

# Promat



Compartmentation

# Passive Fire Protection

## Steel Stud Partitions & Solid Walls

Technical Manual

Hong Kong version



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## Introduction

Partitions are used to separate buildings, enclose compartments and contain fire by providing a barrier to the passage of fire from one side or the other, or both. In doing so, they are able to satisfy each of the relevant fire resistant criteria (integrity, insulation and load bearing capacity) from either side for the prescribed period.

The application of partition and external wall systems using Promat boards covers both non loadbearing and loadbearing in commercial, industrial, institutional, residential and high rise constructions, or in the restoration of existing buildings. Promat's internal partition systems require less material to achieve similar fire resistant level when compared to industry average wallboard partition systems. The single layer board application leads to simplified construction methods over other equivalents and in turn to increased productivity and reduced overall installation cost.

These partition and external wall systems have been developed by Promat to satisfy standard requirements for intended applications. Such considerations include:

- **Time and cost effectiveness**  
Single layer application reduces installation cost and time compared to traditional wallboard constructions.
- **Slim walls**  
Partitions can be as thin as 35mm.
- **Lightweight**  
Lighter loads on structures compared to industry average wallboard partition systems for equivalent fire resistance.

### → Thermal resistance

Excellent thermal resistance performance. Impact resistant PROMATECT®-H partition systems have been tested for resistance to impact, stiffness and robustness in accordance with the criteria of BS 5234: Part 2.

### → Acoustic performance

Tested and assessed to a range of standards, including ISO 140-3: 1995, ISO 717-1: 1996, BS 5821: 1984 and BS 2750: Part 3: 1980, to meet the needs of industry. Please refer to <?> for more information.

### → Fire resistance performance

Promat partitions and external wall systems have been extensively tested and assessed in accordance with BS 476: Parts 21 and 22 to satisfy the integrity, insulation and where applicable loadbearing capacity (structural adequacy) criteria.



## Design considerations of partitions

Following are some of the factors to take into account when determining correct specifications that ensure a partition provides required design performance under both fire and ambient conditions.

### Studwork design

The design of studwork should be adequate for the height of the partition. The studwork details given in the following specifications are suitable up to the maximum heights stated. For greater heights the dimension of the framing members could change depending upon factors such as movement and deflection, and local approvals. Larger or more frequent frame sections will often improve fire and structural performance.

The studwork shall be appropriately designed for the applied loads, e.g. wind load, and where applicable structural load in the case of load bearing systems. The framing for the partition systems must be securely fixed back to a substrate that has an equal or greater fire performance than the designed partition. All fixings must be non combustible and must be those listed in the approval documents. The design shall be in accordance with the relevant British and/or International Standards.

### Non loadbearing partitions

Non loadbearing partitions and external wall systems using Promat boards can be generally categorised as framing systems consisting of steel or timber studs and solid partitions. For steel stud systems, selection of suitable stud size shall be in accordance with the maximum partition height given in the stud selection tables. The partition systems in the following pages, where stated, are designed for lateral loads of up to 0.25kPa using the composite action of the frame and boarding.

### Loadbearing partitions

Loadbearing capacity of featured partition systems in this handbook are calculated in accordance with BS 5950-8: 2003 and AS 4600: 1996 for load cases defined by AS 1170: 2002. The maximum load bearing capacity is given in kN for a given partition height taking into account the reduction in steel strength at elevated temperature.

Studs are located at 610mm maximum centres with noggings. Loads considered in this manual are for axial compression only. Wind and other loads have not been taken into consideration. For further information on these loads, please consult Promat.

## Deflection

Where differential movement is expected between the floor or beam above the construction and/or the floor below, it is generally advisable to incorporate a deflection head track to ensure undue stress is not placed upon the partition. This also allows for the sagging and deflection of a floor or structural beam will be subjected to under fire conditions. Even concrete floors will suffer considerable deflection under fire if exposed for any extended duration.

Some form of movement joint is also required to allow for the expansion of the studs under fire conditions. A partition will also bow at its centre. As the wall bows, it naturally becomes shorter. For this reason alone, use should be made of a top track with long side legs. This will allow the stud to bow and as a result drop down, without the studs dropping out of the head track.

## Movement joint

Movement stress from dimensional changes due to varying temperature or moisture conditions can cause cracking and other symptoms of distress in partitions. Other external forces such as impact or vibration can directly affect the structural movement of partitions. This movement can be controlled through a variety of design techniques such as introducing perimeter relief and slip connections to reduce the transfer of stress from the structure to other building sub elements and/or through the use of expansion joints, control joints and construction joints.

In a partition, expansion joints are needed when the partition abuts a rigid mass. A vertical movement joint should be located at maximum 10000mm centres in long runs of partition. However, introducing a control joint into a fire resistant partition creates an opening for flame and temperature transmission. Such openings must also be treated with approved fire stopping systems.

Please refer to page 16 for details on movement joints.

## Caulking and service penetrations

To maintain fire and where applicable acoustic performance of the partition system, gaps at the perimeter must be appropriately filled with suitable caulking material. PROMASEAL® Intumescent Acrylic Sealant or other tested fire and acoustic resistant material of equivalent or better performance must be used.

Care needs to be taken in detailing a suitable fire stopping system around any penetration of the partition by services to ensure that the fire-stopping material remains in situ, and fire and smoke do not penetrate the partition.

Allowance should be made for thermal movement of the services in both ambient and fire conditions to ensure loads are not applied to the partition. Some examples of service penetrations include electrical cables, conduits or wires, switches and power outlets, plastic and metal pipes, air conditioning and ventilation ductwork.

Please consult Promat for more information on the penetration seals of these elements.

## Fire doors and glazing

Tested or assessed door and glazed assemblies should always be used. All and any doors or glazed elements with a fire resistant wall should be shown, by fully compliant testing to the appropriate standard, to be capable of providing at least an equal fire performance to the wall itself. This means fire doors should be tested in lightweight partition systems, not just in masonry. In most cases additional framework will be required to prevent loads being applied to the partition. Careful detailing is needed around the perimeter of any door or glazed assembly.

Please refer to page 17 for window and door framing details.

## Partition junction

Care must be taken to ensure that partition corner junctions and intersections are stable for both fire and ambient conditions. Framing at these locations must be mechanically fastened together. See page 13 for more information.

## Board fixing

Promat boards can be installed horizontally or vertically.

For steel stud partition system, joints in the boards must be staggered between either side of the framing with all the joints located at a framing member. The boards may be fixed to the studs using No. 8 bugle head self-drilling and self-tapping screws of a length appropriate for the board thickness. Needle point screws are normally used to fix boards to light gauge steel frames up to 0.8mm. Drill point screws are generally appropriate for heavy gauge steel frames from 0.8mm to 2.0mm.

When a timber frame is used, Promat boards are fixed to the framework using screws or nails of a length appropriate for the board thickness and the required fire resistance performance at nominal 300mm centres and minimum 12mm from the board edge. Minimum edge distance to fasteners and the maximum spacing between the screws or nails must be maintained.

Internal and external corners may be set using a perforated metal corner bead fixed to the board linings at not more than 500mm centres.



## Steel stud partitions

### Steel frame components

#### Components selection

Construction of Promat fire resistant steel stud partitions can be achieved using Rondo stud and track components. Other steel components of equivalent performance can of course be used but it is the responsibility of the manufacturer of the component to substantiate equivalent performance with the recommended component.

#### Deflection head and bottom tracks

The main function of the ceiling and floor tracks is to hold the studs in position until the board is fitted. They provide a friction fit for the studs and also act as a slip joint to allow for any movement in the structure.

The track sections come in two basic profiles. A standard track has a nominal 32mm flange whilst the deflection head track has a nominal 50mm flange. However, head tracks with wider flange are available but they have to be specially designed for instances where clearance for expansion at the head track exceeds 20mm.

No clearance for expansion is applicable at the head track for a loadbearing partition. Track sections should be fixed at maximum 610mm intervals to the supporting structure. Fixings should be located not more than 100mm from either end of the track section.





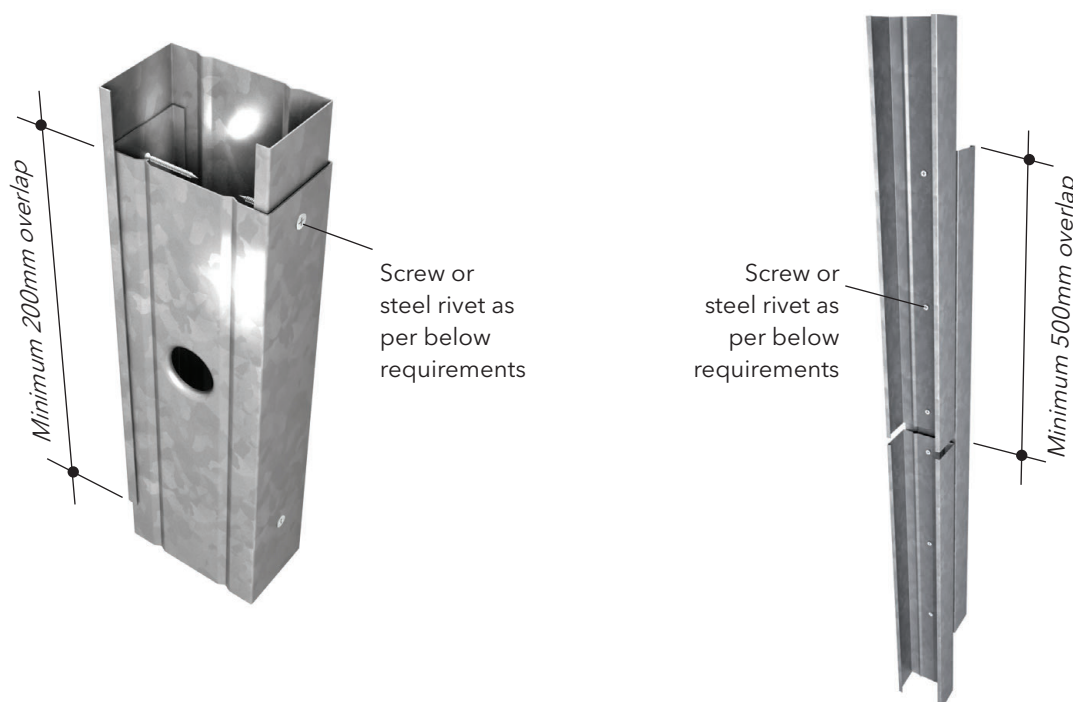
## Vertical studs

The recommended Rondo studs come in 0.50mm, 0.55mm, 0.75mm and 1.15mm. The 0.50mm to 0.75mm studs have standard 25mm bell-mouthed service holes for electrical cabling. For the 1.15mm stud, round holes are punched at designated centres along the stud.

Spliced extensions are possible in situations where the overall height of the partition is more than the stud length. The 0.50mm to 0.75mm studs may be boxed and the 1.15mm studs may be spliced back to back.

For greater rigidity at fire resistant glazing and door openings, and also at locations where extra load carrying capacity is required, studs of 0.50mm to 0.75mm may be boxed and studs of 1.15mm may be fixed back to back. See guide below on spliced studs and stiffening framing.

### Fixing of spliced vertical studs for partition heights up to 7000mm



#### 0.50/0.55/0.75mm studs

| Splice location in wall | Minimum required fasteners on both sides of studs over the splice |
|-------------------------|---|
| Up to 10%               | 2 pieces  |
| 10% to 25%              | 3 pieces  |

#### 1.15mm studs

| Splice location in wall | Minimum required fasteners on both sides of studs over the splice |
|-------------------------|---|
| Up to 10%               | 3 pieces  |
| 10% to 25%              | 5 pieces  |

The splice location percentage refers to the height of the partition. For example, taking a partition 10000mm high, a 10% splice location would be located within 1,000mm of the top or bottom of the wall. A 25% splice location would be within 2000-5000mm of the top or bottom of a 10000mm high wall.

- Splices should be alternate subsequently at top and bottom of wall
- Do not splice studs between 25% and 75% of wall height
- Splicing of studs is recommended for non loadbearing partitions only
- Where splicing is not possible due to the height, use fully boxed sections

## Nogging track

Noggings are necessary to provide bracing to the partition studs and preventing the studs from twisting when fitting the lining boards. The noggings are to be screwed, riveted or crimped to both flanges of the studs. Continuous nogging tracks 0.55mm and 0.75mm are available from Rondo. This nogging track can be fitted to the stud framing in one length. Alternatively, individual noggings may be cut from the track. Noggings of 0.75mm can be used with 1.15mm studs.

### TOP TRACK FIXING

Track to be structurally designed in accordance with BS 5950, for the given opening dimensions.

### BOTTOM TRACK FIXING

Track to be fastened to substrate floor and ceiling with M6 anchor bolts 40mm long at maximum 600mm centres. Studs can be installed vertically at 600-610mm centres depending on the board size used. See illustration on the right.

### HORIZONTAL TRACK USING STEEL STUDS

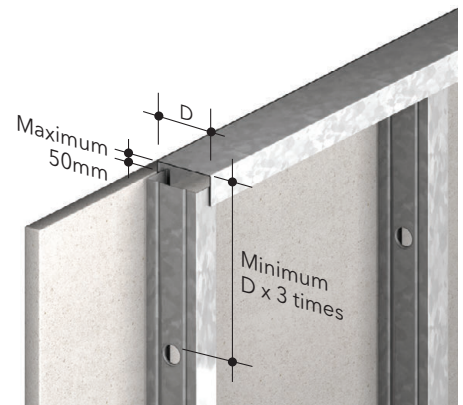
- Studs to be cut to a short length and screwed in between each of the vertical studs.
- Cut the base of the track leaving two short studs either side. Insert the noggings between the vertical steel studs and fix through the studs into the vertical studs on either side, using only steel rivets or screws.
- All horizontal joints of the boards are to be fixed to the noggings.

### HORIZONTAL TRACK USING STEEL CHANNELS

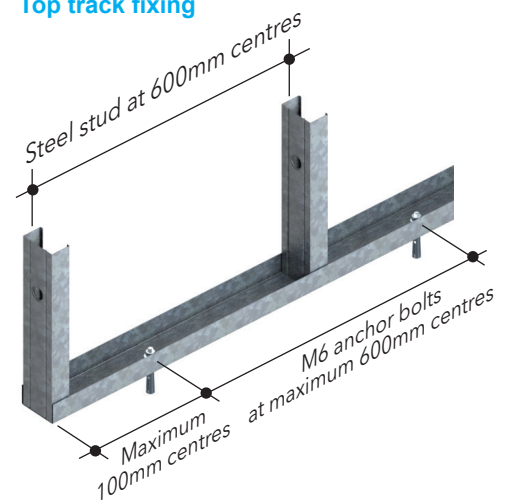
- Steel channel cut to length and screw fixed to the both sides of the vertical studs.
- All horizontal joints of the boards are fixed to the nogging.

### HORIZONTAL JOINTS WITH BOARD STRIPS

- Cover fillets minimum 75mm wide cut from main lining boards. Fix board to board using stitching screws of a length appropriate to the board thickness, at maximum nominal 200mm centres.
- All horizontal joints of the boards to be covered and fixed by board strips.



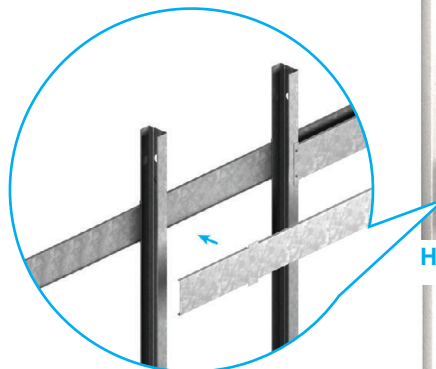
Top track fixing



Bottom track fixing



Horizontal track using steel studs



Horizontal track using steel channels



Horizontal joints with board strips

## Acoustic design

### Acoustics in building construction

Sound is a form of energy generated by a source, transmitted through a medium and collected by a receiver. It can be pleasant to be heard, such as music and speeches etc, while some, such as scratching a glass surface with a sharp object, are irritating. This offensive sound is commonly termed noise. The acoustic design of buildings can be divided into two basic requirements, noise control and room acoustics.

Noise control relates to the quantity of sound with an objective to ensure the sound level does not adversely affect the comfort of building occupants. This involves control of sound produced in a room, such as telephones ringing, as well as limiting the noise entering from other rooms or outside the building. A common solution targeting this problem is the introduction of sound absorption systems.

Room acoustics relate to the quality of sound with an objective to enhance the quality of desired sound within a room. This involves factors such as speech intelligibility and perception of musical clarity. The most widely applied solution employed by building designers is the use of a sound insulating system.

A point worth noting is that although both noise control and room acoustics have independent objectives, they are however inter-related in practice. As this section of technical handbook covers partition and ceiling systems, the following concentrates only on issues related to sound insulation which involves transmission loss (TL) of airborne sound.

### Sound transmission and classification

The sound transmission loss of a building element, such as a partition, is a measure of how much sound is reduced as it passes through the barrier, expressed in dB or decibels, the unit used to quantify sound. The generally accepted term for the single number ratings for sound transmission loss is the sound transmission class (STC) – determined by comparing

the TL value to the reference curve in ASTM E413: 1987. Generally the higher the STC value, the better the performance of the system.

The following table provides a rough idea of what various STC levels mean in terms of privacy afforded:

| STC | Privacy afforded                         |
|-----|--|
| 25  | Normal speech easily understood          |
| 30  | Normal speech audible but unintelligible |
| 35  | Loud speech understood                   |
| 40  | Loud speech audible but unintelligible   |
| 45  | Loud speech barely audible               |
| 50  | Shouting barely audible                  |
| 55  | Shouting not audible                     |

*Source: U.S. Dept of Commerce/National Bureau of Standards Handbook, "Quieting: A practical guide to noise control".*

Another widely accepted equivalent term is the weighted sound reduction index (R<sub>w</sub>) according to ISO 717: Part 1: 1996 or BS 5821: Part 1: 1984. It is determined in a similar manner but instead of TL values, an equivalent R<sub>w</sub> (or R) is used.

Note should be taken that results obtained in STC and R<sub>w</sub> may be very similar but they are not always equivalent depending on system.

Most building structures are not built like laboratories and it is very common that the sound insulation rating measured in ideal test conditions will not be achieved in a building. In order to meet the desired level of performance, building designers should therefore carefully consider the compatibility of the selected system with the supporting structure. Note that field performance is typically lower than laboratory performance by approximately 10%.



## Acoustic design considerations

With modern design concepts and technology in building construction, acoustic performance within buildings has become an important element for consideration by building designers. There are many factors involved in establishing an ideal noise level for any particular building space, some of which are as follows:

- To avoid fatigue induced by noise.
- To prevent distraction or disturbance.
- To maintain a good communication and listening environment.

Heavy walls such as concrete have good transmission loss. However, there are some drawbacks which limit their performance. Mass law dictates that a wall will increase its transmission loss by only 5dB for every doubling of mass. Therefore, a single 100mm thick concrete wall of 2300kg/m<sup>3</sup> density might have an STC 45 rating whereas a 200mm thick concrete wall would only achieve STC 50 for a doubling in mass.

For most owners and builders, a wall of this size and weight is not desirable. Cost may more than double and the decibel-per-dollar achieved is clearly not acceptable. This limitation can be easily overcome by using a lightweight system, i.e. the partition system, where it is more practical to utilise principals such as air cavity, resilient mountings, sound absorbing core materials or a combination of these principals without the large increase in mass required for solid walls.

Following are some common practices that are effective for noise control and room acoustics.

### Double studding and air cavity

With typical dry wall partitions, sound striking at the wall surface is transmitted through the first surface material into the wall cavity. It then strikes the opposite wall surface, causing it to vibrate and transmit the sound into the air of the adjoining room. This is termed airborne sound. When the sound strikes the wall at the stud, sound is transmitted direct through the stud and is termed structure borne sound.

The principal of double studding basically means separation of two panels of a drywall partition into a double-leaf wall, integrated with appropriate air spacing (cavity) between the leaves. The introduction of an air-space provides some form of separation or discontinuity between the two wall faces in a double-leaves wall.

As an example, a double stud partition creating an air cavity eliminates direct mechanical connection between the surfaces. The sound transmission is reduced by breaking the sound path. In addition, the air cavity provides vibration isolation between the two sides. Sound in one room striking the one side of the wall causes it to vibrate but because of the mechanical separation and the cushioning effect of the cavity, the vibration of the other side is greatly reduced.

## Sound absorbing core material

Sound absorption is the effectiveness of a material at preventing the reflection of sound. Generally, the more sound absorption, the fewer echoes will exist. The sound absorbing core used in the Promat partition designs can be mineral or rock wool, glass wool or polyester, depending upon fire resistance requirements.

This core will further improve the sound isolation performance of the wall by absorbing sound energy in the cavity before the sound can set the opposite wall surface in motion. They will also provide some damping of the vibrating wall surface.

## Treatment to flanking paths

When working with acoustic systems, it is critical that strict attention be paid to construction and detailing. The acoustic integrity of a system can be influenced by the combination of elements that make up the system. Single leaf and uninsulated systems are particularly dependent on high quality of installation. For example, if there is a gap of 5mm wide around the perimeter of an STC 45 rated wall of 3000mm x 3000mm, the actual performance would degrade to about STC 30. Therefore, to make acoustically rated partitions effective, they must be airtight. Any path for air also means there is a path for sound. In order to achieve the designed STC rating closely, the following factors must also be taken into account:

- Sound paths, e.g. windows, doors, ceilings and floors.
- Penetrations through walls, even above ceilings or below floorings, must be sealed.
- Stagger the joints between multiple layers of wall boards or ceiling linings.
- Do not install electrical points back to back on either side of a wall;
- Openings for return air in ceiling plenum systems must be strictly controlled.

## Wall & floor intersections

A good acoustic partition is only as good as its joint or intersection at wall and floor, like a chain and its weakest link. If this joint or intersection is not treated properly, the acoustic value may be lost. Many joint defects from flanking paths allow sound to travel via air gaps through the structure.

Acoustic sealants are the simplest means to provide a permanent air tight seal. They are made from materials that are permanently elastic which will allow floor or wall materials to move, as they are prone to do because of expansion and contraction or outside forces such as structural movement. A permanent airtight seal is the most effective way to maintain the acoustic integrity of the wall. Regardless of which system is employed, all openings, cracks and material joints should be made air tight with a permanently elastic acoustical sealant.

## Acoustic system selection guide

As sound insulation requirements may vary from country to country. Below table suggests acoustic values for some typical partition installations, unless otherwise specified by the architects. Please consult Promat for more information.

| Applications for separating        | STC rating |         |        |
|------------------------------------|------------|---------|--------|
|                                    | Minimum    | Average | Luxury |
| Bedroom to bedroom                 | 45         | 50      | 55     |
| Bedroom to living room             | 50         | 55      | 60     |
| Bedroom to lobby                   | 50         | 55      | 60     |
| Office to office                   | 45         | 50      | 55     |
| Office to general area             | 40         | 45      | 50     |
| Office to conference room          | 45         | 50      | 55     |
| Office to washroom                 | 45         | 50      | 55     |
| Conference room to general area    | 40         | 45      | 50     |
| Conference room to conference room | 40         | 45      | 50     |
| Classroom to classroom             | 45         | –       | –      |
| Classroom to shop                  | 55         | –       | –      |
| Classroom to recreation area       | 45         | –       | –      |
| Classroom to music room            | 60         | –       | –      |

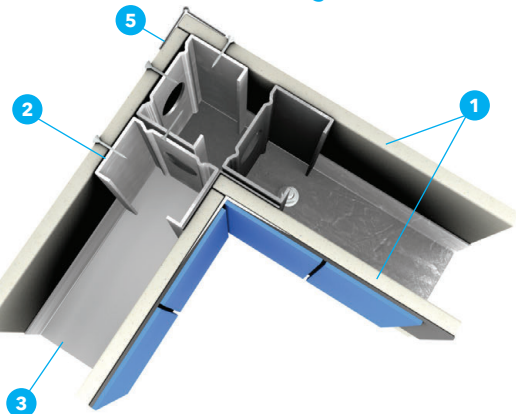


### SOME SOURCES OF SOUND LEAKAGE

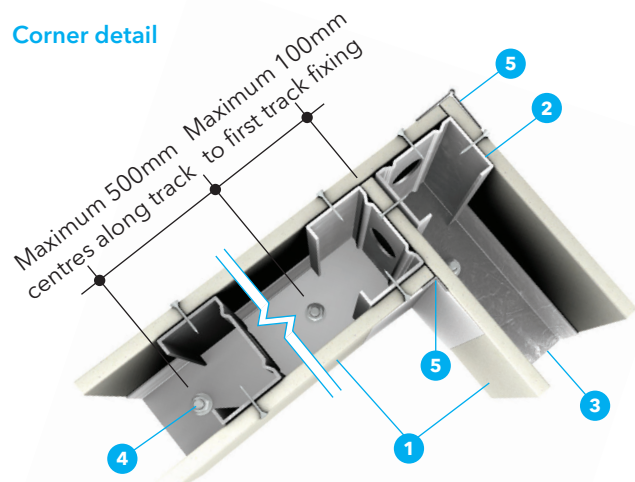
1. Air leaks through gaps or cracks
2. Doors
3. Lightweight panels above doors
4. Electrical outlets and service pipes
5. Partition performance
6. Sound transmission via suspended ceilings or partitions
7. Common floor heating duct
8. Common ventilation system without sound absorbent treatment
9. Lightweight mullion or partition closer
10. Appliance

## Steel stud partitions wall junction details

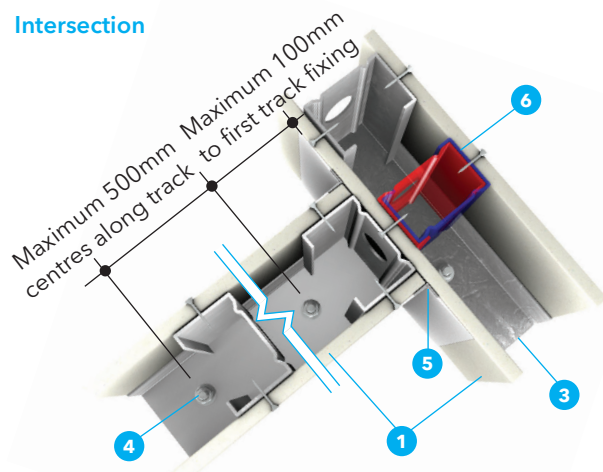
Corner detail (with decorative lining)



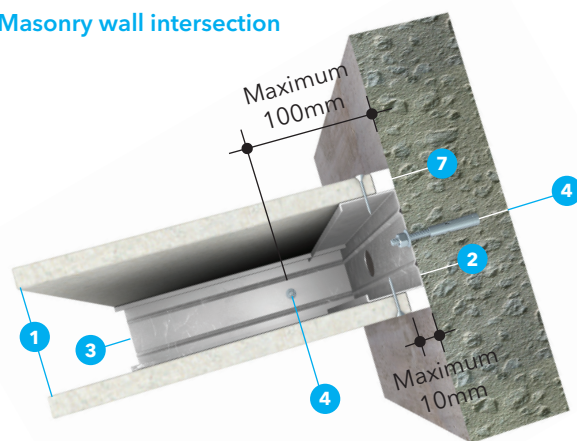
Corner detail



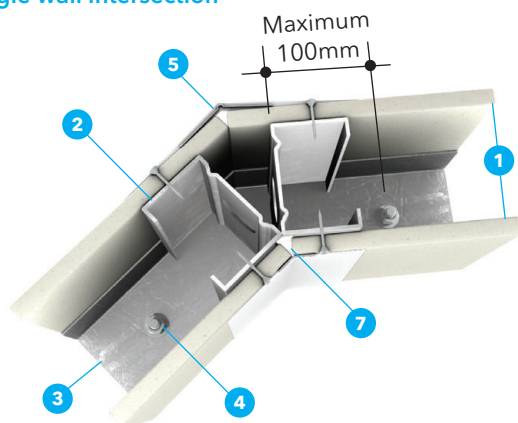
Intersection



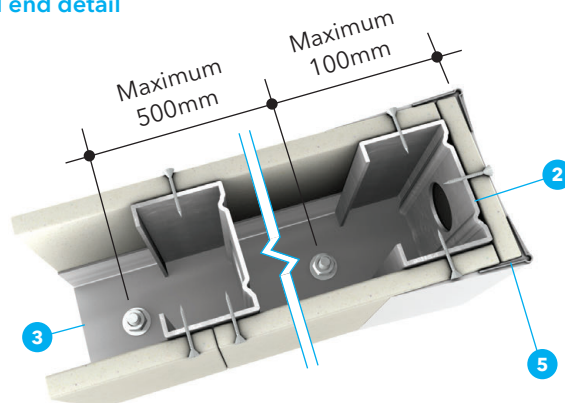
Masonry wall intersection



Angle wall intersection



Wall end detail



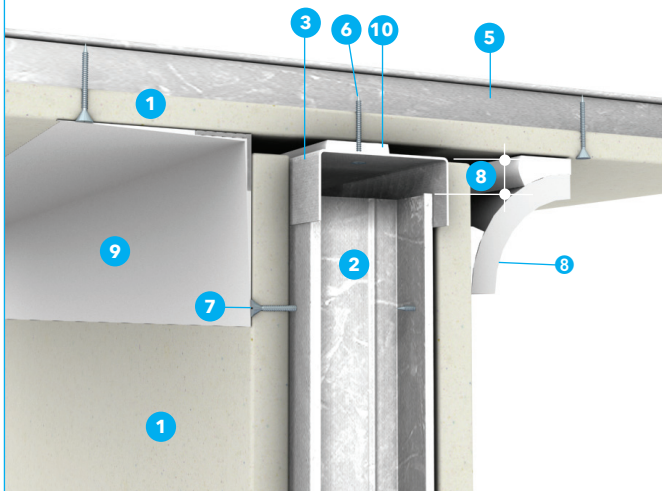
1. PROMATECT®-H or PROMINA® 60 boards
2. Steel studs at 610mm centres
3. Floor tracks
4. M6 anchor bolts at 500mm centres
5. Set corner with tape and jointing compound

6. Boxed stud at wall intersection
7. Caulk all perimeter gaps with PROMASEAL® Intumescent Acrylic Sealant to achieve the required fire resistance and/or acoustic performance

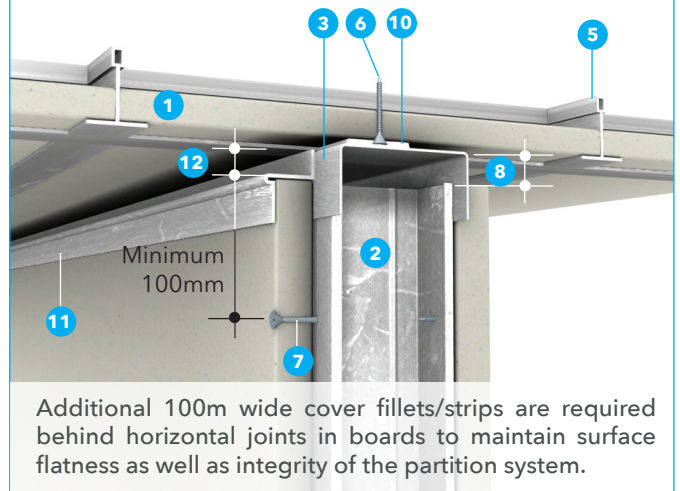


## Steel stud partitions deflection head details

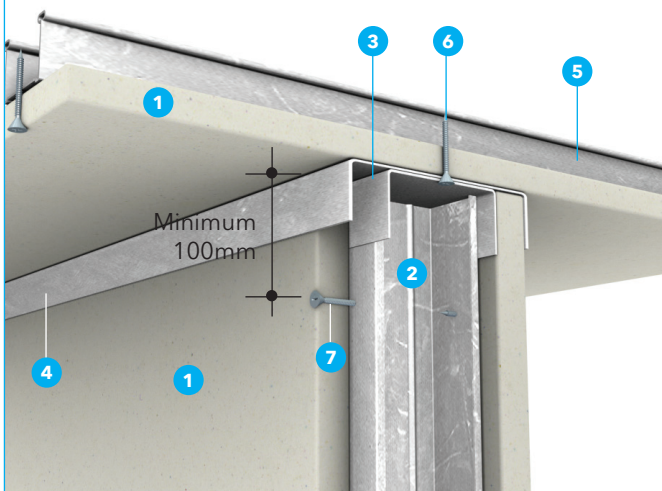
Wall and ceiling junction



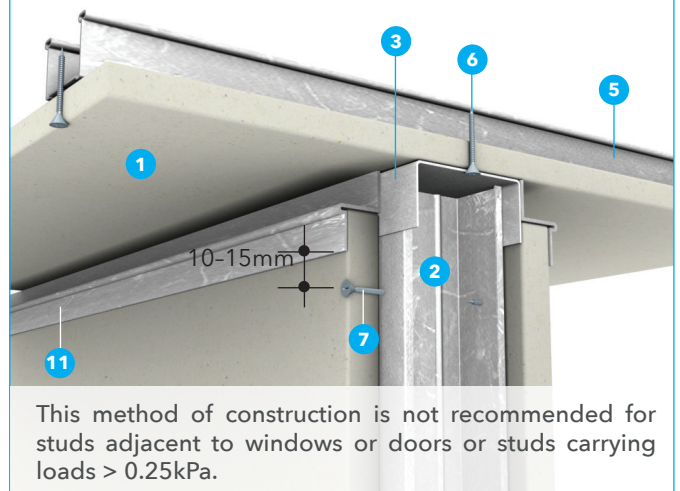
Wall and ceiling junction



Head with aluminium head track (non fire resistant)

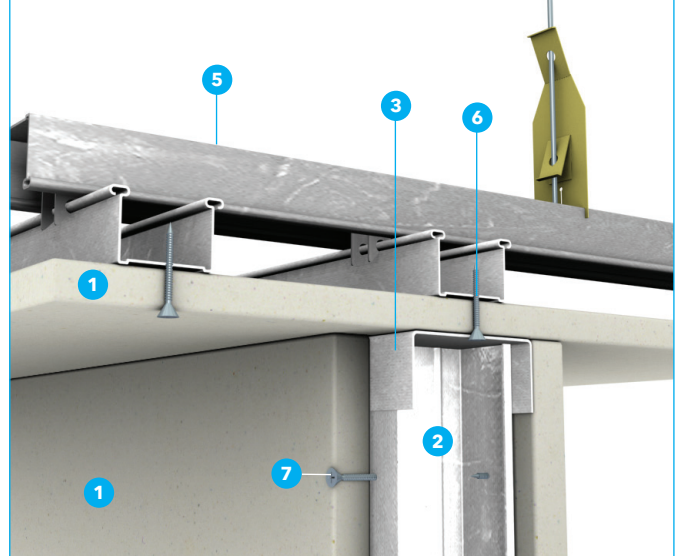


Head for suspended tie-locking ceiling

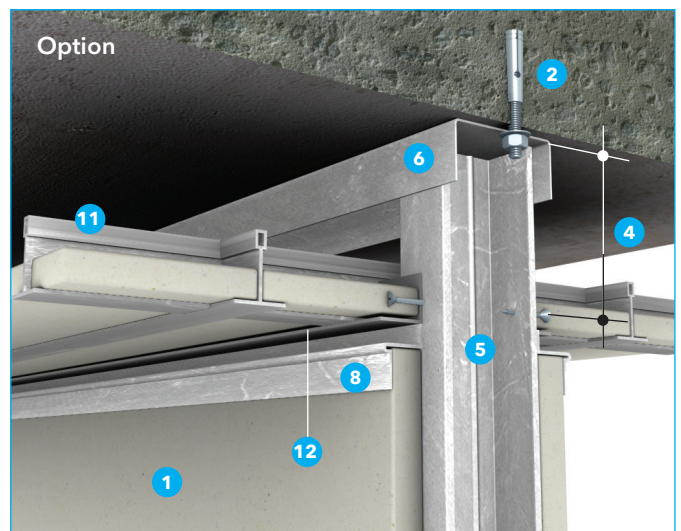
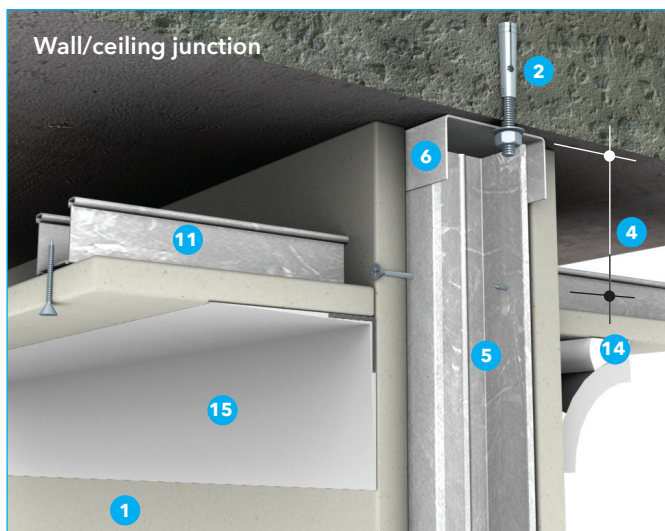
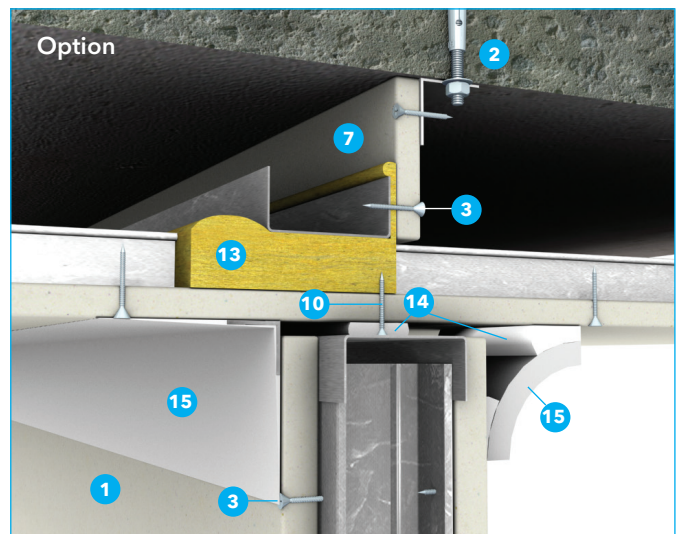
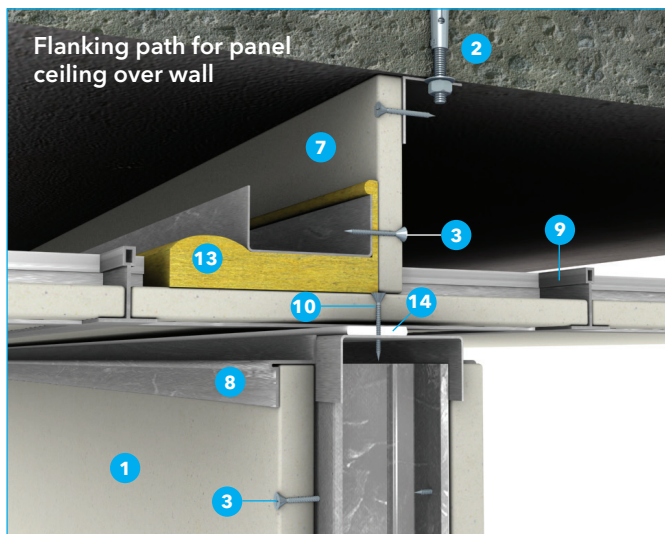


1. PROMATECT®-H or PROMINA® 60 boards
2. Steel studs at 610mm centres
3. Top track with leg length minimum 35mm to act as deflection head to accommodate vertical movement
4. Extruded aluminium track for 64mm, 76mm or 92mm studs
5. Concealed ceiling framing
6. Fix top track to channel at maximum 610mm centres to ceiling framing
7. Minimum M4 self-tapping screws at nominal 200mm centres
8. Minimum 8mm clearance (for 3000mm high partition) to allow for expansion under fire conditions
9. Tape or cornice finishing required for aesthetic appearance
10. Apply PROMASEAL® Intumescent Acrylic Sealant above track and fix wall track to ceiling framing
11. Finishing bead to protect board edge from damage due to construction of ceiling and fixing of accessories such as lighting etc
12. Allow minimum 8mm clearance to accommodate adjustment (option) – fixing should start at minimum 100mm from corner edge to prevent unnecessary breakage

Head for suspended ceiling



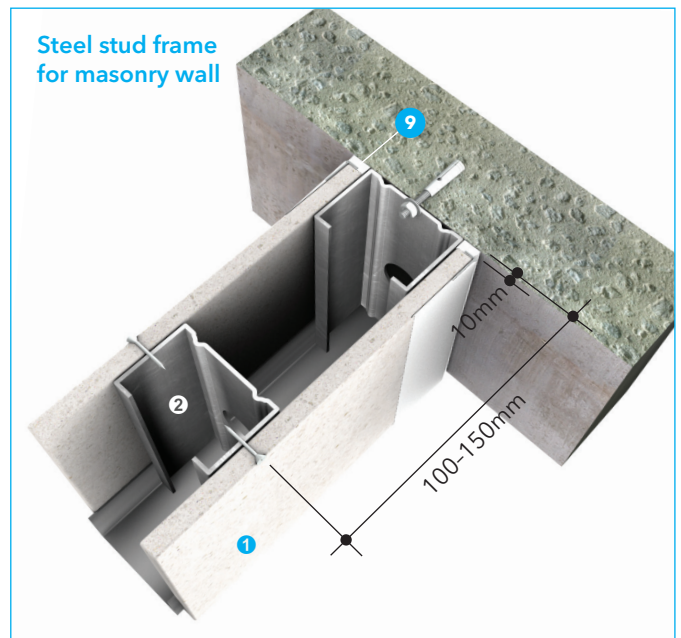
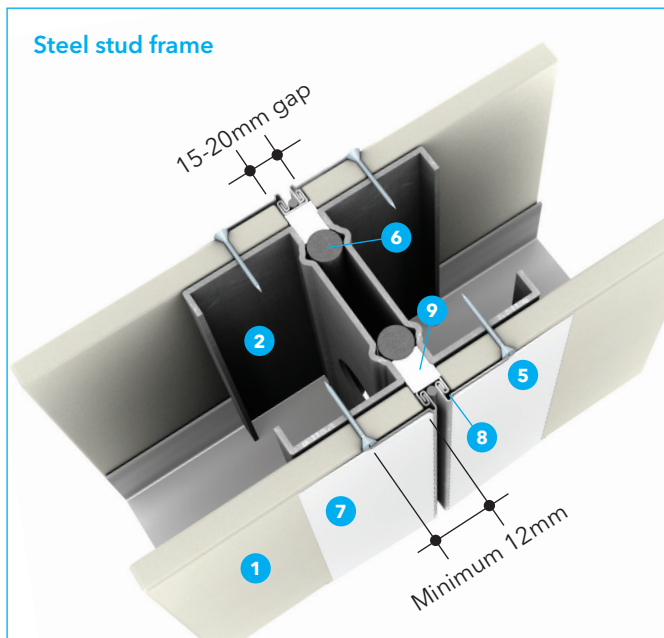
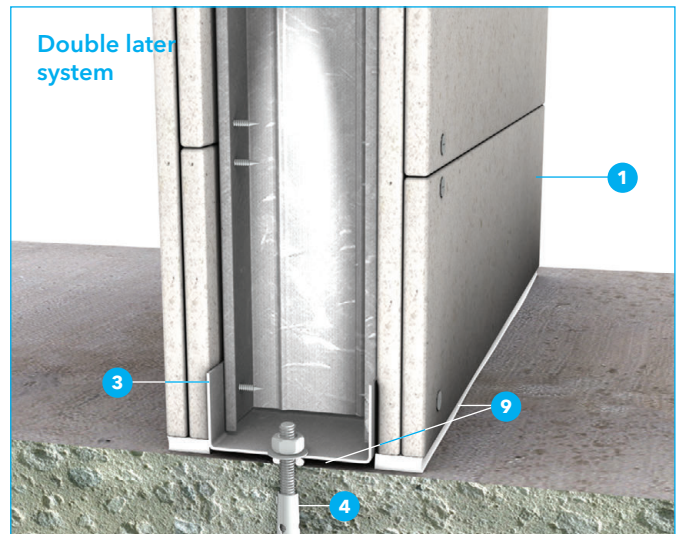
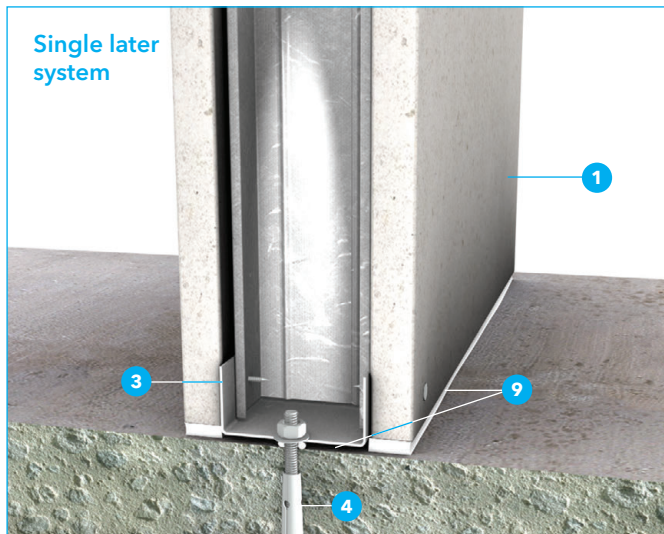
## Steel stud partitions deflection head details



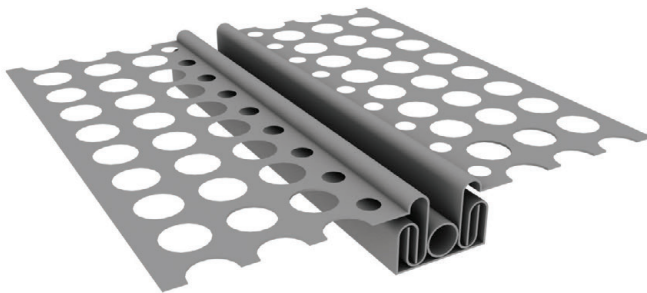
1. PROMATECT®-H or PROMINA® 60 boards
2. Anchor bolts at maximum 500mm centres to secure continuous angles to concrete soffit
3. Minimum M4 self-tapping screws at nominal 200mm centres, length dependant upon board thickness
4. Minimum M4 self-tapping screws fixed at minimum 100mm from corner edge of the board to avoid unnecessary damage due to structure movement
5. Steel studs at 610mm centres
6. Top track with minimum 35mm leg length fixed to concrete soffit with anchor bolts in minimum 40mm penetration
7. Minimum 12mm thick PROMATECT®-H board runs over wall continuously and fixed to soffit. Joints should be backed by strips of 100mm wide PROMATECT®-H board of similar thickness
8. Finishing head to protect board edge from damage (due to ceiling construction and fixing of accessories such as lighting etc) and for aesthetic appearance
9. Exposed grid framing system (not recommended where high performance acoustic resistance required due to large number of joints in ceiling construction)
10. Ceiling panel screw fixed to wall track to secure in position
11. Ceiling framing suspended from concrete soffit
12. Perimeter angle fixed to steel studs of partition wall to receive ceiling panels
13. Minimum 50mm thick glass wool or equivalent sound absorbing material held in place continuously with track or angle to minimize sound leakage
14. Bead of PROMASEAL® Intumescent Acrylic Sealant isolator between top track and ceiling panel or concrete substrate to seal possible gap to reduce conduction of sound frequencies
15. Tape or cornice finishing based upon requirement of aesthetic appearance



## Steel stud partitions base & movement joint details



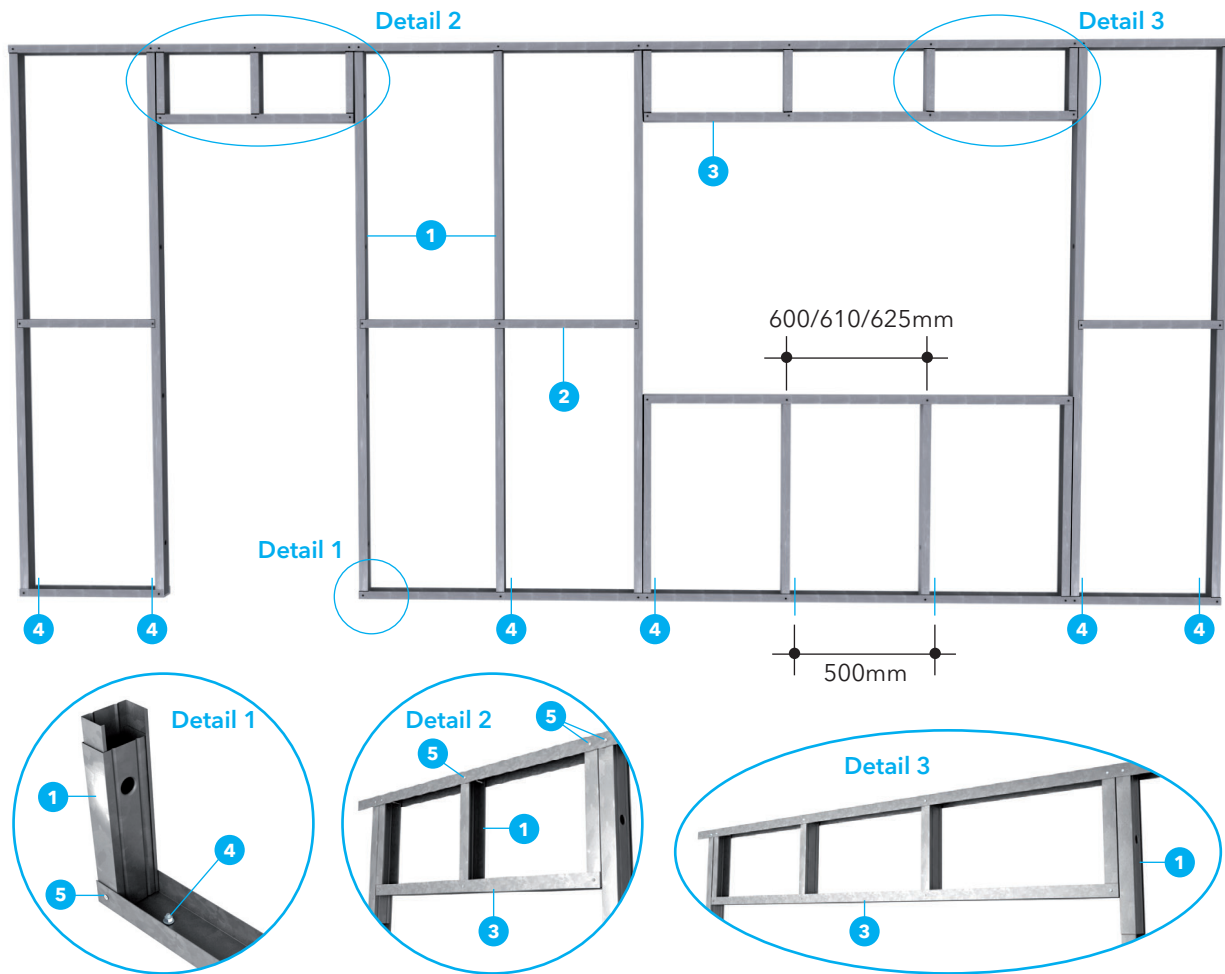
RONDO P35 or equivalent control joint profile with perforated locating wing



1. PROMATECT®-H or PROMINA® 60 boards
2. Steel studs at maximum 610mm centres
3. Bottom track
4. M6 anchor bolts at 500mm centres
5. Minimum M4 self-tapping screws fixed at minimum 100mm from corner edge of the board to avoid unnecessary damage due to structure movement
6. Backing rod
7. Finish surface as per external angles
8. RONDO P35 or equivalent control joint profile
9. Caulk all perimeter gaps with PROMASEAL® Intumescent Acrylic Sealant to achieve stated fire resistance and/or acoustic performance

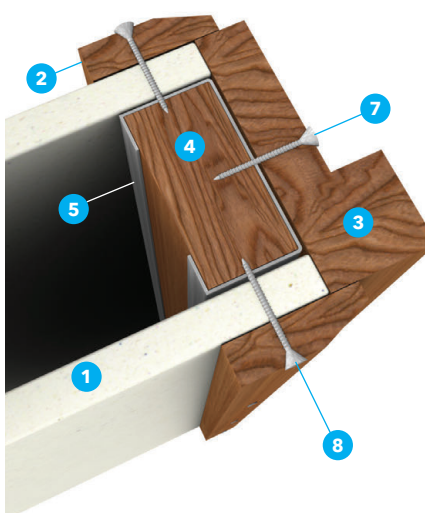


## Steel stud partitions window & door framing details

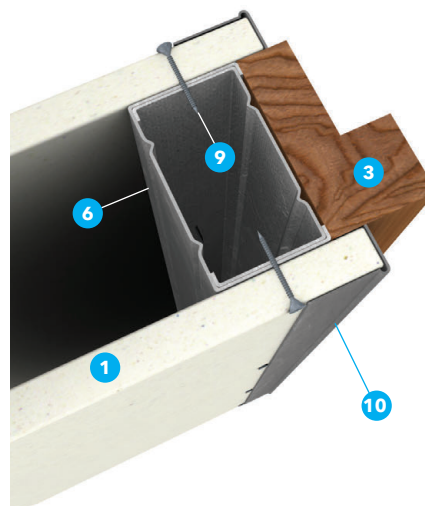


1. Boxed studs either side of openings, the studs need to be fixed rigidly top and bottom
2. Horizontal noggings
3. Stud track
4. Anchor bolts at 600mm centres
5. 16mm long no.8 wafer head screws or 3mm steel pop rivets

Installation of door jamb with timber reinforcement



Installation of door jamb with boxed steel stud

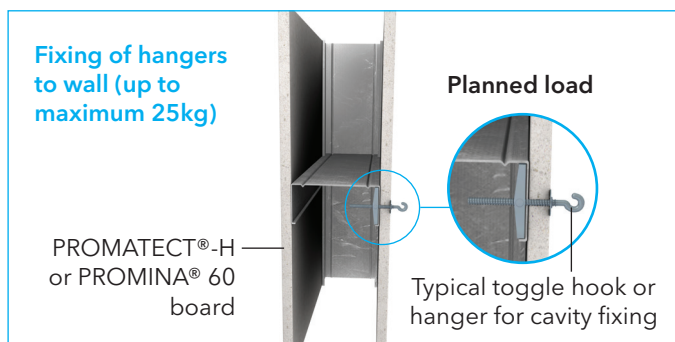
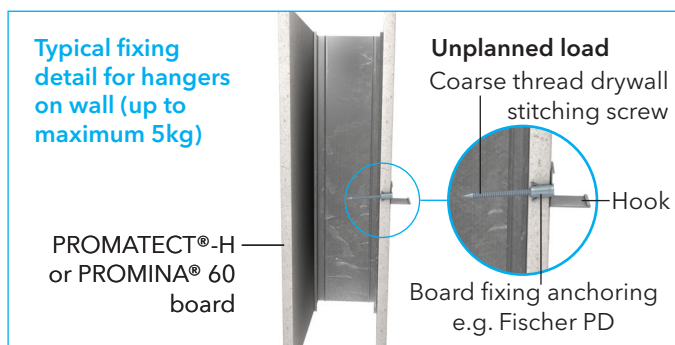


1. PROMATECT®-H or PROMINA® 60 boards
2. Timber architrave
3. Timber door jamb
4. Timber studs as reinforcement
5. Steel stud
6. Boxed steel stud
7. Screw fixing at nominal 500mm centres
8. Screw fixing at nominal 300mm centres
9. Screw fixing at nominal 200mm centres
10. Edge metal profile

## Planned and unplanned loads

Drywalls facilitate easy fixing of most type of loads or fixtures which can be attached either pre or post installation of the PROMATECT®-H or PROMINA® 60 drywall system. The basic concept is that the support or special fixers/fasteners to be used will also employ the support of the framework of the drywall system. A wide range of propriety expanding fasteners are readily available to fix any load onto a drywall or partition system. Use fasteners in accordance with to the manufacturer's recommendations.

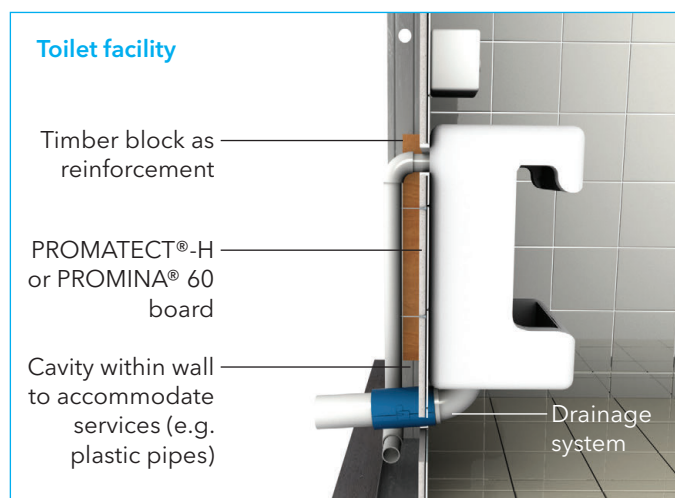
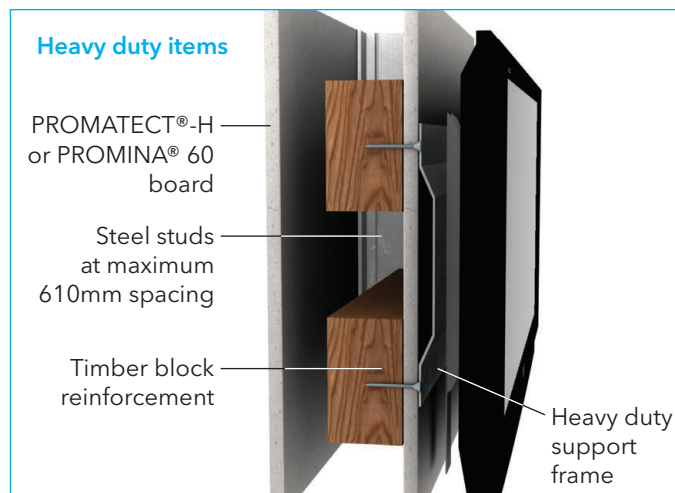
### Details for planned and unplanned loads on drywalls



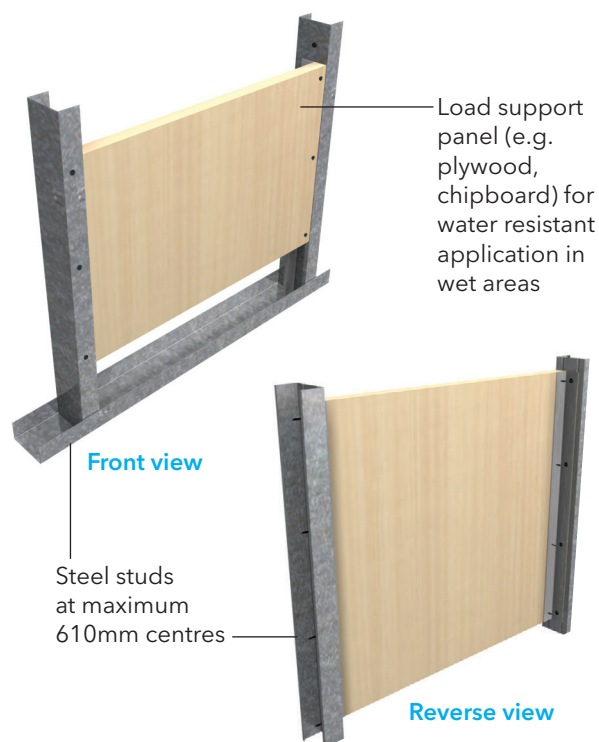
## Positioning fixtures and accessories

Most types of wall hangings such as wash basins, kitchen cabinets and shelving etc can easily be installed to PROMATECT®-H or PROMINA® 60 drywall or partition systems. Typical technical details include the following:

- Planned loads up to 25kg (e.g. cabinets, wash basins) can be easily added by fixing horizontal noggins made of timber members at the desired location and securing to the steel stud frame.
- Unplanned loads up to 5kg (e.g. hanging picture frames) can be added by inserting the screw or cavity fixture inclined downward at the appropriate angle.
- For planned loads up to 25kg, horizontal noggins can be fixed to the surface of the board via two additional studs and fixing the load to the strengthening horizontal noggin.
- Fittings and fixtures such as lights and switches are easily fixed to the drywall. Please refer to [page 23](#).
- The fitting of toilet fixtures within drywall or partition systems are fully outlined on [page 19](#).



### Reinforcement to wall framing for planned loads



## Steel stud partitions wet area installation details



1. PROMATECT®-H or PROMINA® 60 boards, thickness depends on the required fire resistance performance
2. Steel studs fixed at maximum 610mm centres, size depends on the required fire resistance performance and partition height
3. Top and bottom tracks fixed to concrete substrate using anchor bolts at maximum 500mm centres  
For top track, use track with minimum 35mm leg length to accommodate vertical movement of structure
4. Insitu internal membrane applied to surface of the wall lining for prevention of moisture related problems
5. Decorative lining, e.g. ceramic or stone tiles, strictly installed according to the manufacturer's recommendation
6. Minimum M4 self-tapping screws fixed at maximum 200mm centres, length depends on the board thickness
7. Reinforcement material, e.g. timber plate, of minimum 9mm thickness to support loading
8. Mortar bed prepared according to manufacturer's specification for floor finishing, e.g. tiling
9. Approved flashing when required by building regulation to prevent water egress
10. PVC or uPVC made waste pipe sealed by PROMASEAL® Retrofit Collar for fire resistance of the floor slab (please consult Promat for option of the collars)
11. PVC or uPVC made plastic pipe connected to the main waste pipe sealed with PROMASEAL® Wall Collar for fire resistance of the wall framing
12. Gaps or joints filled and sealed with PROMASEAL® Intumescent Acrylic Sealant whenever necessary to maintain integrity of the wall system

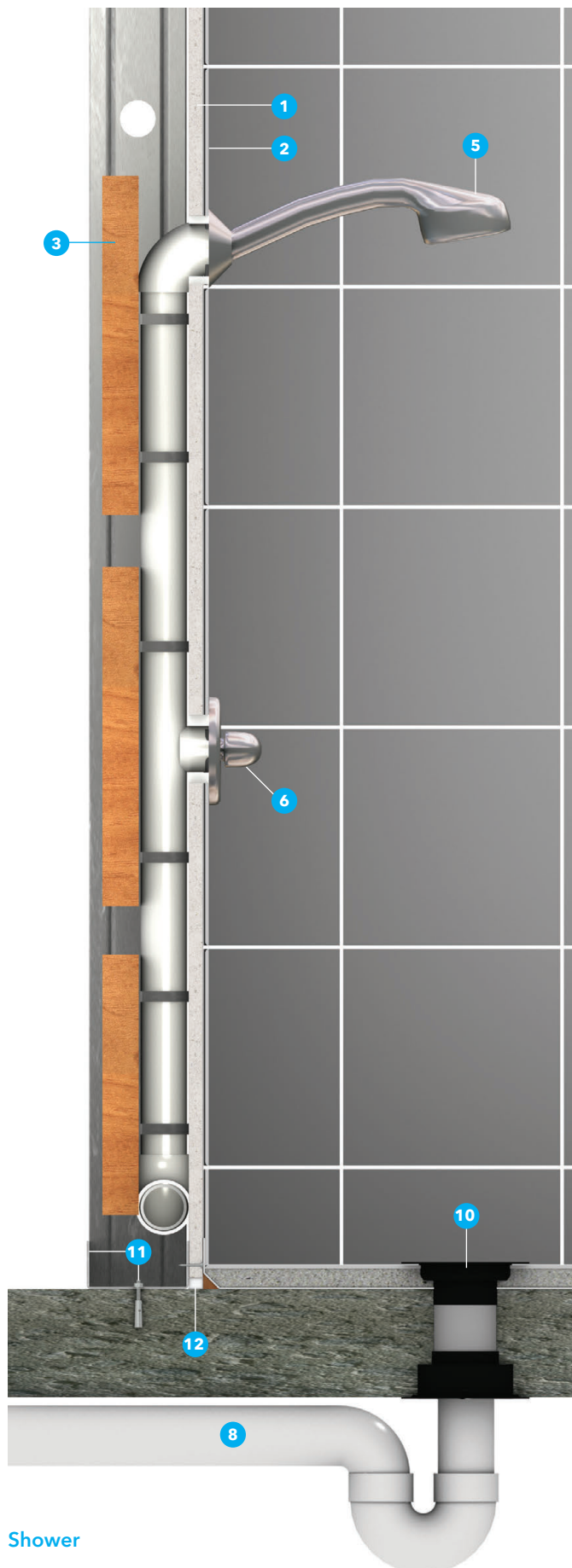


## Steel stud partitions wet area installation details

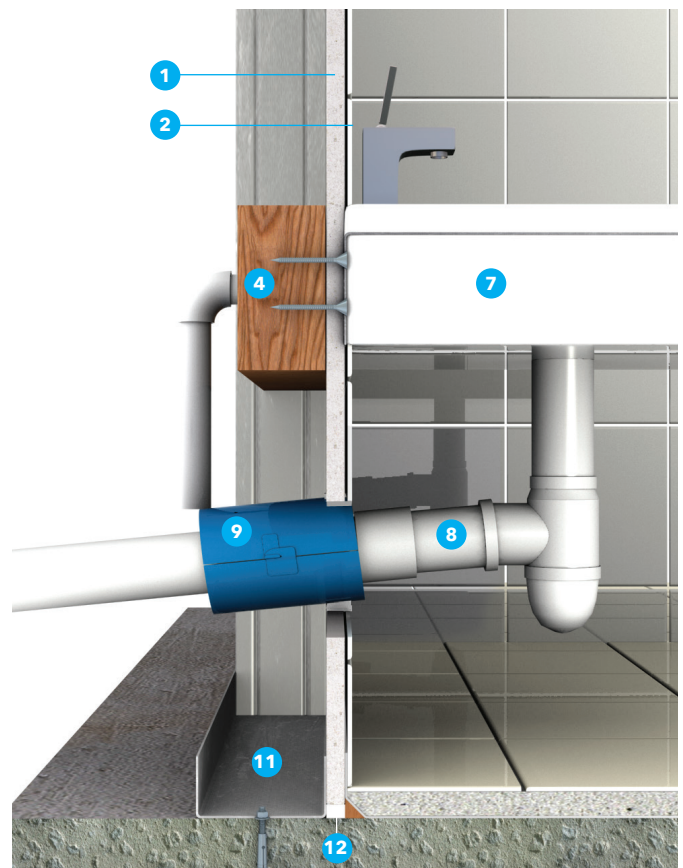


1. PROMATECT®-H or PROMINA® 60 boards, thickness depends on the required fire resistance performance
2. Decorative lining, e.g. ceramic or stone tiles, strictly installed according to the manufacturer's recommendation
3. Adhesive for the decorative lining, types of the adhesive and its application strictly in accordance with the manufacturer's recommendation
4. Flashing tape for prevention of water ingress
5. Bath tub as specified by architect or designer, strictly installed according to the manufacturer's recommendation
6. Maximum 6mm of gap allowance to accommodate fixing of the bath tub  
Any gaps thereafter should be properly sealed with a suitable, flexible sealant
7. Supporting timber batten fixed to the wall framing and secured the bath tub in position with suitable screws
8. Bottom tracks fixed to concrete substrate using anchor bolts at maximum 500mm centres
9. Gaps or joints filled and sealed with PROMASEAL® Intumescent Acrylic Sealant whenever necessary to maintain integrity of the wall system

## Steel stud partitions wet area installation details



Shower

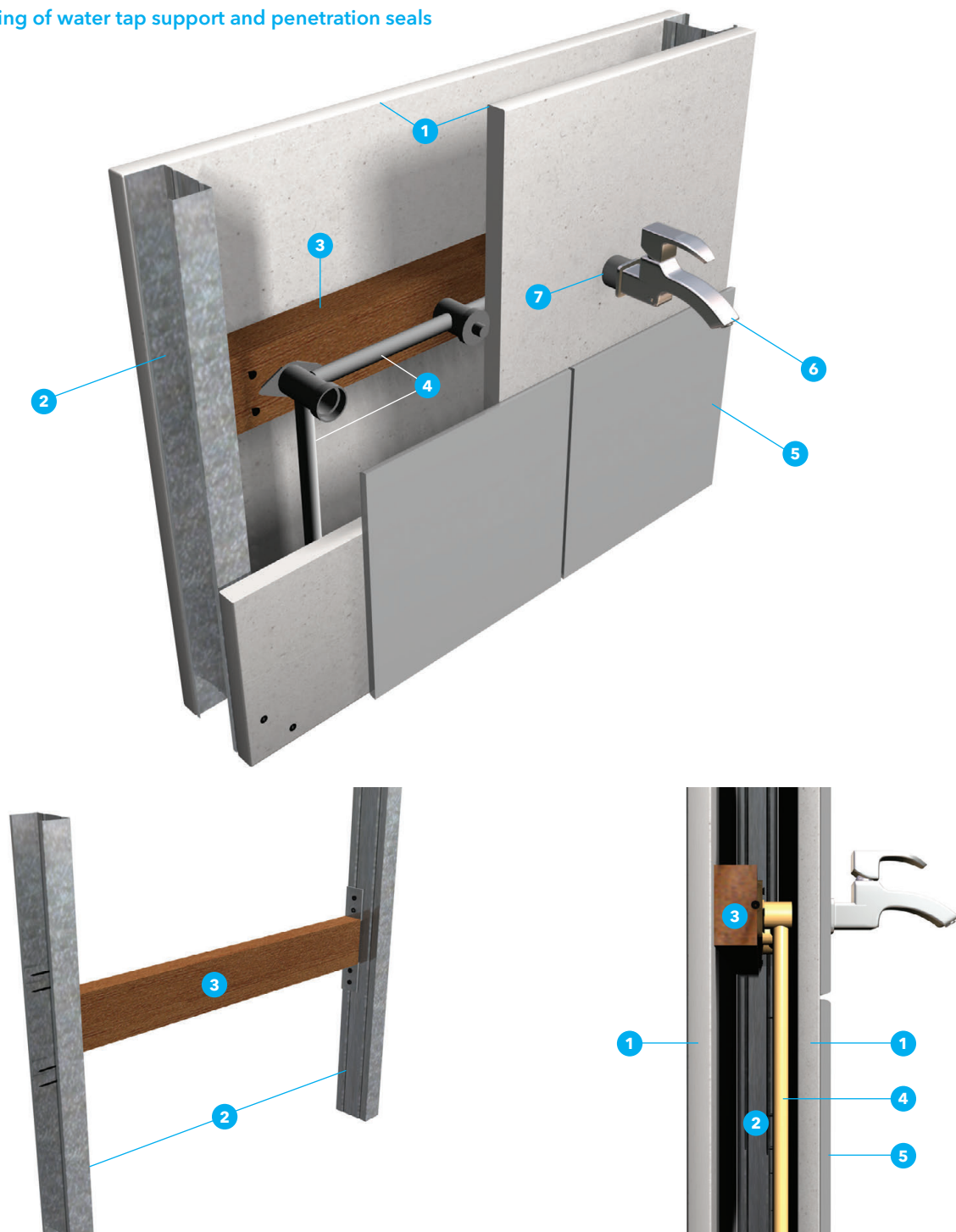


Add-on hand basin with accessories

1. PROMATECT®-H or PROMINA® 60 boards, thickness depends on the required fire resistance performance
2. Decorative lining, e.g. ceramic or stone tiles, strictly installed according to the manufacturer's recommendation
3. Reinforcement material, e.g. timber plate
4. Reinforcement timber block fixed between the steel studs to support loading from basin fixture
5. Typical shower head (with/without handle) as specified by architect or designer
6. Knob as specified by architect or designer to control water inlet
7. Basin as specified by architect or designer
8. uPVC made water waste pipe connected to the main sewage system
9. PROMASEAL® Wall Collar penetration seal for fire resistance of the wall framing  
Where the waste pipe penetrates floor slab, use PROMASEAL® Retrofit Collars instead (please consult Promat for option of the collars)
10. PromaSnap® Floor Waste System penetration seal for fire resistance of the floor slab
11. Bottom tracks fixed to concrete substrate using anchor bolts at maximum 500mm centres
12. Gaps or joints filled and sealed with PROMASEAL® Intumescent Acrylic Sealant whenever necessary to maintain integrity of the wall system

## Steel stud partitions wet area installation details

Typical framing of water tap support and penetration seals



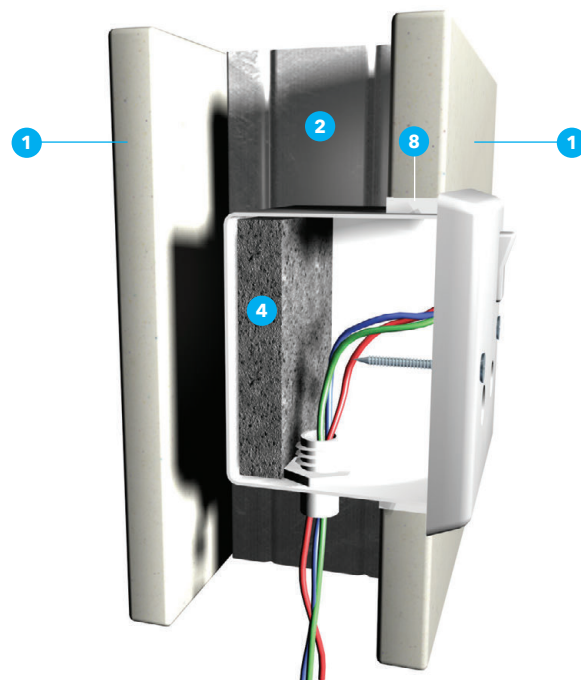
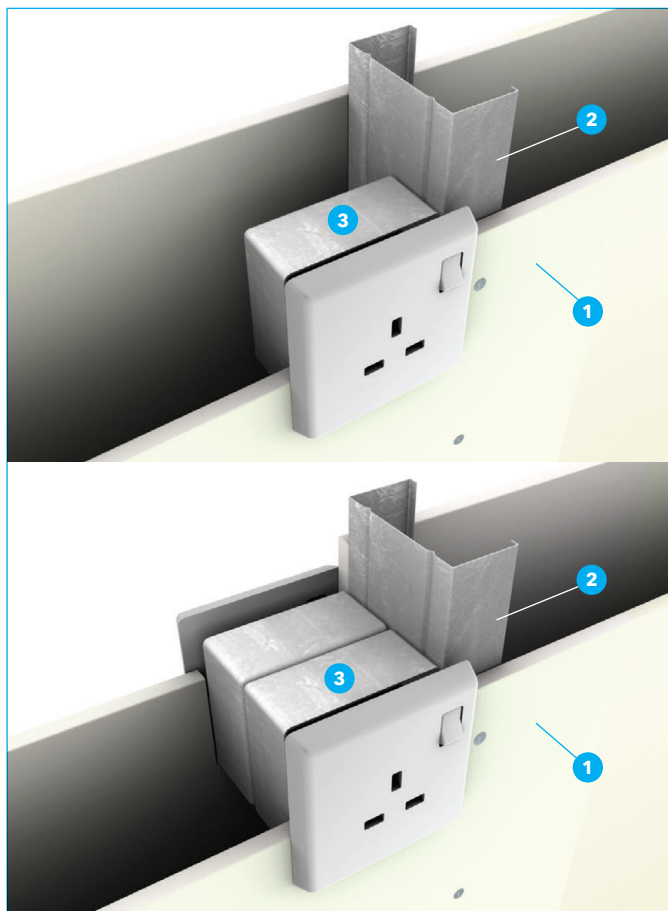
1. PROMATECT®-H or PROMINA® 60 boards, thickness depends on the required fire resistance performance
2. Steel studs
3. Reinforcement/supporting timber batten
4. uPVC, PVC, copper or steel pipework
5. Decorative lining, e.g. ceramic or stone tiles, strictly installed according to the manufacturer's recommendation

6. Typical water tap as specified by architect or designer
7. Pipework penetration gaps or joints filled and sealed with PROMASEAL® Intumescent Acrylic Sealant whenever necessary to maintain integrity of the wall system

Use PROMASEAL® collars for other plastic pipes penetration seals greater than 25mm in diameter

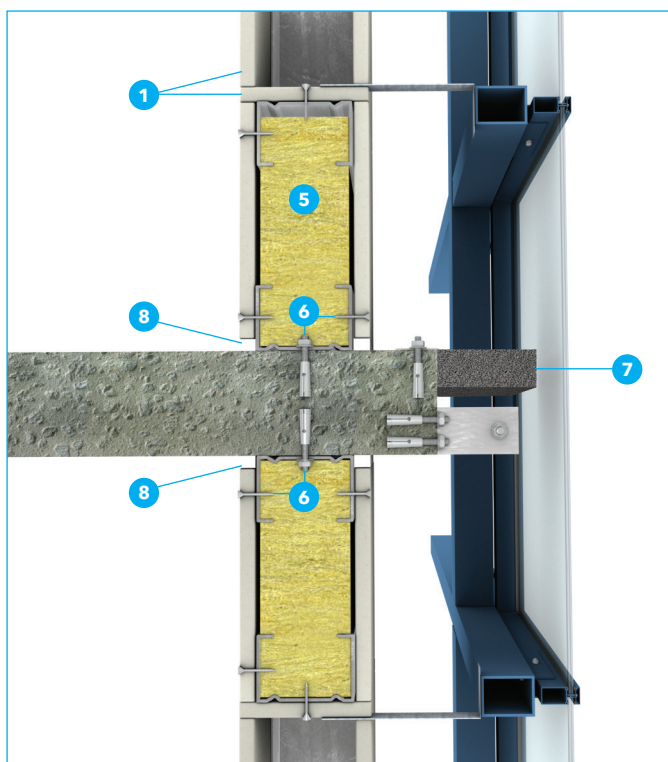


## Steel stud partitions other installation details



### Power outlet or light switch

For fire resistant walls, steel electrical switchboxes should be employed to avoid degrading fire resistance performance of the wall system.

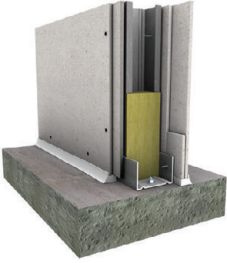

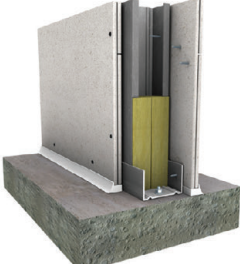
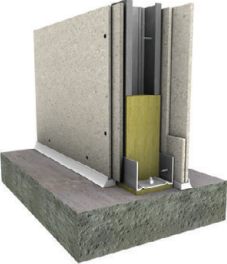


### Curtain wall

Weather tight sealing and structural design responsible by other parties.

1. PROMATECT®-H or PROMINA® 60 boards, thickness depends on the required fire resistance performance
2. Steel studs fixed at maximum 610mm centres, size depends on the required fire resistance performance and partition height
3. Fire resistance switchbox based on the required fire resistance performance (please consult Promat)
4. PROMASEAL® Switchbox Intumescent infill
5. Insulation material for thermal insulation enhancement of the building
6. Top and bottom tracks fixed to concrete substrate using anchor bolts
7. PROMASEAL® Expansion Joint Strip
8. Gaps or joints filled and sealed with PROMASEAL® Intumescent Acrylic Sealant whenever necessary to maintain integrity of the wall system

## Fire rated steel stud partition

| Partition type  | Model number | Fire resistance performance | Test standard         | Test assessment report no. | Page no. |
|---|--------------|-----------------------------|-----------------------|----------------------------|----------|
|  <p>PROMATECT®-H<br/>1 &amp; 2-hour fire rated</p> | PH.22.60     | -/60/60                     | BS 476: Part 22: 1987 | RED R22F02-1A              | 27       |
|   | PH.22.12     | -/120/120                   |                       |                            |          |
|  <p>PROMATECT®-H<br/>2-hour fire rated</p>        | PH.22.12     | 120/120/120                 | BS 476: Part 21: 1987 | FC10459-001                | 29       |
|  <p>PROMATECT®-H<br/>4-hour fire rated</p>       | PH.22.24     | -/240/240                   | BS 476: Part 22: 1987 | RED R22F02-2A              | 31       |
|  <p>PROMINA® 60<br/>1-hour fire rated</p>        | PMF.22.60    | -/60/60                     | BS 476: Part 22: 1987 | RED R21M15-1A              | 33       |

## Fire rated steel stud partition

| Partition type   | Model number | Fire resistance performance | Test standard         | Test assessment report no.        | Page no. |
|--|--------------|-----------------------------|-----------------------|-----------------------------------|----------|
|  <p>PROMINA® 60<br/>2-hour fire rated</p>                                       | PMF.22.12    | -/120/120                   | BS 476: Part 22: 1987 | RED R21M15-2A                     | 35       |
|  <p>PROMINA® 60<br/>2-hour fire rated<br/>(Integrity only - single sided)</p>  | PMF.22.12.E  | -/120/-                     | BS 476: Part 22: 1987 | RED R22F27-1A                     | 37       |
|  <p>PROMINA® 60<br/>2-hour fire rated<br/>(Integrity only - double sided)</p> | PMF.22.12.E  | -/120/-                     | BS 476: Part 22: 1987 | RED R22F27-1A                     | 39       |
|  <p>PROMATECT®-S<br/>4-hour fire rated</p>                                    | PS.22.24     | -/240/240                   | BS 476: Part 22: 1987 | BRE CC 201034<br>Review 4 issue 1 | 41       |



## Fire rated solid/frameless internal partition

| Partition type   | Model number | Fire resistance performance | Test standard                                  | Test assessment report no. | Page no. |
|--|--------------|-----------------------------|--|----------------------------|----------|
|  <p>PROMATECT®-H<br/>1-hour fire rated</p>                        | PH.23.60     | -/60/60                     | BS 476: Part 20: 1987<br>BS 476: Part 22: 1987 | FSRG 2020/007              | 43       |
|  <p>PROMATECT®-H<br/>2-hour fire rated</p>                       | PH.23.12     | -/120/120                   | BS 476: Part 22: 1987                          | FSRG<br>2022/002/001       | 45       |
|  <p>PROMATECT®-H<br/>4-hour fire rated</p>                      | PH.23.24     | -/240/240                   | BS 476: Part 22: 1987                          | RED R22H34-1A              | 48       |
|  <p>PROMINA® 60<br/>1-hour fire rated<br/>(kitchen barrier)</p> | PMF.23.60    | -/60/30                     | BS 476: Part 22: 1987                          | WF 402977                  | 51       |

## PROMATECT®-H – 1 & 2-hour fire rated steel stud partition

Resisting fire from either side / Non loadbearing

A 3D cutaway diagram of a fire-resistant partition wall assembly. The diagram shows two concrete slabs (1) separated by a steel stud (2) with mineral wool insulation (3). The assembly is secured with top and bottom tracks (5, 6), cover strips (7), and self-tapping screws (8). Fire is shown attacking from both sides. The diagram is labeled with numbers 1 through 8.

|                 |                      |  |                        |
|-----------------|----------------------|--|------------------------|
| Fire Resistance | FRR                  | -/60/60  | Model number: PH.22.60 |
|                 |                      | -/120/120  | Model number: PH.22.12 |
|                 | Standard             | BS 476: Part 22: 1987  |                        |
|                 | Approval             | RED R22F02-1A  |                        |
| Acoustic        | STC                  | 46 (-/60/60) 46 (-/120/120)  |                        |
|                 | R <sub>w</sub>       | 47dB (-/60/60) 47dB (-/120/120)<br><i>Margin of error is generally within ±3dB</i> |                        |
|                 | Standard             | ASTM E 492<br>ISO717: Part 1: 1996   |                        |
|                 | Predicted assessment | Insul version 8.0.12<br>06 <sup>th</sup> September 2022                            |                        |
| Construction    | Maximum height       | 7700mm   |                        |
|                 | Maximum length       | Unlimited  |                        |
|                 | Thickness            | Nominal 111mm (-/60/60)<br>Nominal 111mm (-/120/120)                               |                        |
|                 | Mass                 | From 29.50kg/m <sup>2</sup> (-/60/60)<br>From 29.50kg/m <sup>2</sup> (-/120/120)   |                        |

- PROMATECT®-H board 9mm thick.
- PROMATECT®-H cover strips 100mm wide x 9mm thick.
- Mineral wool insulation (refer to note 2 below) 75mm thick x 100kg/m<sup>3</sup>.
- Steel studs at nominal 610mm centres, measurements in accordance with the tables below.
- Top and bottom track (refer to note 1 below).
- M6 all steel expanding anchors at nominal 500mm centres.
- M4 self-tapping screws at nominal 200mm centres.
- Caulk all perimeter gaps with PROMASEAL® Intumescent Acrylic Sealant to achieve the required fire resistance and/or acoustic performance.

**Table 1: Required studs sizes for various partition height that requires 120 minutes FRR (with min. yield stress 350N/mm<sup>2</sup>).**

| Steel studs |        | Maximum partition height for stud thickness of |        |        |        |        |        |        |        |
|-------------|--------|--|--------|--------|--------|--------|--------|--------|--------|
| Web         | Flange | 0.6mm  | 0.8mm  | 1.0mm  | 1.2mm  | 1.5mm  | 2.0mm  | 2.5mm  | 3.0mm  |
| 75mm        | 50mm   | 4500mm   | 4800mm | 5100mm | 5400mm | 5700mm | 6000mm | 6200mm | 6400mm |
| 100mm       | 50mm   | 5600mm   | 6000mm | 6300mm | 6600mm | 6900mm | 7200mm | 7500mm | 7700mm |

**Table 2: Required studs sizes for various partition height that requires 120 minutes FRR (with min. yield stress 200N/mm<sup>2</sup>).**

| Steel studs |        | Maximum partition height for stud thickness of |        |        |        |        |        |        |        |
|-------------|--------|--|--------|--------|--------|--------|--------|--------|--------|
| Web         | Flange | 0.6mm  | 0.8mm  | 1.0mm  | 1.2mm  | 1.5mm  | 2.0mm  | 2.5mm  | 3.0mm  |
| 75mm        | 50mm   | 4200mm   | 4500mm | 4800mm | 5000mm | 5300mm | 5600mm | 5800mm | 6000mm |
| 100mm       | 50mm   | 5200mm   | 5600mm | 5900mm | 6100mm | 6400mm | 6800mm | 7000mm | 7200mm |
| 150mm       | 50mm   | 6900mm   | 7100mm | 7300mm | 7500mm | 7700mm | -      | -      | -      |

**Table 3: Required expansion allowance to be provided**

| Height              | 3000mm | 4000mm | 5000mm | 6000mm | 7000mm | 7700mm |
|---------------------|--------|--------|--------|--------|--------|--------|
| Expansion allowance | 20mm   | 25mm   | 30mm   | 36mm   | 42mm   | 46mm   |

**Note:**

- The dimension of the web of the top and bottom track channels must be the necessary width to match the size of the studs.
- As an alternative to increasing the mineral wool thickness, one could retain the mineral wool using 25mm x 25mm x 0.55mm steel angles, pop-riveted or screwed to the web of the studs. These angles would not have to be continuous.



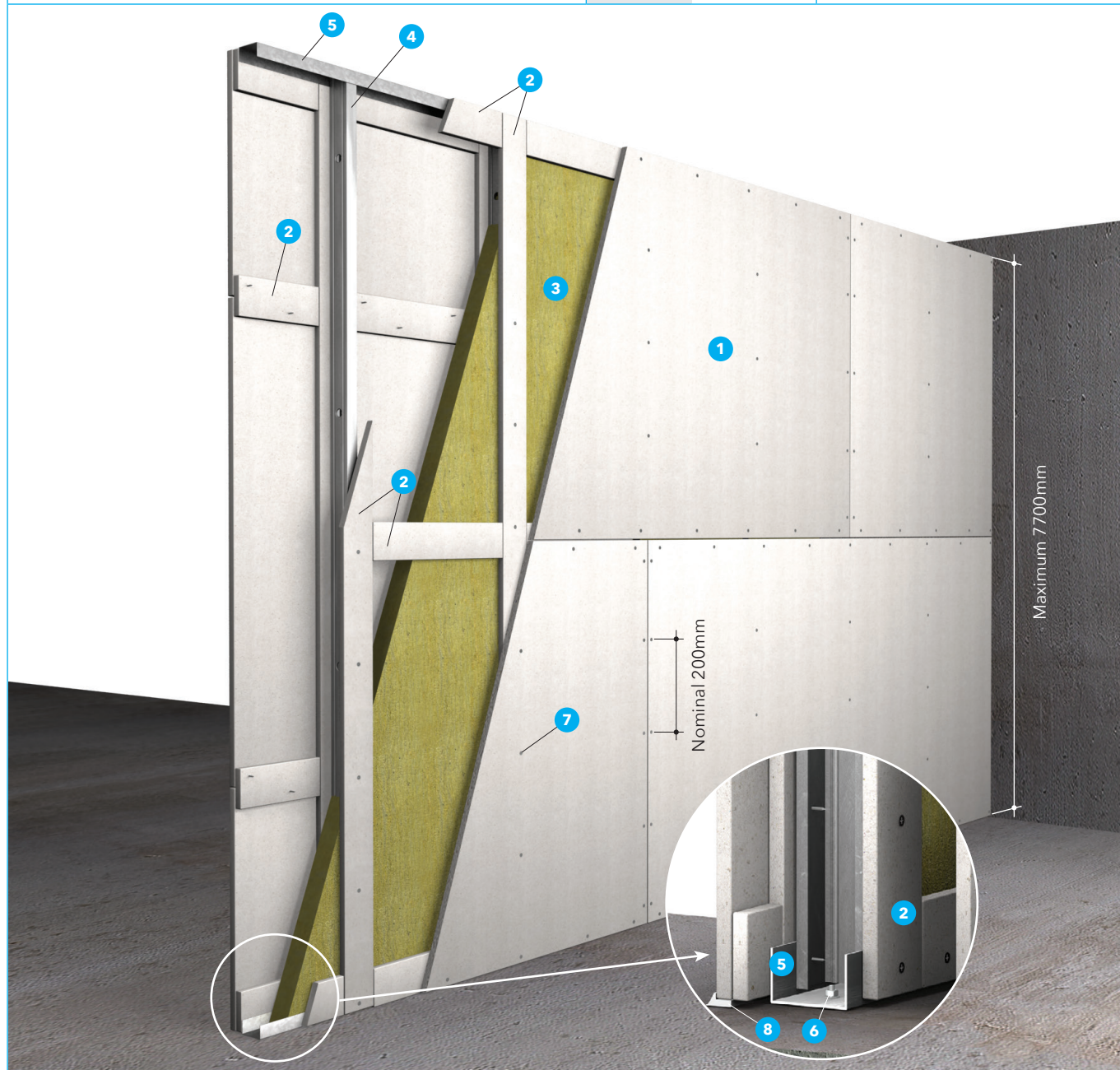
## PROMATECT®-H – 1 & 2-hour fire rated steel stud partition

Horizontal sheeting with strip joint (single layer)  
Non loadbearing partition

FRR

-/60/60  
-/120/120

Model number: PH.22.60  
Model number: PH.22.12



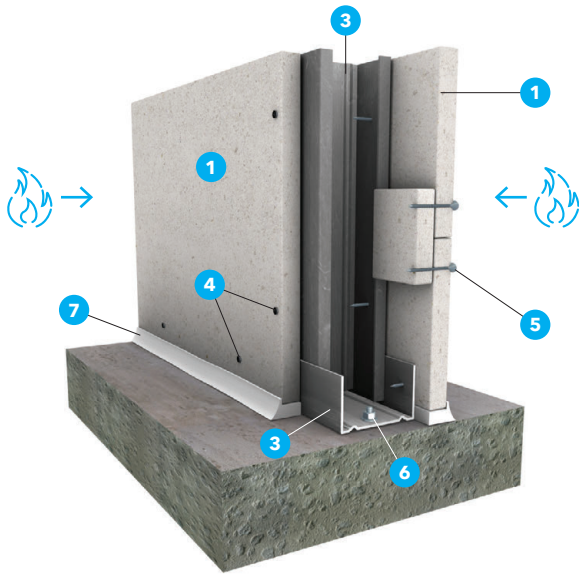
1. PROMATECT®-H board 9mm thick.
2. PROMATECT®-H cover strips 100mm wide x 9mm thick.
3. Mineral wool insulation (refer to note 2 below) 75mm thick x 100kg/m³.
4. Steel studs at nominal 610mm centres, measurements in accordance with the steel studs tables.
5. Top and bottom track (refer to note 1 below).
6. M6 all steel expanding anchors at nominal 500mm centres.
7. M4 self-tapping screws at nominal 200mm centres.
8. Caulk all perimeter gaps with PROMASEAL® Intumescent Acrylic Sealant to achieve the required fire resistance and/or acoustic performance.

### Note:

1. The dimension of the web of the top and bottom track channels must be the necessary width to match the size of the studs.
2. As an alternative to increasing the mineral wool thickness, one could retain the mineral wool using 25mm x 25mm x 0.55mm steel angles, pop-riveted or screwed to the web of the studs. These angles would not have to be continuous.

## PROMATECT®-H – 2-hour fire rated steel stud partition

Resisting fire from either side / Loadbearing



|                 |                      |   |                        |
|-----------------|----------------------|---|------------------------|
| Fire Resistance | FRR                  | 120/120/120   | Model number: PH.22.12 |
|                 | Standard             | BS 476: Part 21: 1987                                   |                        |
|                 | Approval             | FC10459-001   |                        |
| Acoustic        | STC                  | 43  |                        |
|                 | R <sub>w</sub>       | 47dB  |                        |
|                 |                      | Margin of error is generally within ±3dB                |                        |
|                 | Standard             | ASTM E 492<br>ISO717: Part 1: 1996                      |                        |
| Construction    | Predicted assessment | Insul version 8.0.12<br>06 <sup>th</sup> September 2022 |                        |
|                 | Maximum height       | 4800mm  |                        |
|                 | Maximum length       | Unlimited   |                        |
|                 | Thickness            | Nominal 114mm   |                        |
|                 | Mass                 | From 56.84kg/m <sup>2</sup>                             |                        |

1. One layer of 25mm thick PROMATECT®-H board at each side of the partition.
2. 100mm x 25mm thick PROMATECT®-H cover strips.
3. Galvanised steel studs, measurements in accordance with the studs table. Allow appropriate expansion at top horizontal track, no allowance at this track for loadbearing purposes.
4. No.6 x 38mm self-tapping screws at nominal 200mm centres.
5. 5.5mm x 40mm stitching screw.
6. M6 anchor bolts at nominal 500mm centres.
7. Caulk all perimeter gaps with PROMASEAL® Intumescent Acrylic Sealant to achieve the required fire resistance and/or acoustic performance.

Table 1: Nominal member capacity, kN/stud, for Rondo lipped C sections. (1 nog evenly spaced and 610mm stud spacing)

| Stud dimensions |                | Wall height (mm) |       |       |
|-----------------|----------------|------------------|-------|-------|
| Depth (mm)      | Thickness (mm) | 2400             | 2700  | 3000  |
| 64              | 0.5            | 2.17             | -     | -     |
| 64              | 0.75           | 6.19             | 4.77  | 3.39  |
| 64              | 1.15           | 12.42            | 9.82  | 7.48  |
| 76              | 0.55           | 3.39             | 2.59  | 1.76  |
| 76              | 0.75           | 7.15             | 5.81  | 4.39  |
| 76              | 1.15           | 14               | 11.58 | 9.20  |
| 92              | 0.55           | 3.76             | 3.05  | 2.34  |
| 92              | 0.75           | 7.73             | 6.56  | 5.18  |
| 92              | 1.15           | 14.97            | 12.67 | 10.37 |
| 150             | 0.75           | 7.98             | 6.94  | 5.77  |
| 150             | 1.15           | 15.34            | 13.21 | 10.95 |

Table 2: Nominal member capacity, kN/stud, for Rondo lipped C sections. (2 nog evenly spaced and 610mm stud spacing)

| Stud dimensions |                | Wall height (mm) |       |       |      |
|-----------------|----------------|------------------|-------|-------|------|
| Depth (mm)      | Thickness (mm) | 2400             | 2700  | 3000  | 4800 |
| 64              | 0.5            | 2.59             | 1.80  | -     | -    |
| 64              | 0.75           | 7.32             | 5.98  | 4.72  | -    |
| 64              | 1.15           | 15.55            | 12.79 | 10.28 | -    |
| 76              | 0.55           | 4.05             | 3.26  | 2.47  | -    |
| 76              | 0.75           | 8.53             | 7.36  | 6.15  | -    |
| 76              | 1.15           | 17.98            | 15.72 | 13.38 | -    |
| 92              | 0.55           | 4.56             | 3.93  | 3.22  | -    |
| 92              | 0.75           | 9.20             | 8.36  | 7.32  | -    |
| 92              | 1.15           | 19.48            | 17.56 | 15.59 | -    |
| 150             | 0.75           | 7.98             | 7.73  | 7.48  | 3.64 |
| 150             | 1.15           | 16.60            | 16.35 | 16.05 | 8.03 |

Table 3: Nominal member capacity, kN/stud, for Rondo lipped C sections. (3 nog evenly spaced and 610mm stud spacing)

| Stud dimensions |                | Wall height (mm) |
|-----------------|----------------|------------------|
| Depth (mm)      | Thickness (mm) | 4800             |
| 64              | 0.5            | -                |
| 64              | 0.75           | -                |



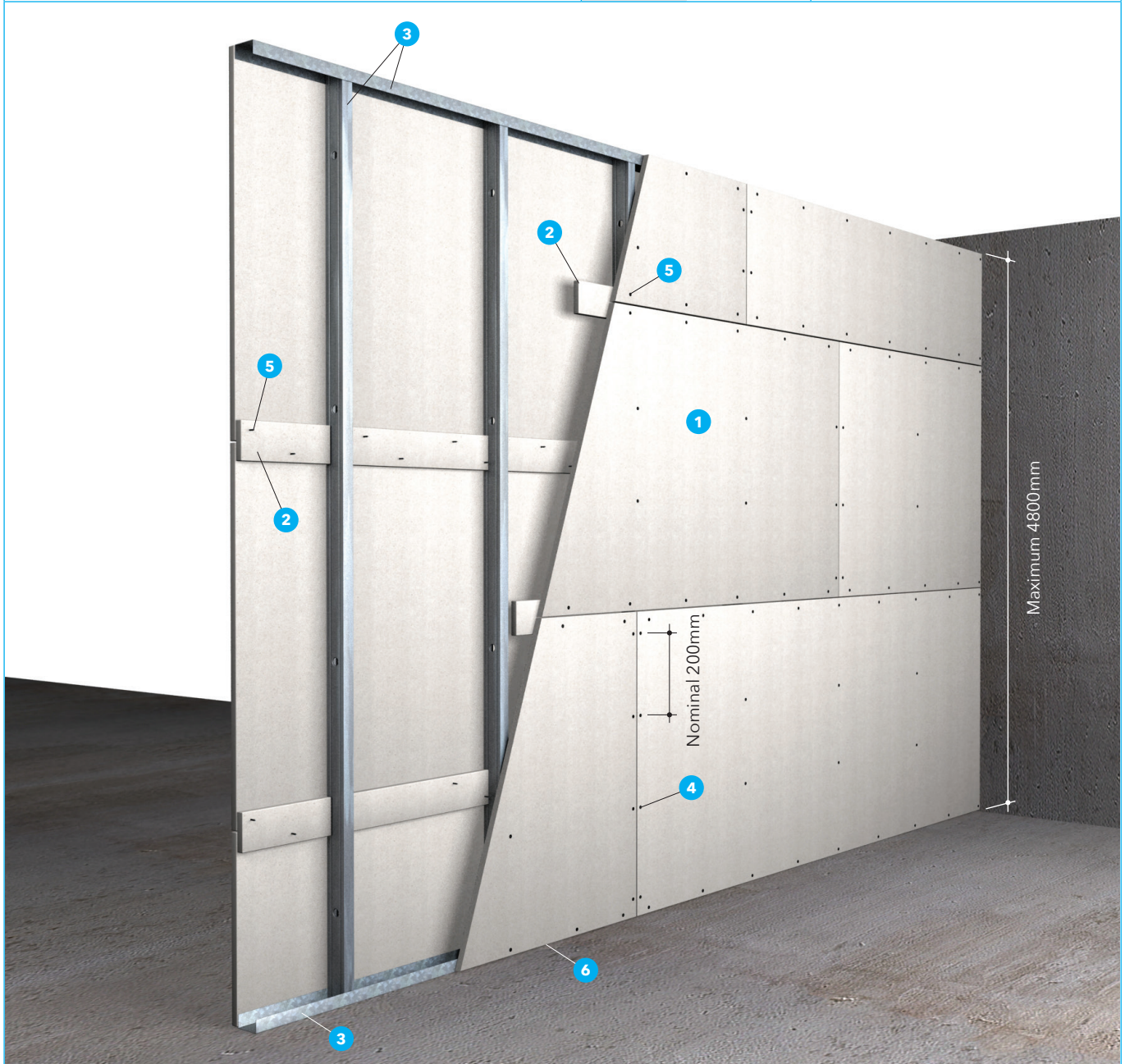
## PROMATECT®-H – 2-hour fire rated steel stud partition

Horizontal sheeting with strip joint (single layer)  
Loadbearing partition

FRR

120/120/120

Model number: PH.22.12



1. One layer of 25mm thick PROMATECT®-H board at each side of the partition.
2. 100mm x 25mm thick PROMATECT®-H cover strips.
3. Galvanised steel studs, measurements in accordance with the studs table at previous page. Allow appropriate expansion at top horizontal track, no allowance at this track for loadbearing purposes.
4. No.6 x 38mm self-tapping screws at nominal 200mm centres.
5. 5.5mm x 40mm stitching screw.
6. Caulk all perimeter gaps with PROMASEAL® Intumescent Acrylic Sealant to achieve the required fire resistance and/or acoustic performance.



## PROMATECT®-H – 4-hour fire rated steel stud partition

Resisting fire from either side / Non loadbearing

|                 |                      |   |                        |
|-----------------|----------------------|---|------------------------|
| Fire Resistance | FRR                  | -/240/240   | Model number: PH.22.24 |
|                 | Standard             | BS 476: Part 22: 1987                                   |                        |
|                 | Approval             | RED R22F02-2A   |                        |
| Acoustic        | STC                  | 59  |                        |
|                 | R <sub>w</sub>       | 59dB<br><i>Margin of error is generally within ±3dB</i> |                        |
|                 | Standard             | ASTM E 492<br>ISO717: Part 1: 1996                      |                        |
|                 | Predicted assessment | Insul version 8.0.12<br>06 <sup>th</sup> September 2022 |                        |
| Construction    | Maximum height       | 7700mm  |                        |
|                 | Maximum length       | Unlimited   |                        |
|                 | Thickness            | Nominal 136mm   |                        |
|                 | Mass                 | From 53.04kg/m <sup>2</sup>                             |                        |

- PROMATECT®-H board 9mm thick x 2 layers.
- Mineral wool insulation in at least two layers 2 x 50mm thick x 100kg/m<sup>3</sup>.
- Steel studs at nominal 610mm centres, measurements in accordance with the tables below.
- Top and bottom track (refer to note 1 below).
- M6 all steel expanding anchors at nominal 600mm centres.
- M4 x 16mm long self-tapping screws to fix the inner layer to studs at 400mm centres.
- M4 x 38mm long self-tapping screws to fix the outer layer at 200mm centres.
- Caulk all perimeter gaps with PROMASEAL® Intumescent Acrylic Sealant to achieve the required fire resistance and/or acoustic performance.

**Table 1: Required studs sizes for various partition height that requires 240 minutes FRR (with min. yield stress 350N/mm<sup>2</sup>).**

| Galvanised steel studs |        | Maximum partition height for stud thickness of |        |        |        |        |        |        |  |
|------------------------|--------|--|--------|--------|--------|--------|--------|--------|--|
| Web                    | Flange | 0.8mm  | 1.0mm  | 1.2mm  | 1.5mm  | 2.0mm  | 2.5mm  | 3.0mm  |  |
| 100mm                  | 50mm   | 4700mm   | 5100mm | 5300mm | 5600mm | 6000mm | 6300mm | 6500mm |  |
| 150mm                  | 50mm   | 6400mm   | 6700mm | 7000mm | 7400mm | 7700mm | -      | -      |  |

**Table 2: Required studs sizes for various partition height that requires 240 minutes FRR (with min. yield stress 200N/mm<sup>2</sup>).**

| Galvanised steel studs |        | Maximum partition height for stud thickness of |        |        |        |        |        |        |  |
|------------------------|--------|--|--------|--------|--------|--------|--------|--------|--|
| Web                    | Flange | 0.8mm  | 1.0mm  | 1.2mm  | 1.5mm  | 2.0mm  | 2.5mm  | 3.0mm  |  |
| 100mm                  | 50mm   | 4600mm   | 4900mm | 5200mm | 5400mm | 5600mm | 5900mm | 6400mm |  |
| 150mm                  | 50mm   | 6200mm   | 6400mm | 6800mm | 7000mm | 7600mm | 7700mm | -      |  |

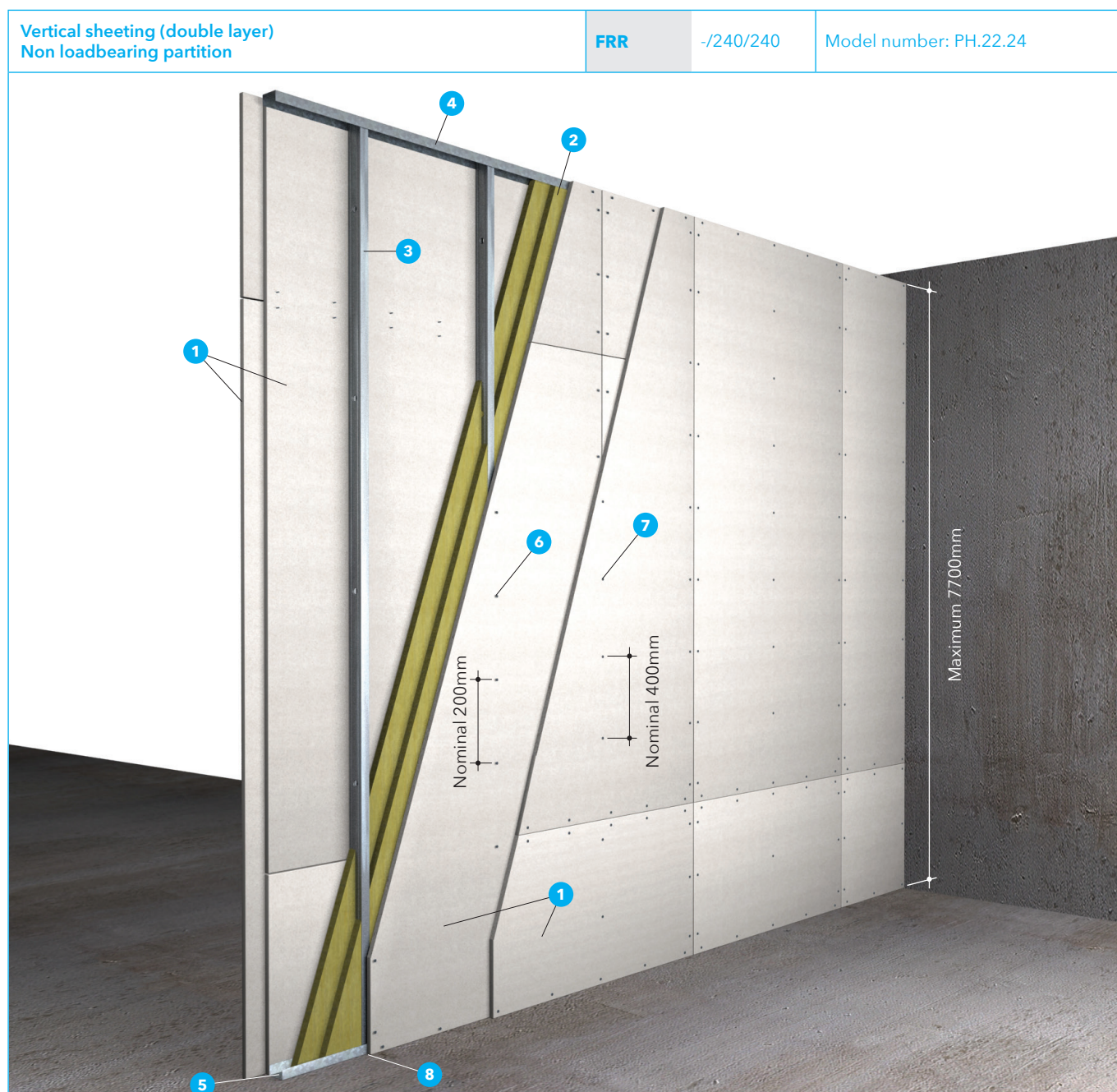
**Table 3: Required expansion allowance to be provided**

| Height              | 3000mm | 4000mm | 5000mm | 6000mm | 7000mm | 7700mm |
|---------------------|--------|--------|--------|--------|--------|--------|
| Expansion allowance | 20mm   | 25mm   | 30mm   | 36mm   | 42mm   | 46mm   |

Note:

- The dimension of the web of the top and bottom track channels must be the necessary width to match the size of the studs.
- As an alternative to increasing the mineral wool thickness, one could retain the mineral wool using 25mm x 25mm x 0.55mm steel angles, pop-riveted or screwed to the web of the studs. These angles would not have to be continuous.

## PROMATECT®-H – 4-hour fire rated steel stud partition



1. PROMATECT®-H board 9mm thick x 2 layers.
2. Mineral wool insulation in at least two layers 2 x 50mm thick x 100kg/m³.
3. Steel studs at nominal 610mm centres, measurements in accordance with the steel studs tables.
4. Top and bottom track (refer to note 1 below).
5. M6 all steel expanding anchors at nominal 600mm centres.
6. M4 x 16mm long self-tapping screws to fix the inner layer to studs at 400mm centres.
7. M4 x 38mm long self-tapping screws to fix the outer layer at 200mm centres.
8. Caulk all perimeter gaps with PROMASEAL® Intumescent Acrylic Sealant to achieve the required fire resistance and/or acoustic performance.

### Note:

1. The dimension of the web of the top and bottom track channels must be the necessary width to match the size of the studs.
2. As an alternative to increasing the mineral wool thickness, one could retain the mineral wool using 25mm x 25mm x 0.55mm steel angles, pop-riveted or screwed to the web of the studs. These angles would not have to be continuous.

## PROMINA® 60 – 1-hour fire rated steel stud partition

Resisting fire from either side / Non loadbearing

|                 |                      |   |  |
|-----------------|----------------------|---|--|
| Fire Resistance | FRR                  | -/60/60   | Model number: PMF.22.60                  |
|                 | Standard             | BS 476: Part 22: 1987                                   |  |
|                 | Approval             | RED R21M15-1A   |  |
| Acoustic        | STC                  | 42  |  |
|                 | R <sub>w</sub>       | 43dB  | Margin of error is generally within ±3dB |
|                 | Standard             | ASTM E 492<br>ISO717: Part 1: 1996                      |  |
|                 | Predicted assessment | Insul version 8.0.12<br>06 <sup>th</sup> September 2022 |  |
| Construction    | Maximum height       | 7000mm  |  |
|                 | Maximum length       | Unlimited   |  |
|                 | Thickness            | Nominal 86mm  |  |
|                 | Mass                 | From 33.63kg/m <sup>2</sup>                             |  |

- PROMINA® 60 board 9mm thick.
- PROMINA® 60 cover strips 100mm wide x 9mm thick.
- Mineral wool insulation (refer to note 2 below) min. 50mm thick x 100kg/m<sup>3</sup>.
- Steel studs at nominal 610mm centres, measurements in accordance with the tables below.
- Top and bottom track (refer to note 1 below).
- M6 all steel expanding anchors at nominal 500mm centres.
- M4 self-tapping screws at nominal 200mm centres.
- Caulk all perimeter gaps with PROMASEAL® Intumescent Acrylic Sealant to achieve the required fire resistance and/or acoustic performance.

**Table 1: Required studs sizes for various partition height that requires 60 minutes FRR (with min. yield stress 350N/mm<sup>2</sup>).**

| Maximum Height of the partition to be 7 meters |      |      |      |      |      |
|--|------|------|------|------|------|
| Proposed partition height (mm)                 | 3100 | 4000 | 5000 | 6000 | 7000 |
| Stud depth (mm)                                | 50   | 75   | 75   | 100  | 100  |
| Stud flange (mm)                               | 35   | 35   | 35   | 50   | 50   |
| Stud thickness (mm)                            | 0.6  | 0.8  | 1.2  | 1    | 2    |
| Stud spacing (mm)                              | 610  | 610  | 610  | 610  | 610  |
| Expansion allowance (mm)                       | 18   | 24   | 30   | 36   | 42   |

**Table 2: Required studs sizes for various partition height that requires 60 minutes FRR (with min. yield stress 200N/mm<sup>2</sup>).**

| Maximum Height of the partition to be 7 meters |      |      |      |      |         |
|--|------|------|------|------|---------|
| Proposed partition height (mm)                 | 3000 | 4000 | 5000 | 6000 | 7000    |
| Stud depth (mm)                                | 50   | 75   | 75   | 100  | 100/125 |
| Stud flange (mm)                               | 35   | 35   | 40   | 50   | 50      |
| Stud thickness (mm)                            | 0.6  | 0.8  | 1.2  | 1    | 2.2/1.6 |
| Stud spacing (mm)                              | 610  | 610  | 610  | 610  | 610     |
| Expansion allowance (mm)                       | 18   | 24   | 30   | 36   | 42      |

Note:

- The dimension of the web of the top and bottom track channels must be the necessary width to match the size of the studs.
- As an alternative to increasing the mineral wool thickness, one could retain the mineral wool using 25mm x 25mm x 0.55mm steel angles, pop-rieveted or screwed to the web of the studs. These angles would not have to be continuous.



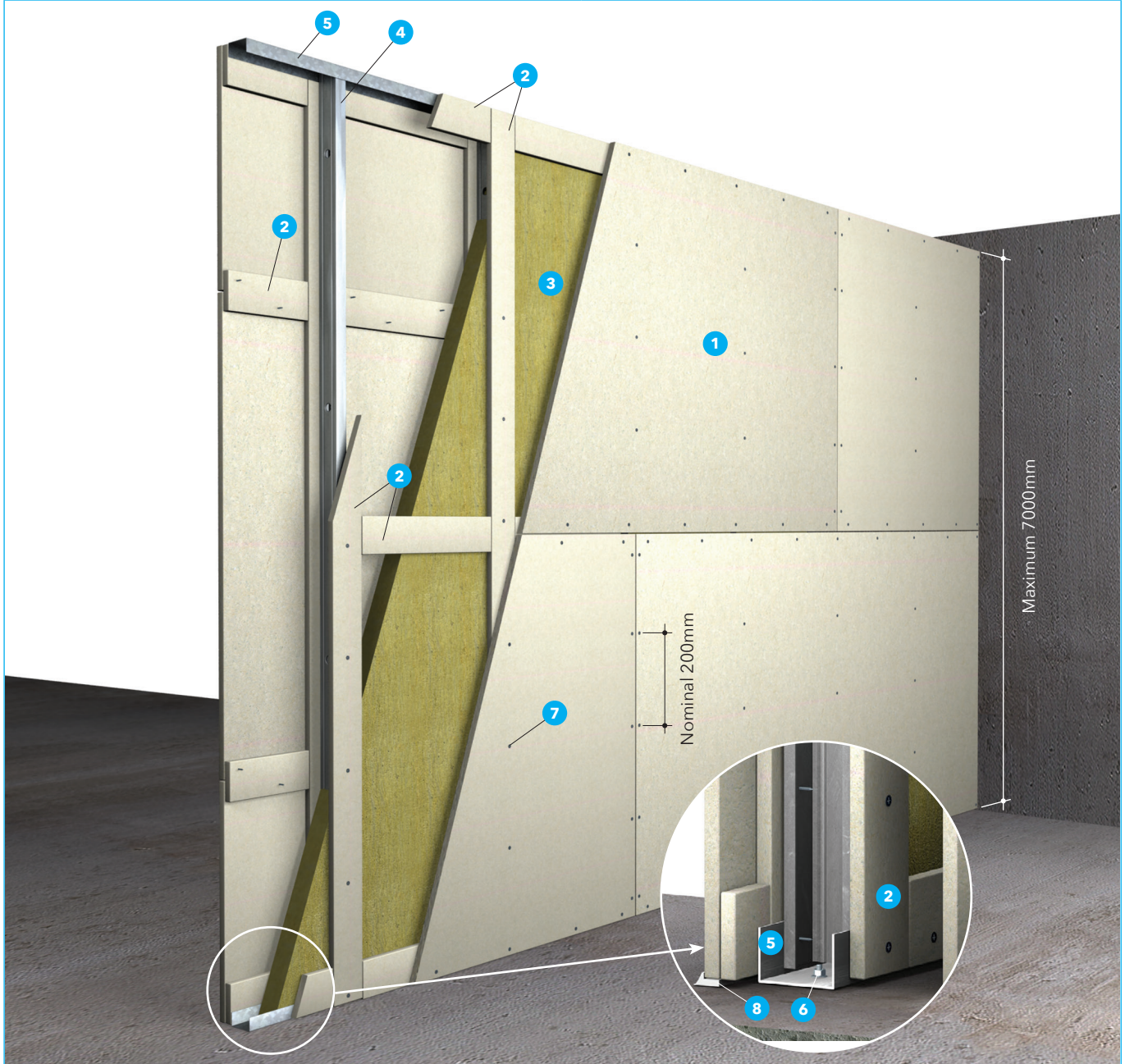
## PROMINA®-60 – 1-hour fire rated steel stud partition

Horizontal sheeting with strip joint (single layer)  
Non loadbearing partition

FRR

-/60/60

Model number: PMF.22.60



1. PROMINA® 60 board 9mm thick.
2. PROMINA® 60 cover strips 100mm wide x 9mm thick.
3. Mineral wool insulation (refer to note 2 below) min. 50mm thick x 100kg/m³.
4. Steel studs at nominal 610mm centres, measurements in accordance with the steel studs tables.
5. Top and bottom track (refer to note 1 below).
6. M6 all steel expanding anchors at nominal 500mm centres.
7. M4 self-tapping screws at nominal 200mm centres.
8. Caulk all perimeter gaps with PROMASEAL® Intumescent Acrylic Sealant to achieve the required fire resistance and/or acoustic performance.

### Note:

1. The dimension of the web of the top and bottom track channels must be the necessary width to match the size of the studs.
2. As an alternative to increasing the mineral wool thickness, one could retain the mineral wool using 25mm x 25mm x 0.55mm steel angles, pop-riveted or screwed to the web of the studs. These angles would not have to be continuous.

## PROMINA® 60 – 2-hour fire rated steel stud partition

|   |                      |   |  |
|---|----------------------|---|--|
| Resisting fire from either side / Non loadbearing |                      |   |  |
|   | Fire Resistance      | FRR   | -/120/120                                |
|   |                      | Standard  | BS 476: Part 22: 1987                    |
|   |                      | Approval  | RED R21M15-2A                            |
| Acoustic  | STC                  | 47  |  |
|   | R <sub>w</sub>       | 48dB  | Margin of error is generally within ±3dB |
|   | Standard             | ASTM E 492<br>ISO717: Part 1: 1996                      |  |
| Construction                                      | Predicted assessment | Insul version 8.0.12<br>06 <sup>th</sup> September 2022 |  |
|   | Maximum height       | 7000mm  |  |
|   | Maximum length       | Unlimited   |  |
|   | Thickness            | Nominal 136mm   |  |
|   | Mass                 | From 33.63kg/m <sup>2</sup>                             |  |

- PROMINA® 60 board 9mm thick.
- PROMINA® 60 cover strips 100mm wide x 9mm thick.
- Mineral wool insulation (refer to note 2 below) min. 75mm thick x 100kg/m<sup>3</sup>.
- Steel studs at nominal 610mm centres, measurements in accordance with the tables below.
- Top and bottom track (refer to note 1 below).
- M6 all steel expanding anchors at nominal 500mm centres.
- M4 self-tapping screws at nominal 200mm centres.
- Caulk all perimeter gaps with PROMASEAL® Intumescent Acrylic Sealant to achieve the required fire resistance and/or acoustic performance.

**Table 1: Required studs sizes for various partition height that requires 120 minutes FRR (with min. yield stress 350N/mm<sup>2</sup>).**

| Maximum Height of the partition to be 7 meters |      |      |      |      |      |
|--|------|------|------|------|------|
| Proposed partition height (mm)                 | 3300 | 4000 | 5000 | 6000 | 7000 |
| Stud depth (mm)                                | 50   | 75   | 75   | 100  | 100  |
| Stud flange (mm)                               | 38   | 50   | 50   | 50   | 50   |
| Stud thickness (mm)                            | 0.6  | 0.8  | 1.2  | 1.5  | 2.5  |
| Stud spacing (mm)                              | 610  | 610  | 610  | 610  | 610  |
| Expansion allowance (mm)                       | 18   | 24   | 30   | 36   | 42   |

**Table 2: Required studs sizes for various partition height that requires 120 minutes FRR (with min. yield stress 200N/mm<sup>2</sup>).**

| Maximum Height of the partition to be 7 meters |      |      |      |      |      |
|--|------|------|------|------|------|
| Proposed partition height (mm)                 | 3100 | 4000 | 5000 | 6000 | 7000 |
| Stud depth (mm)                                | 50   | 75   | 75   | 100  | 100  |
| Stud flange (mm)                               | 38   | 50   | 50   | 50   | 50   |
| Stud thickness (mm)                            | 0.8  | 0.8  | 1.2  | 1.5  | 2.5  |
| Stud spacing (mm)                              | 610  | 610  | 610  | 610  | 610  |
| Expansion allowance (mm)                       | 18   | 24   | 30   | 36   | 42   |

Note:

- The dimension of the web of the top and bottom track channels must be the necessary width to match the size of the studs.
- As an alternative to increasing the mineral wool thickness, one could retain the mineral wool using 25mm x 25mm x 0.55mm steel angles, pop-riveted or screwed to the web of the studs. These angles would not have to be continuous.



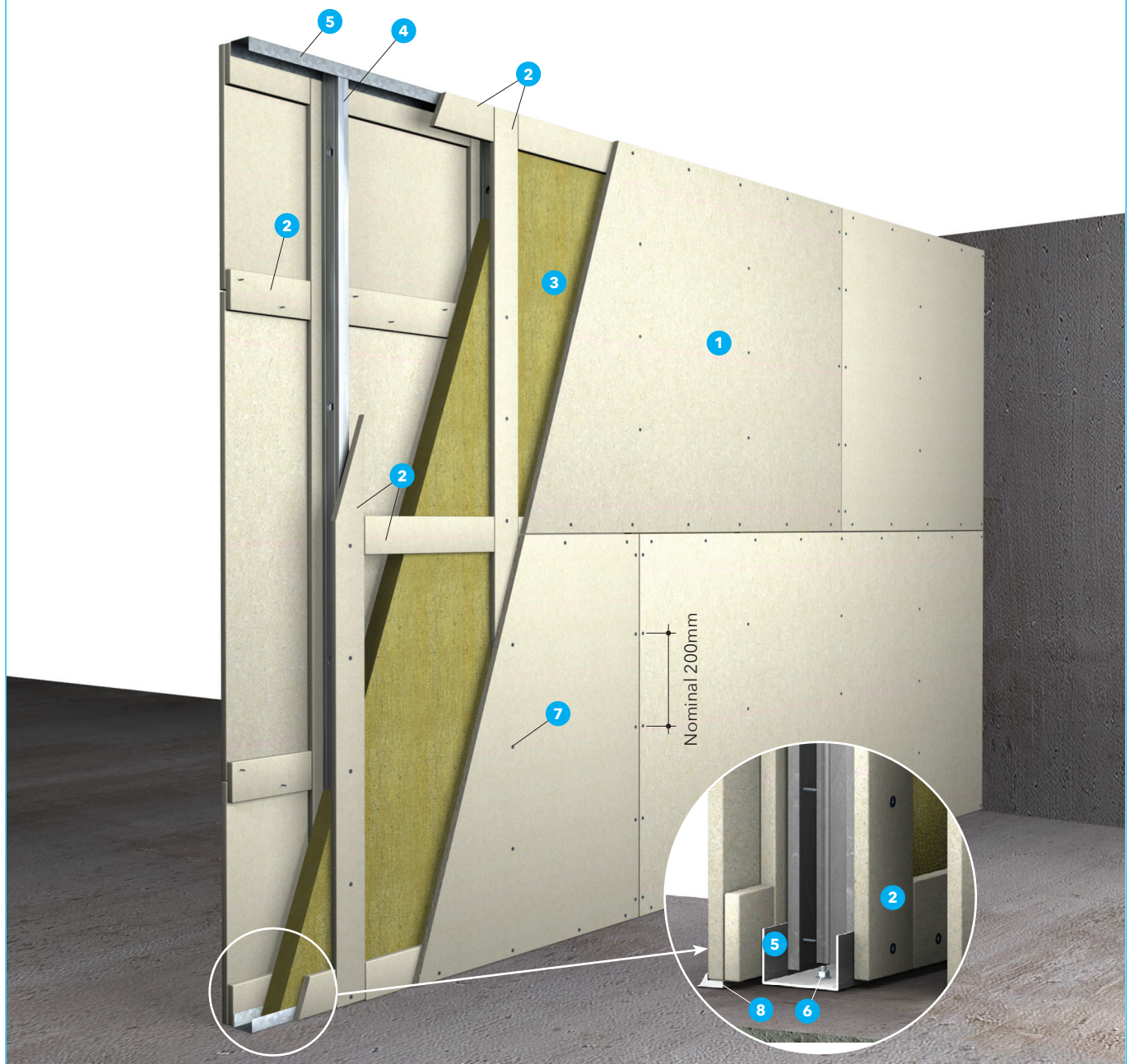
## PROMINA®-60 – 2-hour fire rated steel stud partition

Horizontal sheeting with strip joint (single layer)  
Non loadbearing partition

FRR

-/120/120

Model number: PMF.22.12



1. PROMINA® 60 board 9mm thick.
2. PROMINA® 60 cover strips 100mm wide x 9mm thick.
3. Mineral wool insulation (refer to note 2 below) min. 75mm thick x 100kg/m<sup>3</sup>.
4. Steel studs at nominal 610mm centres, measurements in accordance with the steel studs tables.
5. Top and bottom track (refer to note 1 below).
6. M6 all steel expanding anchors at nominal 500mm centres.
7. M4 self-tapping screws at nominal 200mm centres.
8. Caulk all perimeter gaps with PROMASEAL® Intumescent Acrylic Sealant to achieve the required fire resistance and/or acoustic performance.

### Note:

1. The dimension of the web of the top and bottom track channels must be the necessary width to match the size of the studs.
2. As an alternative to increasing the mineral wool thickness, one could retain the mineral wool using 25mm x 25mm x 0.55mm steel angles, pop-riveted or screwed to the web of the studs. These angles would not have to be continuous.



## PROMINA® 60 – 2-hour fire rated steel stud partition (Integrity only - single sided)

## Resisting fire from either side / Non loadbearing

|                 |                      |   |                           |
|-----------------|----------------------|---|---------------------------|
| Fire Resistance | FRR                  | -/120/-   | Model number: PMF.22.12.E |
|                 | Standard             | BS 476: Part 22: 1987                                   |                           |
|                 | Approval             | RED R22F27-1A   |                           |
| Acoustic        | STC                  | 27  |                           |
|                 | R <sub>w</sub>       | 29dB  |                           |
|                 |                      | Margin of error is generally within ±3dB                |                           |
|                 | Standard             | ASTM E 492<br>ISO717: Part 1: 1996                      |                           |
|                 | Predicted assessment | Insul version 8.0.12<br>06 <sup>th</sup> September 2022 |                           |
| Construction    | Maximum height       | 7000mm  |                           |
|                 | Maximum length       | Unlimited   |                           |
|                 | Thickness            | Nominal 59mm  |                           |
|                 | Mass                 | From 11.27kg/m <sup>2</sup>                             |                           |

- PROMINA® 60 board 9mm thick.
- 50 x 38 x 0.6mm thick steel studs at nominal 610mm centres.
- 52 x 35 x 0.6mm thick top and bottom track.
- M4 self-tapping screws at nominal 200mm centres.
- M6 all steel expanding anchors at nominal 500mm centres.
- Line indicated board joints.
- Caulk all perimeter gaps with PROMASEAL® Intumescent Acrylic Sealant to achieve the required fire resistance and/or acoustic performance.

**Table 1: Required studs sizes for single sided partition (with min. yield stress 350N/mm<sup>2</sup>).**

| Steel studs |        | Maximum partition height for stud thickness of |        |        |        |        |        |        |        |
|-------------|--------|--|--------|--------|--------|--------|--------|--------|--------|
| Web         | Flange | 0.6mm  | 0.8mm  | 1.0mm  | 1.2mm  | 1.5mm  | 2.0mm  | 2.5mm  | 3.0mm  |
| 50mm        | 50mm   | 3500mm   | 4100mm | 4300mm | 4700mm | 4900mm | 5100mm | 5300mm | 5400mm |
| 75mm        | 50mm   | 5300mm   | 5600mm | 5800mm | 6000mm | 6200mm | 6400mm | 6500mm | 6600mm |
| 100mm       | 50mm   | 6700mm   | 6900mm | 7000mm | -      | -      | -      | -      | -      |

**Table 2: Required studs sizes for single sided partition (with min. yield stress 200N/mm<sup>2</sup>).**

| Steel studs |        | Maximum partition height for stud thickness of |        |        |        |        |        |        |        |
|-------------|--------|--|--------|--------|--------|--------|--------|--------|--------|
| Web         | Flange | 0.6mm  | 0.8mm  | 1.0mm  | 1.2mm  | 1.5mm  | 2.0mm  | 2.5mm  | 3.0mm  |
| 50mm        | 50mm   | 3400mm   | 4000mm | 4200mm | 4600mm | 4800mm | 5000mm | 5200mm | 5300mm |
| 75mm        | 50mm   | 5200mm   | 5500mm | 5700mm | 5900mm | 6100mm | 6300mm | 6400mm | 6500mm |
| 100mm       | 50mm   | 6600mm   | 6800mm | 7000mm | -      | -      | -      | -      | -      |

Note:

- The dimension of the web of the top and bottom track channels must be the necessary width to match the size of the studs.

## PROMINA® 60 – 2-hour fire rated steel stud partition (Integrity only - single sided)

Vertical sheeting  
Non loadbearing partition

FRR

-/120/-

Model number: PMF.22.12.E



1. PROMINA® 60 board 9mm thick.
2. 50 x 38 x 0.6mm thick steel studs at nominal 610mm centres.
3. 52 x 35 x 0.6mm thick top and bottom track.
4. M4 self-tapping screws at nominal 200mm centres.
5. M6 all steel expanding anchors at nominal 500mm centres.
6. Line indicated board joints.
7. Caulk all perimeter gaps with PROMASEAL® Intumescent Acrylic Sealant to achieve the required fire resistance and/or acoustic performance.

## PROMINA® 60 – 2-hour fire rated steel stud partition (Integrity only - double sided)

Resisting fire from either side / Non loadbearing

|                 |                      |   |  |
|-----------------|----------------------|---|--|
| Fire Resistance | FRR                  | -/120/-   | Model number: PMF.22.12.E                |
|                 | Standard             | BS 476: Part 22: 1987                                   |  |
|                 | Approval             | RED R22F27-1A   |  |
| Acoustic        | STC                  | 37  |  |
|                 | R <sub>w</sub>       | 37dB  | Margin of error is generally within ±3dB |
|                 | Standard             | ASTM E 492<br>ISO717: Part 1: 1996                      |  |
| Construction    | Predicted assessment | Insul version 8.0.12<br>06 <sup>th</sup> September 2022 |  |
|                 | Maximum height       | 7000mm  |  |
|                 | Maximum length       | Unlimited   |  |
|                 | Thickness            | Nominal 68mm  |  |
|                 | Mass                 | From 21.35kg/m <sup>2</sup>                             |  |

- PROMINA® 60 board 9mm thick.
- 50 x 38 x 0.6mm thick steel studs at nominal 610mm centres.
- 52 x 35 x 0.6mm thick top and bottom track.
- M4 self-tapping screws at nominal 200mm centres.
- M6 all steel expanding anchors at nominal 500mm centres.
- Line indicated board joints.
- Caulk all perimeter gaps with PROMASEAL® Intumescent Acrylic Sealant to achieve the required fire resistance and/or acoustic performance.

**Table 1: Required studs sizes for double sided partition (with min. yield stress 350N/mm<sup>2</sup>).**

| Steel studs |        | Maximum partition height for stud thickness of |        |        |        |        |        |        |        |
|-------------|--------|--|--------|--------|--------|--------|--------|--------|--------|
| Web         | Flange | 0.6mm  | 0.8mm  | 1.0mm  | 1.2mm  | 1.5mm  | 2.0mm  | 2.5mm  | 3.0mm  |
| 50mm        | 50mm   | 3500mm   | 3900mm | 4100mm | 4300mm | 4600mm | 4800mm | 5000mm | 5200mm |
| 75mm        | 50mm   | 4900mm   | 5200mm | 5500mm | 5700mm | 6000mm | 6300mm | 6500mm | 6700mm |
| 100mm       | 50mm   | 6400mm   | 6700mm | 7000mm | -      | -      | -      | -      | -      |

**Table 2: Required studs sizes for double sided partition (with min. yield stress 200N/mm<sup>2</sup>).**

| Steel studs |        | Maximum partition height for stud thickness of |        |        |        |        |        |        |        |
|-------------|--------|--|--------|--------|--------|--------|--------|--------|--------|
| Web         | Flange | 0.6mm  | 0.8mm  | 1.0mm  | 1.2mm  | 1.5mm  | 2.0mm  | 2.5mm  | 3.0mm  |
| 50mm        | 50mm   | 3300mm   | 3600mm | 3800mm | 4000mm | 4200mm | 4500mm | 4700mm | 4900mm |
| 75mm        | 50mm   | 4500mm   | 4900mm | 5100mm | 5400mm | 5600mm | 5900mm | 6100mm | 6300mm |
| 100mm       | 50mm   | 5600mm   | 6000mm | 6300mm | 6500mm | 6800mm | 7000mm | -      | -      |

Note:

- The dimension of the web of the top and bottom track channels must be the necessary width to match the size of the studs.



## PROMINA® 60 – 2-hour fire rated steel stud partition (Integrity only - double sided)

Vertical sheeting  
Non loadbearing partition

FRR

-/120/-

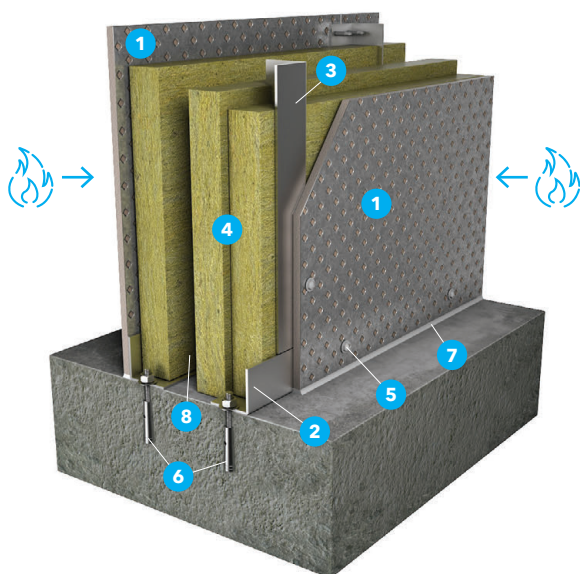
Model number: PMF.22.12.E



1. PROMINA® 60 board 9mm thick.
2. 50 x 38 x 0.6mm thick steel studs at nominal 610mm centres.
3. 52 x 35 x 0.6mm thick top and bottom track.
4. M4 self-tapping screws at nominal 200mm centres.
5. M6 all steel expanding anchors at nominal 500mm centres.
6. Line indicated board joints.
7. Caulk all perimeter gaps with PROMASEAL® Intumescent Acrylic Sealant to achieve the required fire resistance and/or acoustic performance.

## PROMATECT®-S – 4-hour fire rated steel stud partition

Resisting fire from either side / Non loadbearing



|                 |                      |   |  |
|-----------------|----------------------|---|--|
| Fire Resistance | FRR                  | -/240/240                                     | Model number: PS.22.24                   |
|                 | Standard             | BS 476: Part 22: 1987                         |  |
|                 | Approval             | BRE CC 201034 Review 4 issue 1                |  |
| Acoustic        | STC                  | 41  |  |
|                 | R <sub>w</sub>       | 44dB  | Margin of error is generally within ±3dB |
|                 | Standard             | ISO140: Part 3: 1996<br>ISO717: Part 1: 1996  |  |
|                 | Predicted assessment | Marshall Day<br>18 <sup>th</sup> October 2006 |  |
| Construction    | Maximum height       | 5000mm  |  |
|                 | Maximum length       | Unlimited                                     |  |
|                 | Thickness            | Nominal 164mm                                 |  |
|                 | Mass                 | From 65kg/m <sup>2</sup>                      |  |

1. One layer of 9.5mm thick PROMATECT®-S board at each side of the partition.
2. Perimeter L-angle 50 x 50 x 3mm thick.
3. Steel L-angle 50 x 50 x 3mm thick at 600mm intervals & to coincide with vertical board joint.
4. Mineral wool 3 x 40mm x 140kg/m<sup>3</sup>.
5. M6 Teks screws at nominal 200mm centres.
6. M10 anchor bolts at nominal 500mm centres.

7. Caulk all perimeter gaps with PROMASEAL® Intumescent Acrylic Sealant to achieve the required fire resistance and/or acoustic performance.
8. At least 25mm air gap.

PROMATECT®-S steel stud partitions are usually designed to meet specific project performance requirements including resistance to fire, impact and explosion. Please consult Promat for more information on framing elements etc.



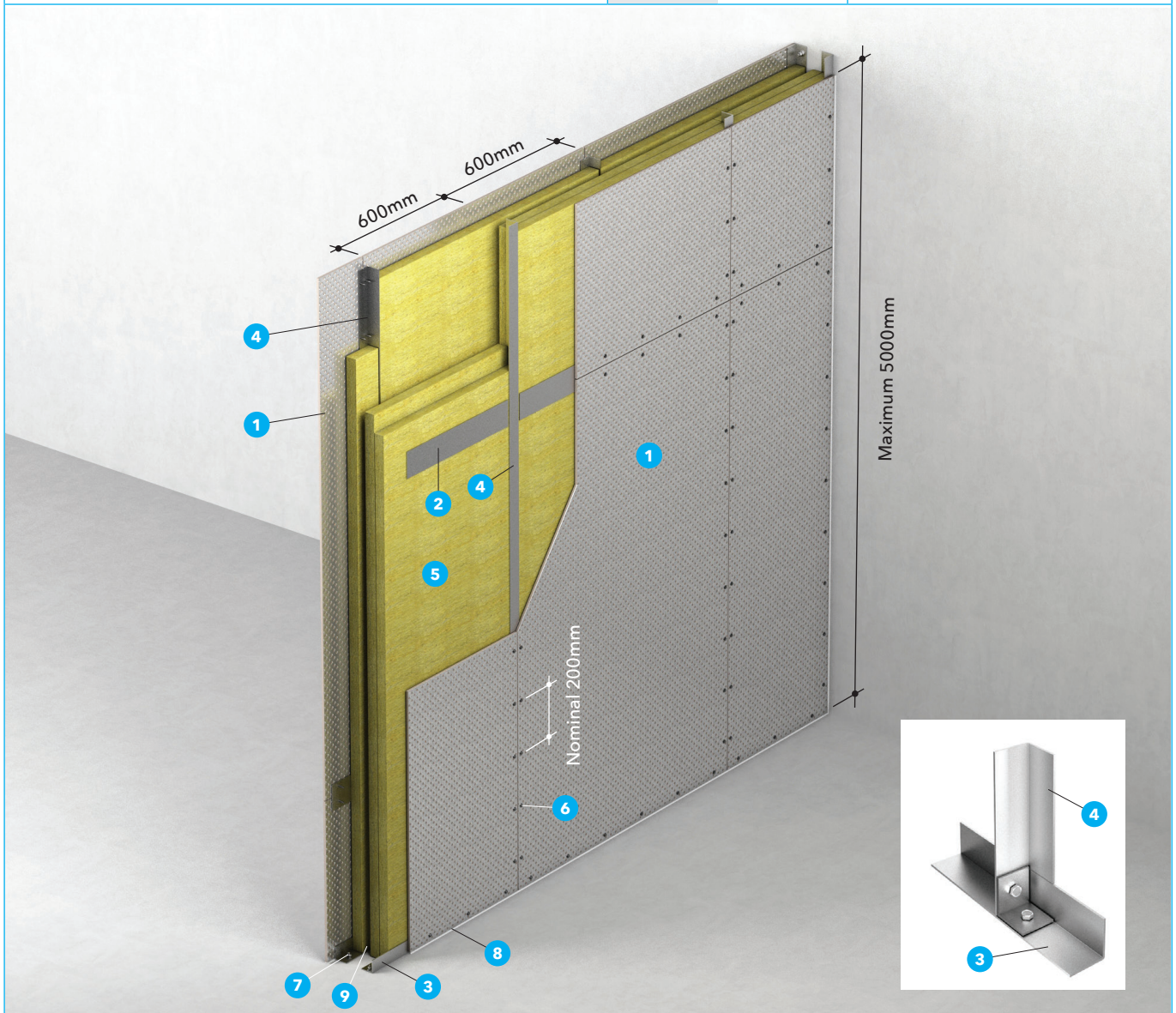
## PROMATECT®-S – 4-hour fire rated steel stud partition

Vertical sheeting with plate joint on both sides (single layer)  
Non loadbearing partition

FRR

-/240/240

Model number: PS.22.24

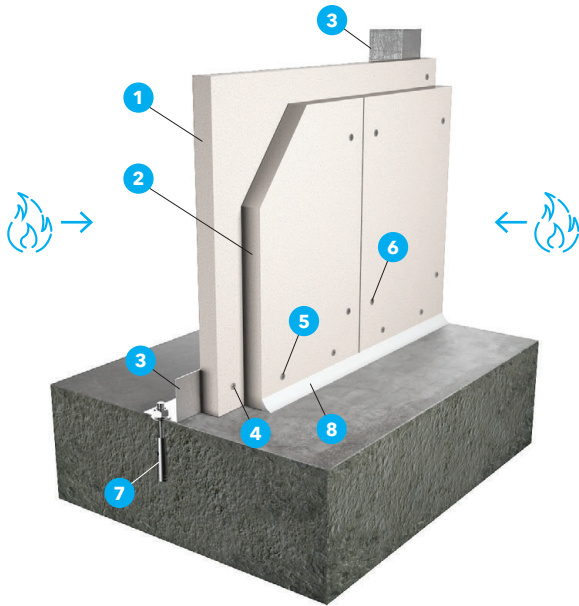


1. One layer of 9.5mm thick PROMATECT®-S board at each side of the partition.
2. 100 x 3mm thick steel flat plate behind horizontal board joints.
3. Perimeter L-angle 50 x 50 x 3mm thick.
4. Steel L-angle 50 x 50 x 3mm thick at 600mm intervals & to coincide with vertical board joint.
5. Mineral wool 3 x 40mm x 140kg/m³.
6. M6 Teks screws at nominal 200mm centres.
7. M10 anchor bolts at nominal 500mm centres.
8. Caulk all perimeter gaps with PROMASEAL® Intumescent Acrylic Sealant to achieve the required fire resistance and/or acoustic performance.
9. At least 25mm air gap.



## PROMATECT®-H – 1-hour fire rated solid/frameless internal partition

Resisting fire from either side / Non loadbearing



|                 |                      |   |                        |
|-----------------|----------------------|---|------------------------|
| Fire Resistance | FRR                  | -/60/60   | Model number: PH.23.60 |
|                 | Standard             | BS 476: Part 20: 1987<br>BS 476: Part 22: 1987          |                        |
|                 | Approval             | FSRG 2020/007   |                        |
| Acoustic        | STC                  | 34  |                        |
|                 | R <sub>w</sub>       | 36dB<br><i>Margin of error is generally within ±3dB</i> |                        |
|                 | Standard             | ASTM E 492<br>ISO717: Part 1: 1996                      |                        |
| Construction    | Predicted assessment | Insul version 8.0.12<br>06 <sup>th</sup> September 2022 |                        |
|                 | Maximum height       | 3100mm  |                        |
|                 | Maximum length       | Unlimited   |                        |
|                 | Thickness            | Nominal 85mm  |                        |
|                 | Mass                 | From 39.61kg/m <sup>2</sup>                             |                        |

1. PROMATECT®-H board 20mm thick.
2. PROMATECT®-H board 15mm thick.
3. Steel L-angle 50 x 50 x 0.75mm BMT.
4. No. 6 x 32mm drywall screw.
5. No. 6 x 50mm drywall screw.
6. 5.5 x 40mm stitching screw.
7. M8 all steel expanding anchors.
8. Caulk all perimeter gaps with PROMASEAL® Intumescent Acrylic Sealant to achieve the required fire resistance and/or acoustic performance.

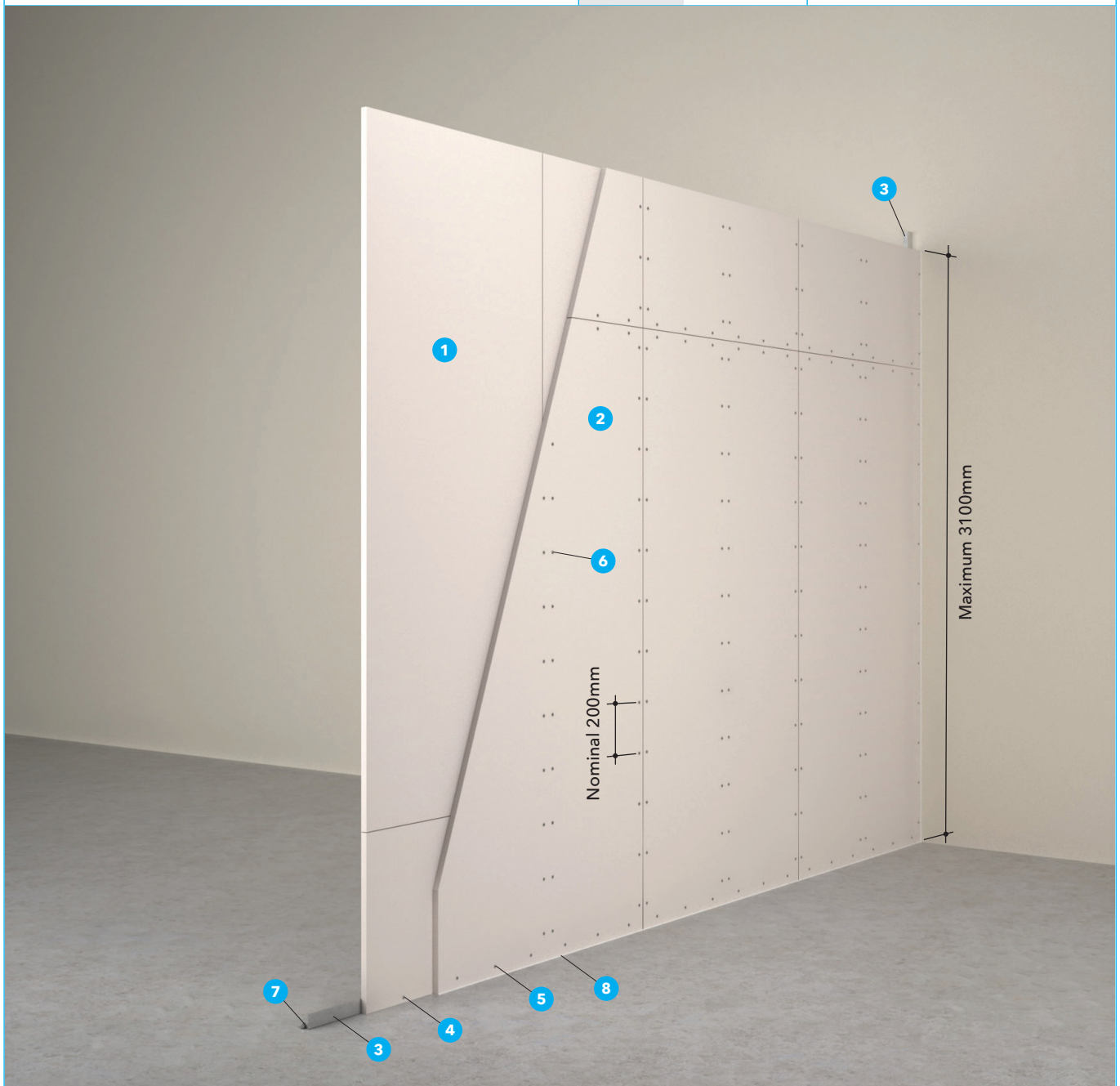
## PROMATECT®-H – 1-hour fire rated solid/frameless internal partition

Two layers  
Non loadbearing partition

FRR

-/60/60

Model number: PH.23.60



1. PROMATECT®-H board 20mm thick.
2. PROMATECT®-H board 15mm thick.
3. Steel L-angle 50 x 50 x 0.75mm BMT.
4. No. 6 x 32mm drywall screw.
5. No. 6 x 50mm drywall screw.
6. 5.5 x 40mm stitching screw.
7. M8 all steel expanding anchors.
8. Caulk all perimeter gaps with PROMASEAL® Intumescent Acrylic Sealant to achieve the required fire resistance and/or acoustic performance.

## PROMATECT®-H – 2-hour fire rated solid/frameless internal partition

Resisting fire from either side / Non loadbearing



|                 |                             |   |                        |
|-----------------|-----------------------------|---|------------------------|
| Fire Resistance | <b>FRR</b>                  | -/120/120   | Model number: PH.23.12 |
|                 | <b>Standard</b>             | BS 476: Part 22: 1987   |                        |
|                 | <b>Approval</b>             | FSRG 2022/002/001   |                        |
| Acoustic        | <b>STC</b>                  | 35 (two layers)<br>39 (three layers)  |                        |
|                 | <b>R<sub>w</sub></b>        | 37dB (two layers)<br>39dB (three layers)<br><i>Margin of error is generally within ±3dB</i> |                        |
|                 | <b>Standard</b>             | ASTM E 492<br>ISO717: Part 1: 1996  |                        |
| Construction    | <b>Predicted assessment</b> | Insul version 8.0.12<br>06 <sup>th</sup> September 2022                                     |                        |
|                 | <b>Maximum height</b>       | 5000mm  |                        |
|                 | <b>Maximum length</b>       | Unlimited   |                        |
|                 | <b>Thickness</b>            | Nominal 100mm (two layers)<br>Nominal 100mm (three layers)                                  |                        |
|                 | <b>Mass</b>                 | 52.52kg/m <sup>2</sup> (two layers)<br>52.52kg/m <sup>2</sup> (three layers)                |                        |

1. PROMATECT®-H board 25mm thick x 2 layers.
2. PROMATECT®-H board 20mm thick.
3. PROMATECT®-H board 15mm thick.
4. Steel perimeter angle framing 50 x 50 x 1mm thick.
5. No. 8 x 38mm long self-tapping screws at nominal 200mm centres.
6. No. 8 x 45mm long self-tapping screws at nominal 200mm centres.
7. No. 8 x 30mm long self-tapping screws at nominal 200mm centres.

8. No. 8 x 35mm long self-tapping screws at nominal 200mm centres.
9. No. 8 x 45mm long self-tapping screws at nominal 200mm centres.
10. M6 anchor bolts at nominal 600mm centres.
11. Caulk all perimeter gaps with PROMASEAL® Intumescent Acrylic Sealant to achieve the required fire resistance and/or acoustic performance.



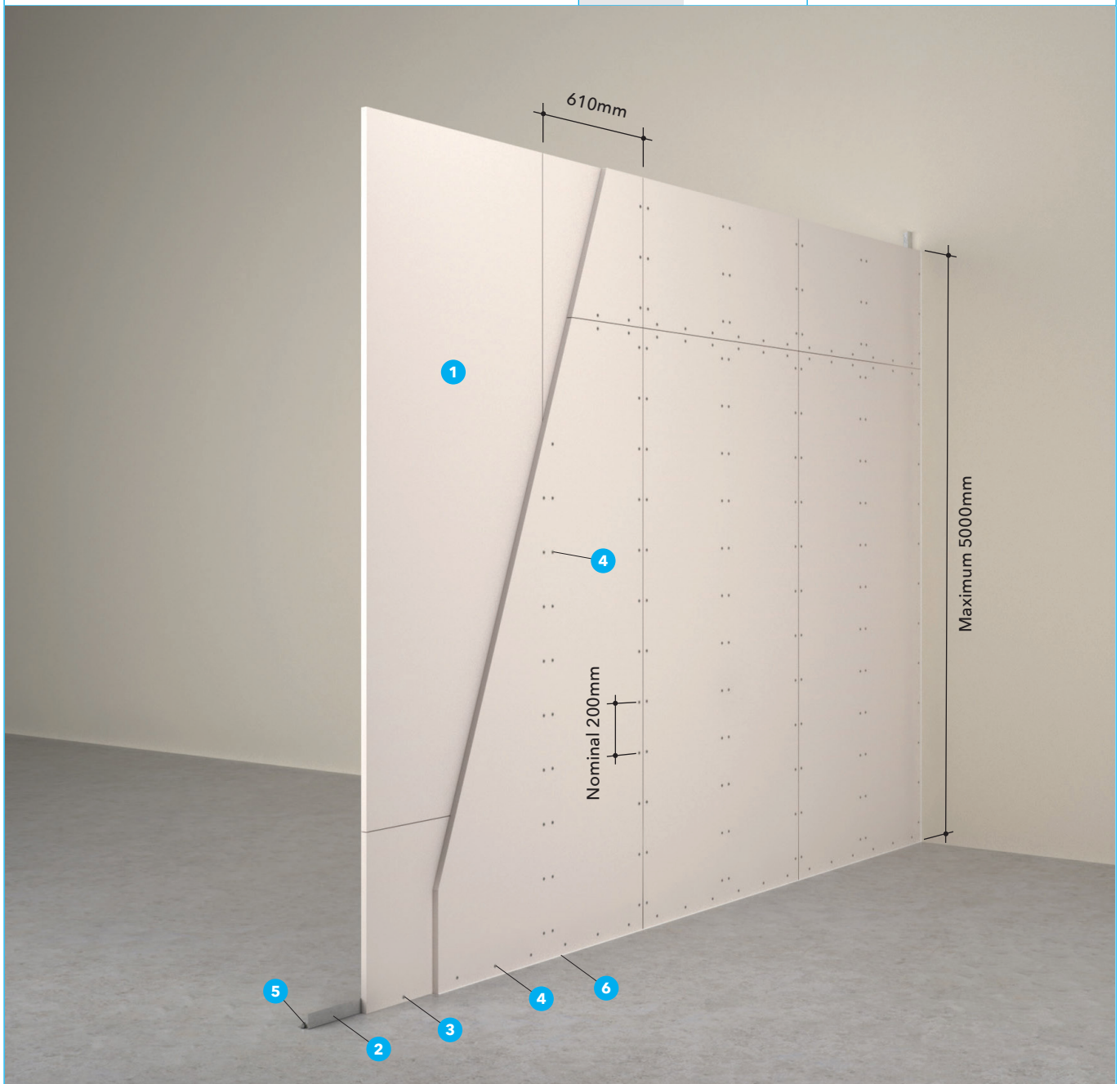
## PROMATECT®-H – 2-hour fire rated solid/frameless internal partition

Two layers  
Non loadbearing partition

FRR

-/120/120

Model number: PH.23.12



1. PROMATECT®-H board 25mm thick x 2 layers.
2. Steel perimeter angle framing 50 x 50 x 1 mm thick.
3. No. 8 x 38mm long self-tapping screws at nominal 200mm centres.
4. No. 8 x 45mm long self-tapping screws at nominal 200mm centres.
5. M6 anchor bolts at nominal 600mm centres.
6. Caulk all perimeter gaps with PROMASEAL® Intumescent Acrylic Sealant to achieve the required fire resistance and/or acoustic performance.

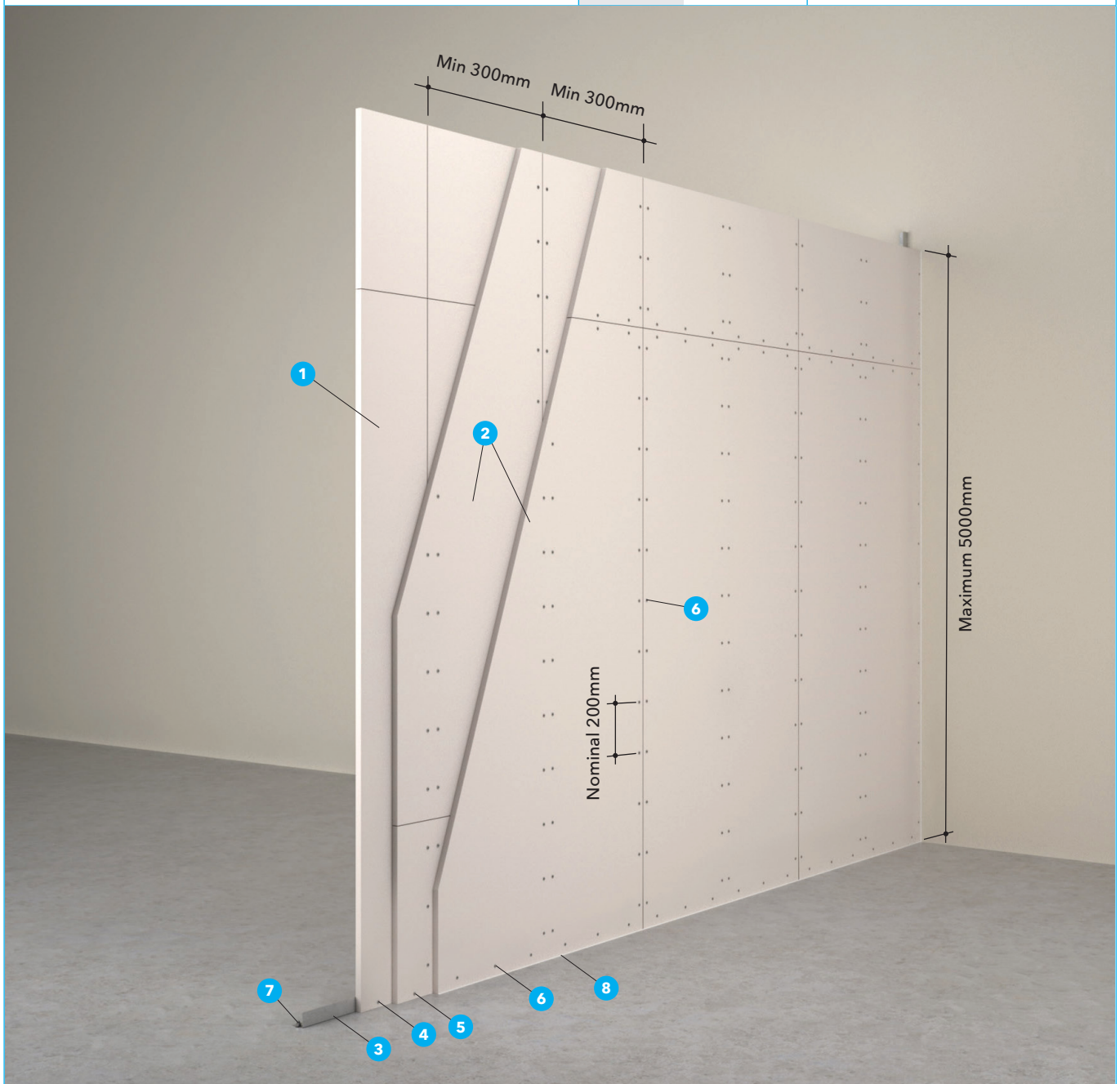
## PROMATECT®-H – 2-hour fire rated solid/frameless internal partition

Three layers  
Non loadbearing partition

FRR

-/120/120

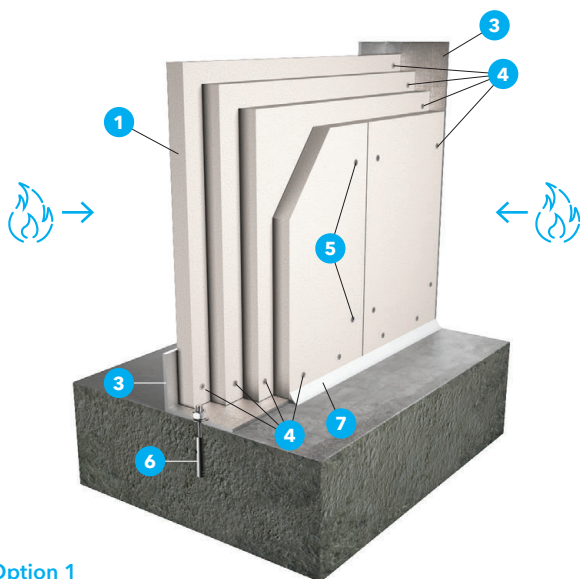
Model number: PH.23.12



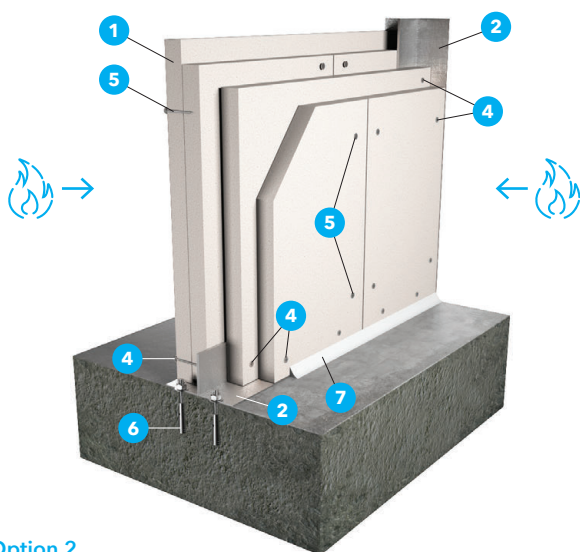
1. PROMATECT®-H board 20mm thick.
2. PROMATECT®-H board 15mm thick.
3. Steel perimeter angle framing 50 x 50 x 1mm thick.
4. No. 8 x 30mm long self-tapping screws at nominal 200mm centres.
5. No. 8 x 35mm long self-tapping screws at nominal 200mm centres.
6. No. 8 x 45mm long self-tapping screws at nominal 200mm centres.
7. M6 anchor bolts at nominal 600mm centres.
8. Caulk all perimeter gaps with PROMASEAL® Intumescent Acrylic Sealant to achieve the required fire resistance and/or acoustic performance.

## PROMATECT®-H – 4-hour fire rated solid/frameless internal partition

Resisting fire from either side / Non loadbearing



Option 1



Option 2

|                 |                             |  |                        |
|-----------------|-----------------------------|--|------------------------|
| Fire Resistance | <b>FRR</b>                  | -/240/240  | Model number: PH.23.24 |
|                 | <b>Standard</b>             | BS 476: Part 22: 1987  |                        |
|                 | <b>Approval</b>             | RED R22H34-1A  |                        |
| Acoustic        | <b>STC</b>                  | 41   |                        |
|                 | <b>R<sub>w</sub></b>        | 43dB<br><i>Margin of error is generally within ±3dB</i>            |                        |
|                 | <b>Standard</b>             | ASTM E 492<br>ISO717: Part 1: 1996                                 |                        |
| Construction    | <b>Predicted assessment</b> | Insul version 8.0.12<br>06 <sup>th</sup> September 2022            |                        |
|                 | <b>Maximum height</b>       | 5000mm   |                        |
|                 | <b>Maximum length</b>       | Unlimited  |                        |
|                 | <b>Thickness</b>            | Nominal 105mm (option 1)<br>Nominal 103mm (option 2)               |                        |
|                 | <b>Mass</b>                 | 114kg/m <sup>2</sup> (option 1)<br>120kg/m <sup>2</sup> (option 2) |                        |

1. PROMATECT®-H board 25mm thick x 4 layers.
2. Galvanised steel perimeter angle back-to-back 50 x 50 x 1.5mm thick.
3. Galvanised steel perimeter angle 75 x 100 x 5mm thick.
4. No. 8 x 32mm long self-tapping screws at nominal 200mm centres.
5. Stitching screws at nominal 200mm centres.
6. M8 anchor bolts at nominal 500mm centres.
7. Caulk all perimeter gaps with PROMASEAL®

Intumescent Acrylic Sealant to achieve the required fire resistance and/or acoustic performance.



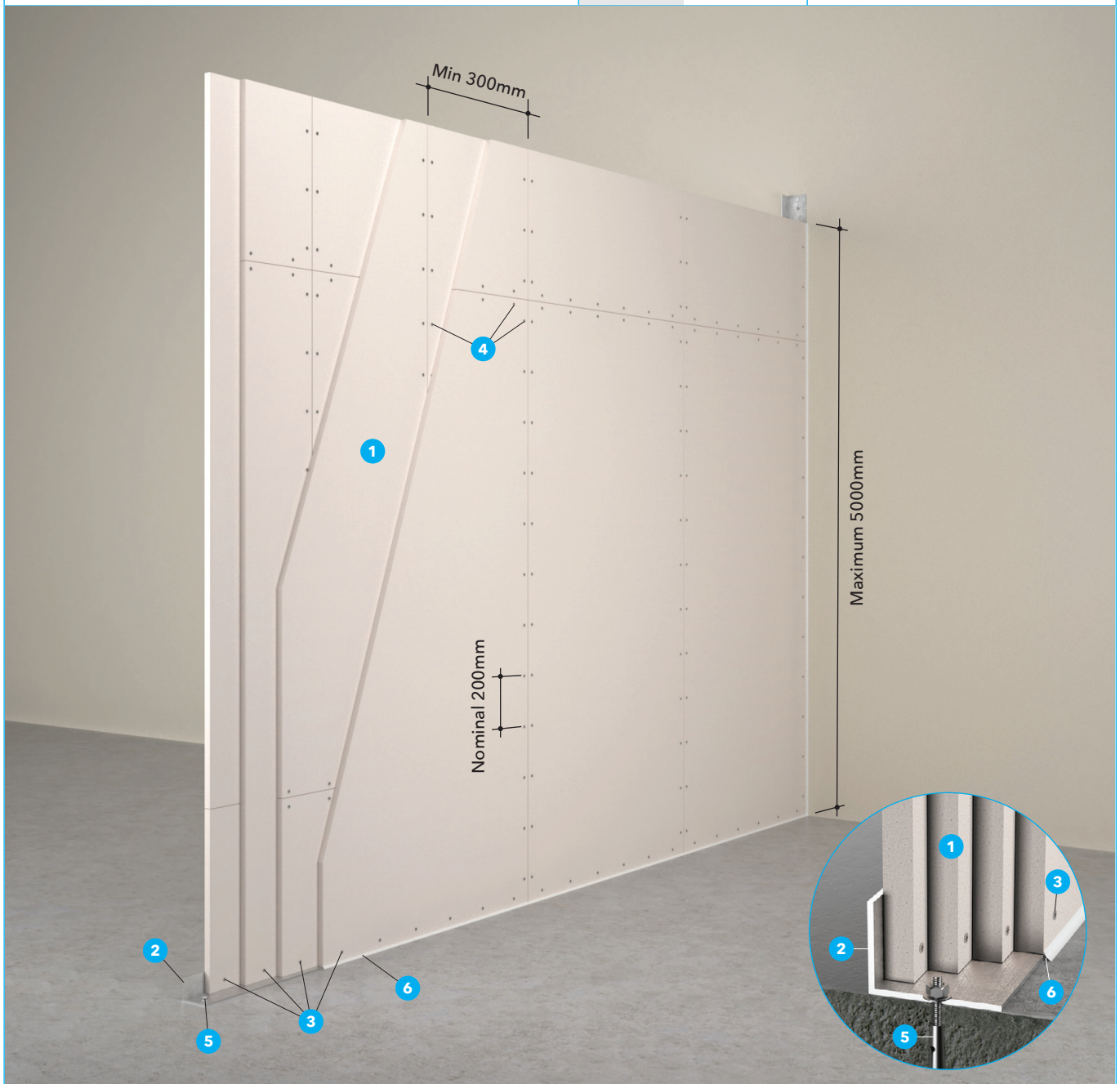
## PROMATECT®-H – 4-hour fire rated solid/frameless internal partition (Option 1)

Four layers  
Non loadbearing partition

FRR

-/240/240

Model number: PH.23.24



1. PROMATECT®-H board 25mm thick x 4 layers.
2. Galvanised steel perimeter angle 75 x 100 x 5mm thick.
3. No. 8 x 32mm long self-tapping screws at nominal 200mm centres.
4. Stitching screws at nominal 200mm centres.
5. M8 anchor bolts at nominal 500mm centres.
6. Caulk all perimeter gaps with PROMASEAL® Intumescent Acrylic Sealant to achieve the required fire resistance and/or acoustic performance.

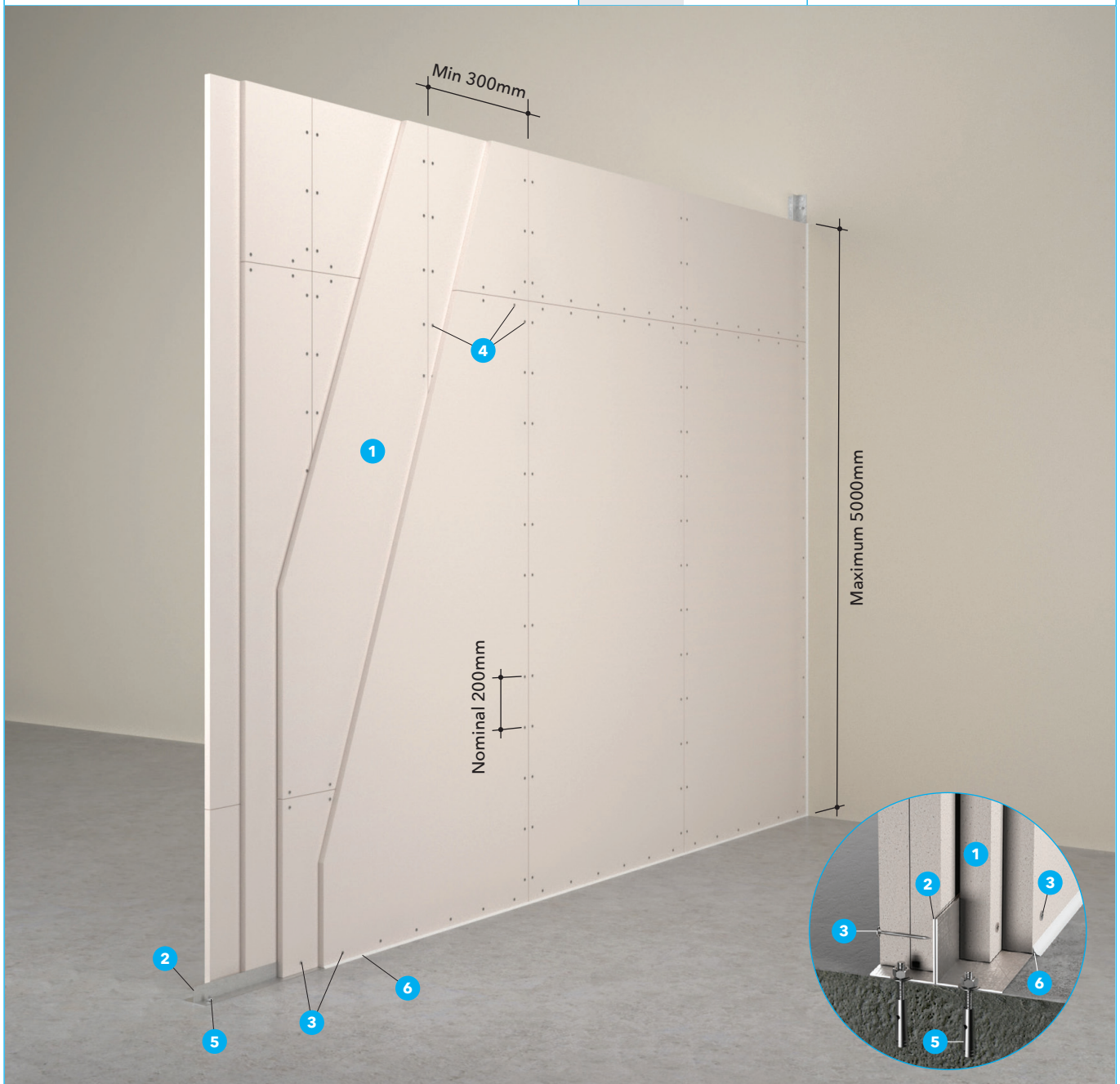
## PROMATECT®-H – 4-hour fire rated solid/frameless internal partition (Option 2)

Four layers  
Non loadbearing partition

FRR

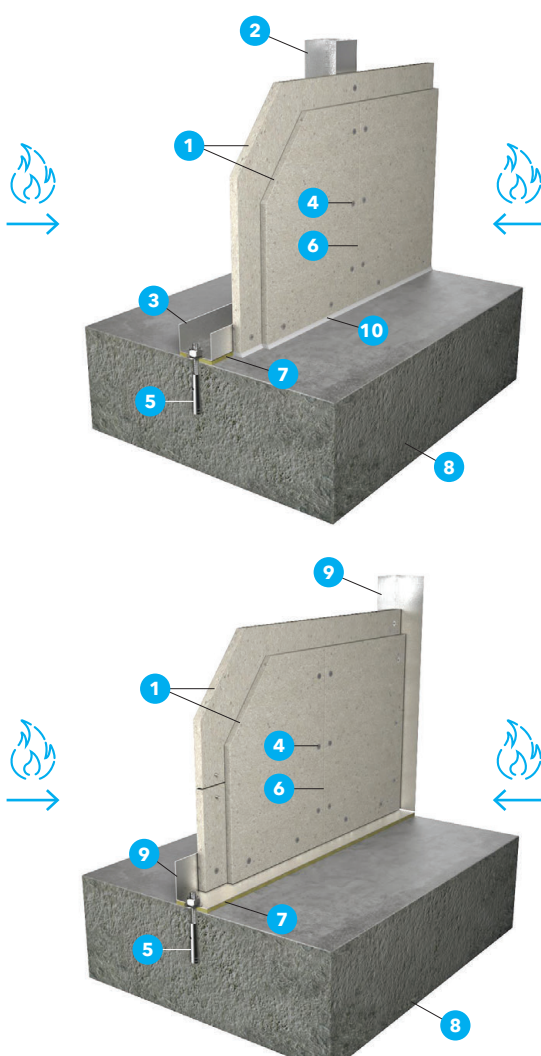
-/240/240

Model number: PH.23.24



1. PROMATECT®-H board 25mm thick x 4 layers.
2. Galvanised steel perimeter angle back-to-back 50 x 50 x 1.5mm thick.
3. No. 8 x 32mm long self-tapping screws at nominal 200mm centres.
4. Stitching screws at nominal 200mm centres.
5. M8 anchor bolts at nominal 500mm centres.
6. Caulk all perimeter gaps with PROMASEAL® Intumescent Acrylic Sealant to achieve the required fire resistance and/or acoustic performance.

## PROMINA® 60 – 1-hour fire rated solid/frameless internal partition (kitchen barrier)

|  |                 |                      |  |
|--|-----------------|----------------------|--|
| Resisting fire from either side / Non loadbearing                                  |                 |                      |  |
|  | Fire Resistance | FRR                  | -/60/30<br>Model number: PMF.23.60   |
|  |                 | Standard             | BS 476: Part 22: 1987  |
|  |                 | Approval             | WF 402977  |
|  | Acoustic        | STC                  | 34 (framed)<br>34 (frameless)  |
|  |                 | R <sub>w</sub>       | 34dB (framed)<br>34dB (frameless)<br><i>Margin of error is generally within ±3dB</i> |
|  |                 | Standard             | ASTM E 492<br>ISO717: Part 1: 1996   |
|  | Construction    | Predicted assessment | Insul version 8.0.12<br>06 <sup>th</sup> September 2022                              |
|  |                 | Maximum height       | 4880mm   |
|  |                 | Maximum length       | Unlimited  |
|  |                 | Thickness            | Nominal 22mm+  |

- PROMINA® 60 board 12mm thick + 9mm thick installed in staggered joints between boards.
- Steel studs min. 50 x 50 x 1.0mm thick at nominal 610mm centres.
- Top and bottom track min. 50 x 50 x 1.0mm thick.
- M4 self-tapping screws at nominal 200mm centres.
- M6 all steel anchors bolts at nominal 500mm centres.
- Line indicate board joints
- Mineral wool seal (optional)
- Concrete wall/floor slab.
- Steel L-angle min. 50 x 50 x 1.0mm thick.
- PROMASEAL® Intumescent Acrylic Sealant to seal gaps on irregularities surface.

**Table 1: Proposed steel channels dimension & expansion clearances**

| Height up to (m) | Minimum depth of top/<br>bottom track (mm) | Minimum expansion<br>allowance (mm) |
|------------------|--|-------------------------------------|
| 3.0              | 52 x 35 x 1.0                              | 15.0                                |
| 3.5              | 52 x 35 x 1.0                              | 17.5                                |
| 4.0              | 52 x 35 x 1.0                              | 20.0                                |
| 4.88             | 52 x 45 x 1.0                              | 25.0                                |



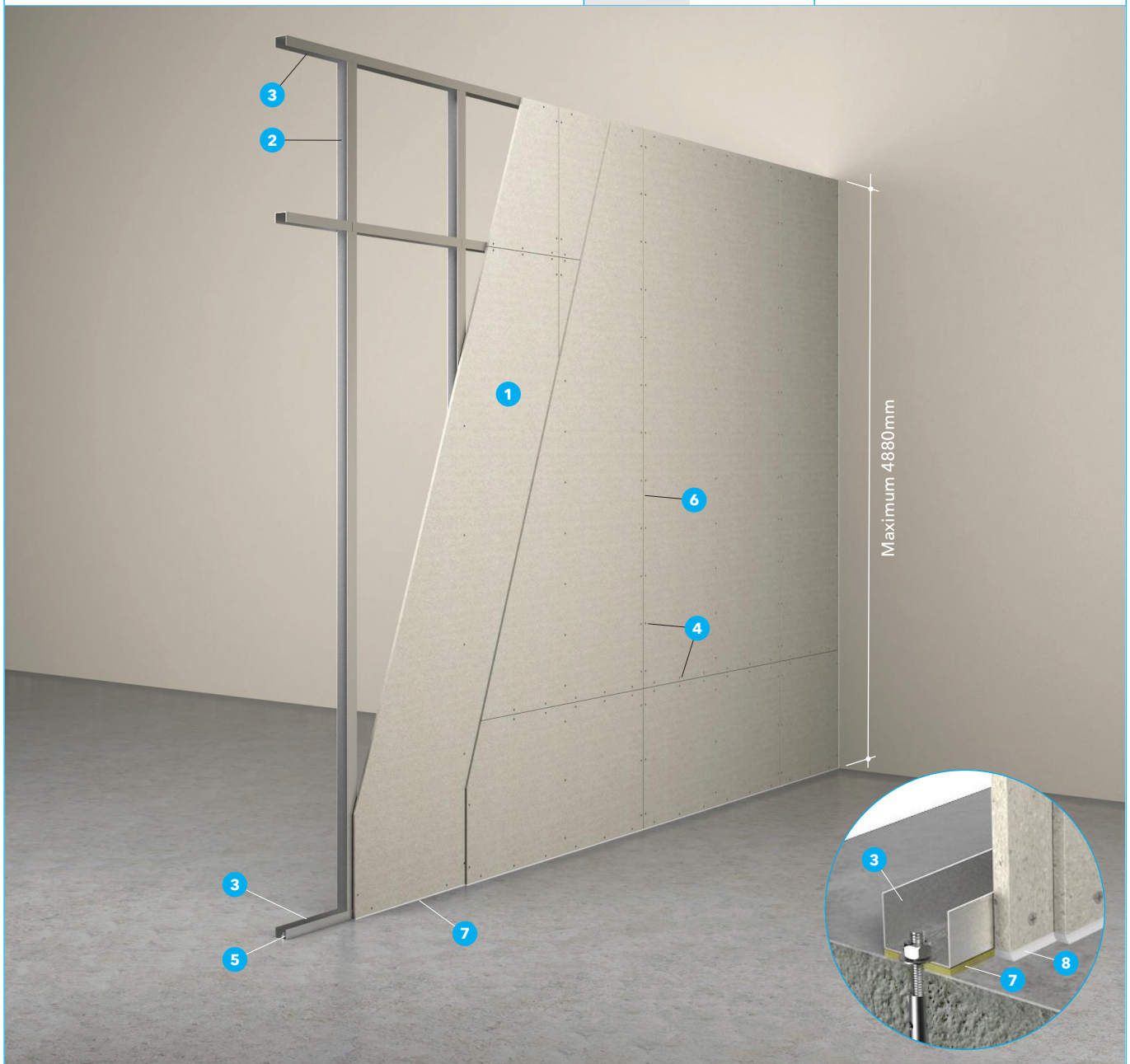
## PROMINA® 60 – 1-hour fire rated solid/frameless internal partition (kitchen barrier)

Two layers  
Non loadbearing partition

FRR

-/60/30

Model number: PMF.23.60



1. PROMINA® 60 board 12mm thick + 9mm thick installed in staggered joints between boards.
2. Steel studs min. 50 x 50 x 1.0mm thick at nominal 610mm centres.
3. Top and bottom track min. 50 x 50 x 1.0mm thick.
4. M4 self-tapping screws at nominal 200mm centres.
5. M6 all steel anchors bolts at nominal 500mm centres.
6. Line indicate board joints
7. Mineral wool seal (optional)
8. PROMASEAL® Intumescent Acrylic Sealant to seal gaps on irregularities surface.

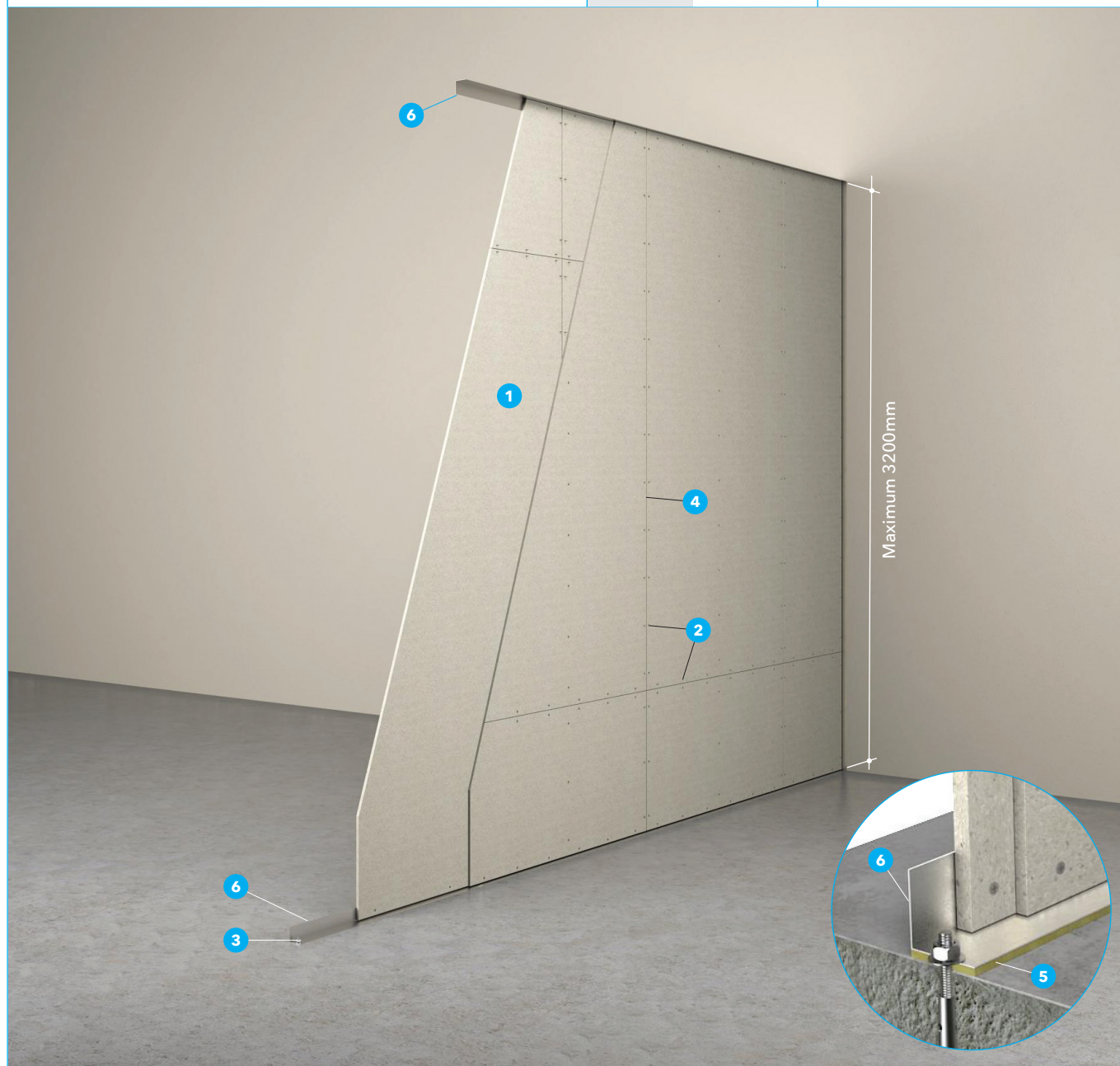
## PROMINA® 60 – 1-hour fire rated solid/frameless internal partition (kitchen barrier)

Two layers  
Non loadbearing partition

FRR

-/60/30

Model number: PMF.23.60



1. PROMINA® 60 board 12mm thick + 9mm thick installed in staggered joints between boards.
2. M4 self-tapping screws at nominal 200mm centres.
3. M6 all steel anchor bolts at nominal 500mm centres.
4. Line indicate board joints
5. Mineral wool seal (optional)
6. Steel L-angle min. 50 x 50 x 1.0mm thick.

This image shows a single sheet of white paper with horizontal blue ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.





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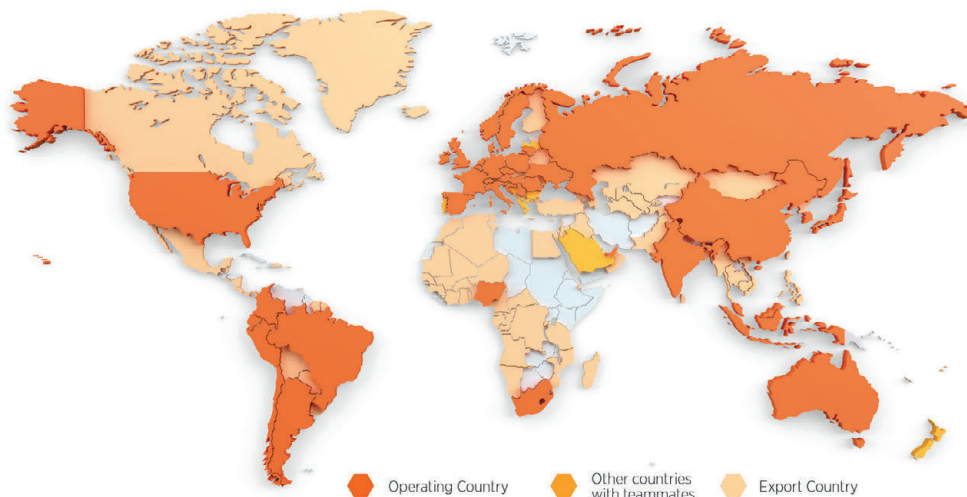
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Etex is an international building materials specialist; the company wants to inspire people around the world to build living spaces that are ever more safe, sustainable, smart and beautiful. Founded since 1905 and headquartered in Belgium, Etex currently operates more than 140 sites including plants, quarries and offices in 45 countries with over 13,500 employees globally.

Etex fosters a collaborative and caring culture, a pioneering spirit and a passion to always do better for its customers. Building on its experience and global market needs, the company strives to improve its customers quality of living with ever more effective lightweight solutions.

Its three R&D centres support four global sales divisions:

- **Building Performance:** Leader in plasterboards and fibre cement boards, and the global reference in passive fire protection solutions for the residential and commercial segments.
- **Exteriors:** Provider of innovative, durable, high performance and beautiful fibre cement exterior materials for architectural, residential and agricultural projects.
- **Industry:** Front runner of engineering expertise to drive the future of high performance thermal and acoustic insulation as well as passive fire protection in the industrial, aerospace and energy sectors.
- **New Ways:** New Ways offers high-tech, lightweight, factory-assembled panel and modular solutions based on timber and steel framing.

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