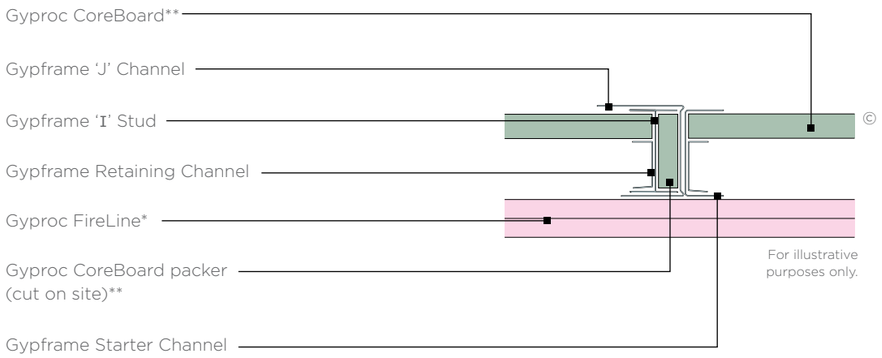
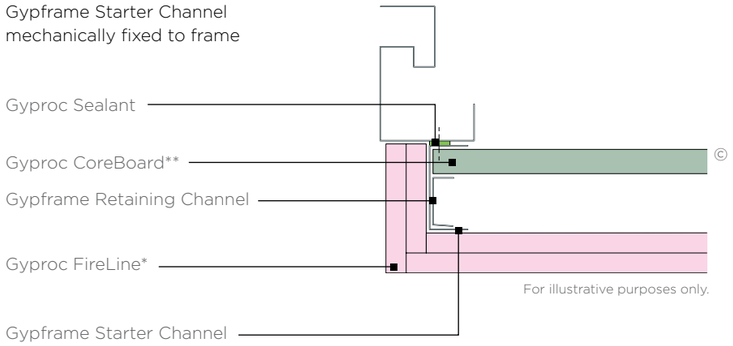
* Replace with Glasroc F FireCase 15mm for systems with non-combustible linings.
** Replace with Glasroc F FireCase 20mm for systems with non-combustible linings.

GypWall Shaft
Construction details

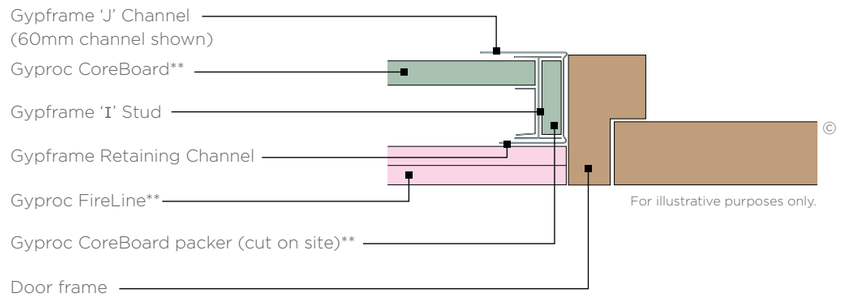
19. Access door
Spandrel panel



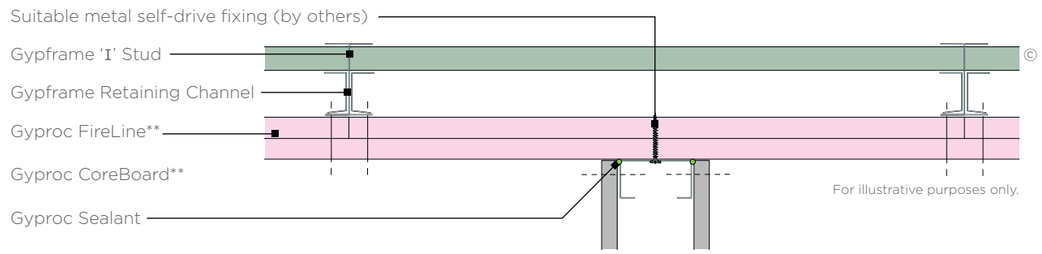
20. Lift door
Gypframe Starter Channel mechanically fixed to frame



21. Access door jamb



22. Retro-fit non-performance partition junction



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* Replace with Glasroc F FireCase 15mm for systems with non-combustible linings.
** Replace with Glasroc F FireCase 20mm for systems with non-combustible linings.

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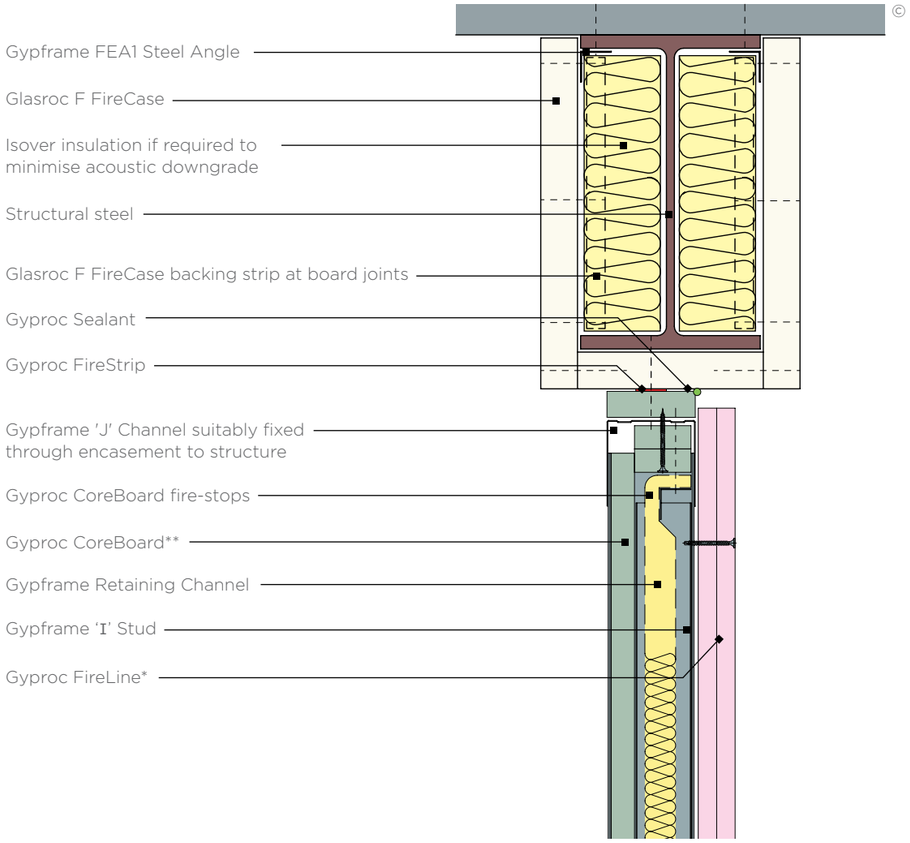
GypWall Shaft

Construction details

24. Head detail below a beam, incorporating 15mm downward deflection

Beam encasement and partition junction for partitions to satisfy BS 5234-2:1992 Heavy and Severe Duty Rating. Not suitable for live loads.



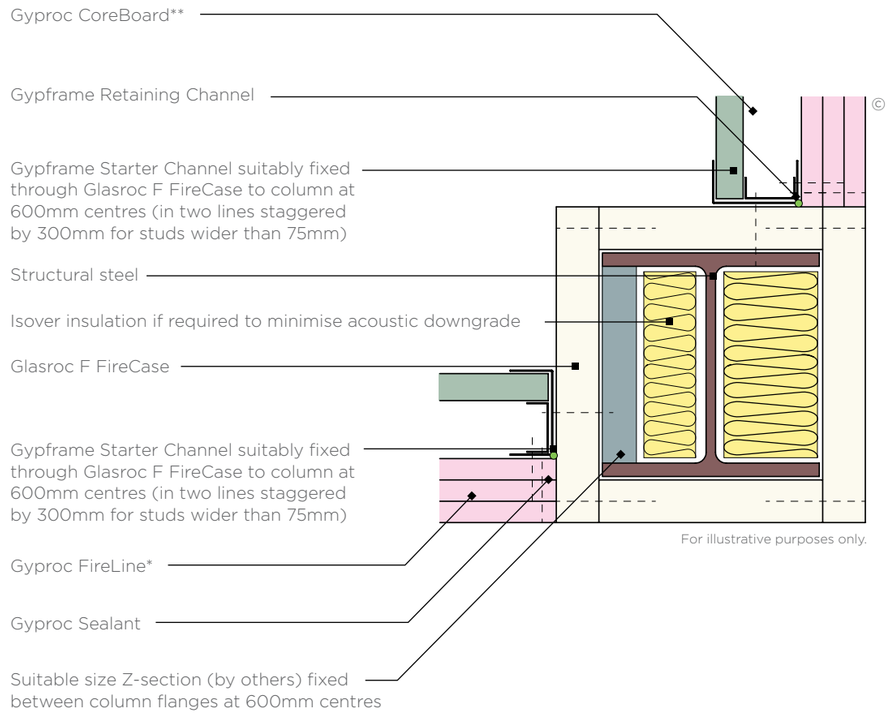
For illustrative purposes only.

* Replace with Glasroc F FireCase 15mm for systems with non-combustible linings.
** Replace with Glasroc F FireCase 20mm for systems with non-combustible linings.

25. Connection to column encasement

Column encasement and partition junction for partitions up to 120 minutes fire resistance and BS 5234-2: Heavy and Severe Duty Rating

Fire resistance **120** mins



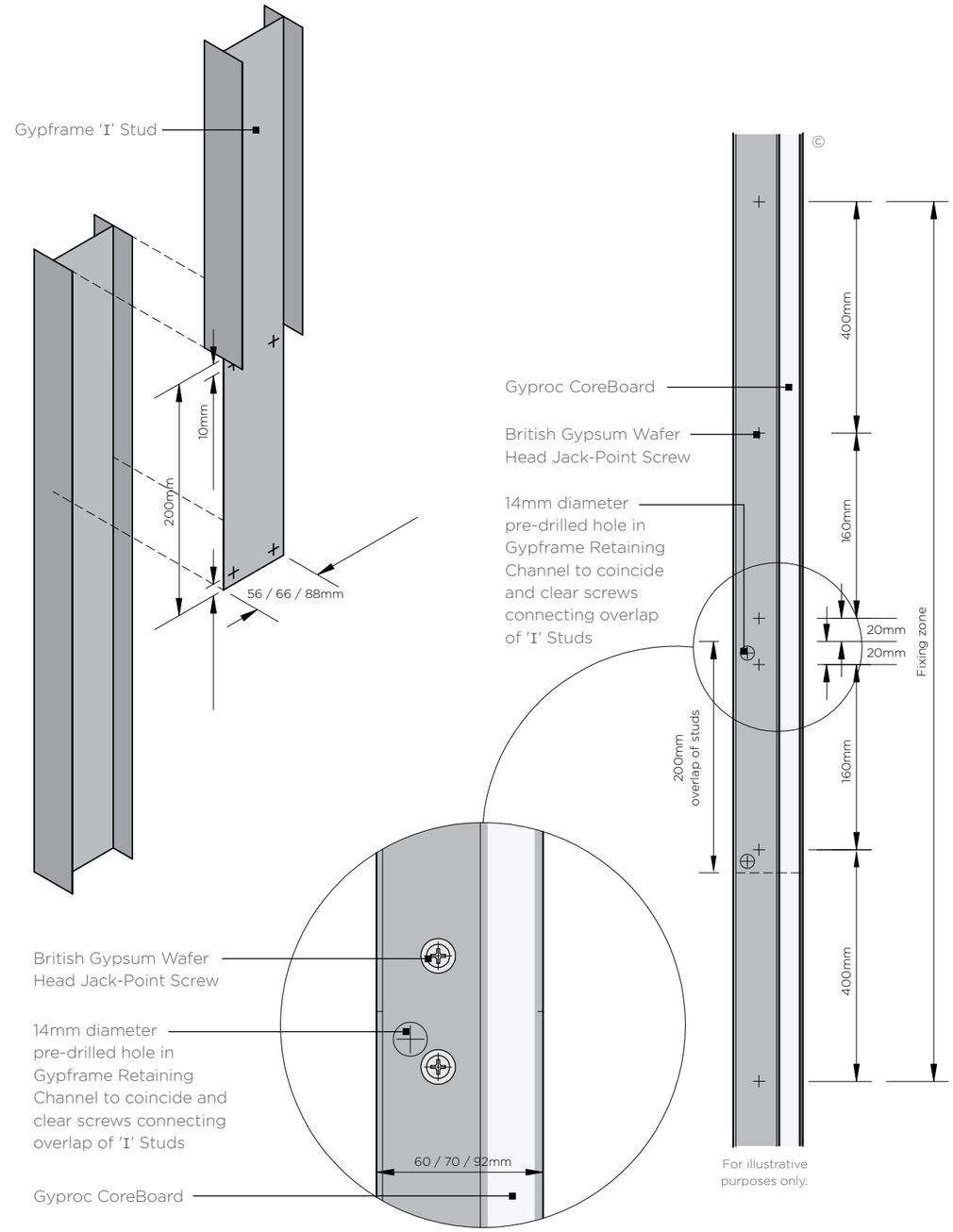
For illustrative purposes only.

* Replace with Glasroc F FireCase 15mm for systems with non-combustible linings.
** Replace with Glasroc F FireCase 20mm for systems with non-combustible linings.

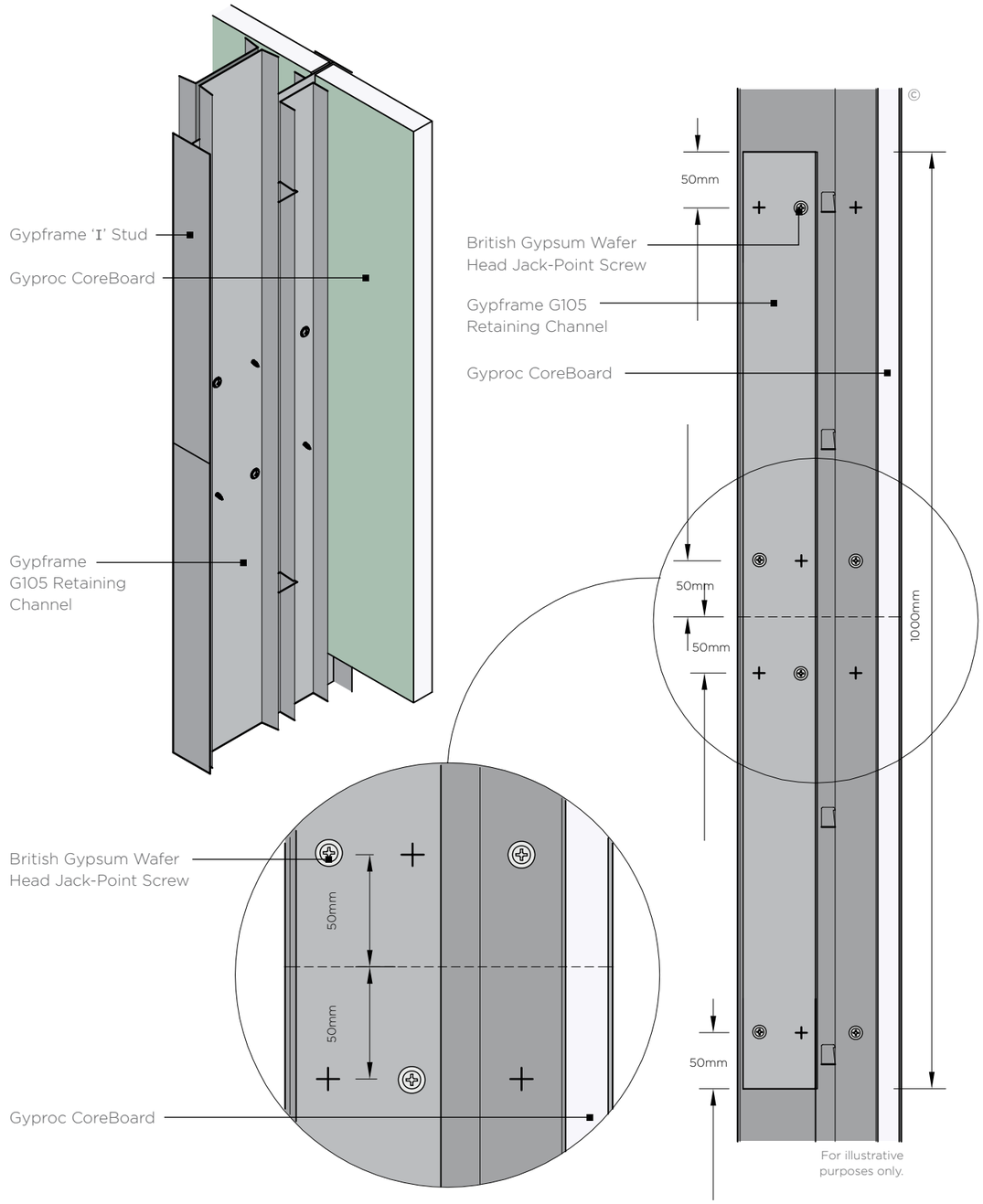
GypWall Shaft

Construction details

26. 'I' Stud splicing detail (60 / 70 / 92mm)



27. 'I' Stud splicing detail (146mm)

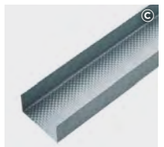


GypWall Shaft

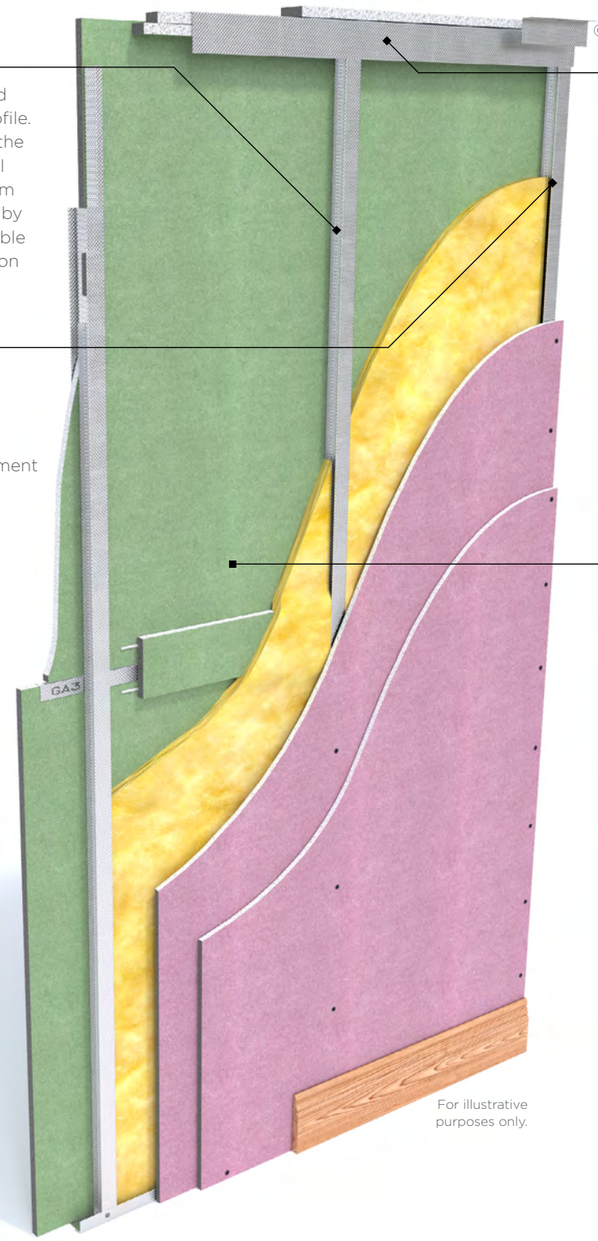
System components

Shaft and riser encasement system and linings for within confined spaces.

Gypframe 'I' Studs
Gypframe 'I' studs are cold-rolled steel studs with an 'I' section profile. They include 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 Starter Channels
Starter channels for wall end abutments and doors. Designed for the high performance GypWall Shaft systems and GypCeiling Shaft providing abutment and plasterboard fixing support.



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SpecSure®
BRITISH GYPSUM SYSTEMS WARRANTY

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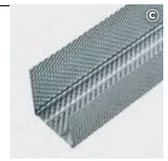


Gypframe® 62 JC 70 'J' Channel
Channel with uneven flanges for retaining the Gypframe studs at ceiling junctions. Designed for the high performance GypWall Shaft systems for retaining the Gypframe studs at ceiling junctions. Also used around openings and in deflection heads.

Gypframe Retaining Channels
Steel profiles for retaining plasterboard to 'I' studs. Retaining Channel is used to clamp Gyproc CoreBoard or Glasroc F FireCase to 'I' studs in GypWall Shaft and GypCeiling Shaft systems.

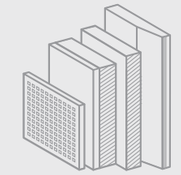
Gyproc CoreBoard
Gyproc CoreBoard is a moisture and fire resistant board. Use it in our GypWall Shaft system.

Gyproc FireLine
Gyproc FireLine is a plasterboard that contains glass fibre and other additives for extra fire protection. Use it in partitions, ceilings and steel encasement systems to achieve the fire performance required in domestic separating walls, corridors, garages and steel encasements.

Glasroc F Firecase
Glasroc F FireCase is a high performance, Class A1, non-combustible glass reinforced gypsum board. Use it as part of the FireCase frameless structural steel encasement system and the GypLyner Encase system. This product is also suitable for installation in semi-exposed areas before the building envelope is complete.

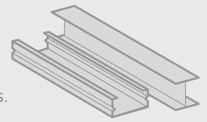
Careful product choice is central to maintaining system integrity, performance requirements and eligibility for our **SpecSure**® warranty. **Ensure an optimum standard of build by considering...**

What are you fixing?



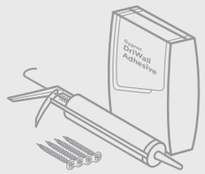
Our market leading range of high-performance plasterboards for shaftwall and ceiling membrane systems within any building type. See **british-gypsum.com** for more details.

What are you fixing to?



Our Gypframe metal profiles provide a strong and versatile structure for fixing our specially designed shaftwall and ceiling membrane 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 an internal partition or wall 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

Shaftwall

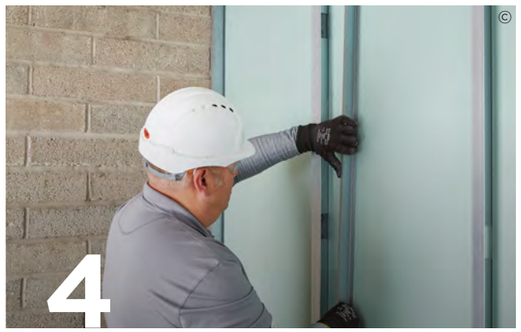
GypWall Shaft
Installation

Suitably fix the appropriate Gypframe floor and ceiling channels to the perimeter at the required centres.

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. NB for def heads see suitable details

Suitably fix Gypframe Starter Channels to vertical abutments.

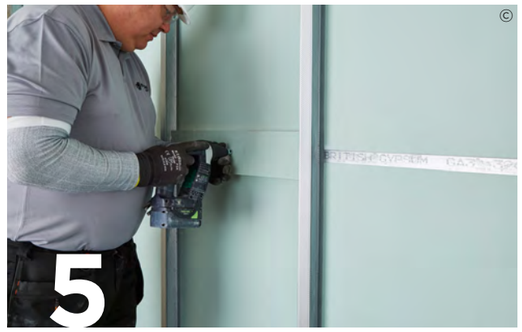
Friction fit Gypframe 'I' Studs or Gypframe Tabbed 'I' Studs into the channels at 600mm required centres. Fit Gyproc CoreBoard or 20mm Glasroc F FireCase between the studs on the shaft side.



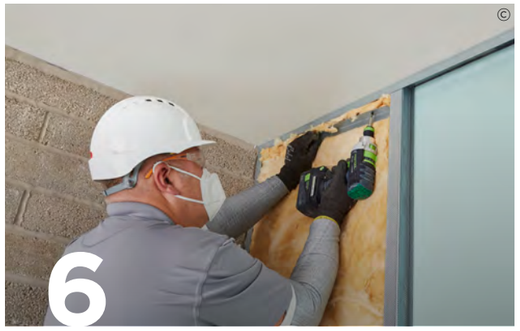
Use appropriate Gypframe Retaining Channels to hold boards in place.

Important note – Use Gyproc Sealant to seal pressurised shafts and service risers. Apply Gyproc Sealant to all board-to-metal junctions.

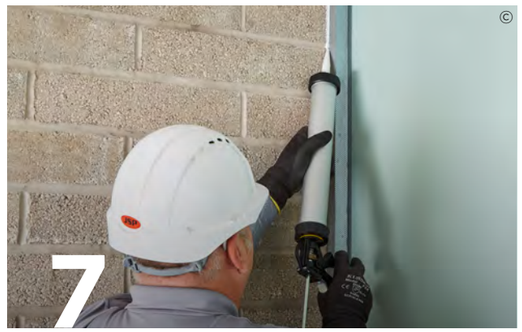
The information below is intended to be a basic description of how the system is built.



Fire stop horizontal board joints using Gypframe GA3 Angle and strips of Gyproc CoreBoard from the non-shaft side.



Add Isover Acoustic Partition Roll (APR 1200) insulation to the partition cavity for optimal acoustic and thermal performance.



Use Gyproc Sealant to seal the frame perimeter.

Gyproc plasterboard or Glasroc F FireCase are then fixed to the Gypframe framework with British Gypsum Drywall Screws to metal framing less than 0.8mm thick ('I' Studs less than 0.6mm thick) or British Gypsum Jack-Point Screws to metal framing 0.8mm thick and greater ('I' studs 0.6mm thick and greater).