

# Dry Lining Walls and Ceilings Guide

A useful quick reference guide –  
working with FERMACELL Dry Lining products.

# About this Guide

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### Questions & Answers

### Product range

**FERMACELL means – green,  
durable dry lining made easy.**

This simple and easy-to-use guide shows how to install FERMACELL dry lining products.

The key is to keep it simple, follow the jointing and fixing techniques shown in this booklet to help you get the best from FERMACELL and achieve a perfect result every time.

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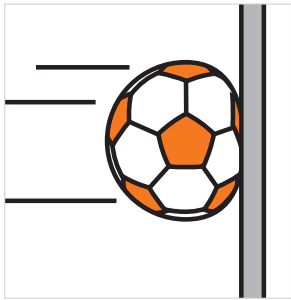
## Accreditation

FERMACELL is BBA and ETA accredited, giving it a warranty for the life of the building.



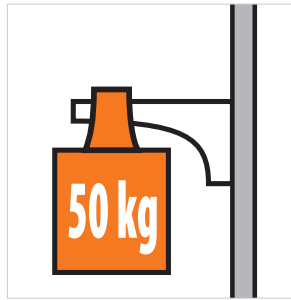
# One unique board

## Six major benefits...



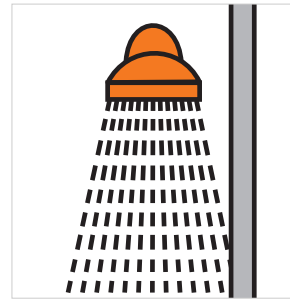
### 1. Impact resistant

Fibre reinforcement provides hidden strength, making FERMACELL the ideal choice for walls in high traffic areas such as schools and sports halls.



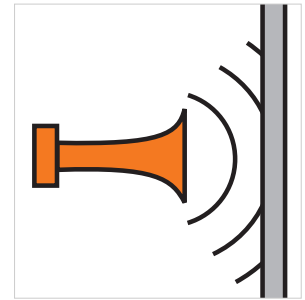
### 2. High load bearing

A single screw in FERMACELL can hold up to 30kg, and a cavity plug up to 50kg. Noggings are not required.



### 3. Moisture resistant

FERMACELL is the ideal wall board for kitchens and bathrooms. It can withstand constant levels of up to 80% Rh.



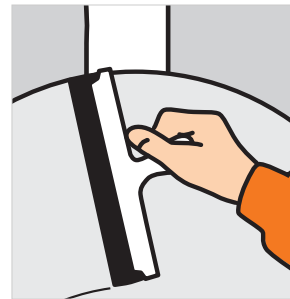
### 4. Sound insulating

Can be used for walls, ceilings, or floors when sound proofing is required. A 100mm wide stud wall using FERMACELL gives better sound reduction than a 275mm block wall.



### 5. Fire resistant

All thicknesses of board are categorised as Class 0 (best). Single layers of FERMACELL each side can create F60 partitions.



### 6. No plaster needed

The FST gives a smooth finish ready for painting. FST is easy to apply, no specialist skills are needed, and dries in 45 minutes (depending on site conditions).

## Tapered edge wall boards

for tapered joints with FERMACELL Jointfiller

– see page 24-25



1 Screw



2 Tape



3 Fill



4 Float off

There are three standard jointing techniques which can be used with FERMACELL – choose the ones to suit your specific installation requirements.

It's **simple**  
Key installation stages at a glance

## Key installation stages at a glance continued

### Square edge wall boards

for glued butt joints with FERMACELL Jointstik

– see page 26



1

Screw



2

Glue



3

Scrape



4

Float off

### Offcut jointing

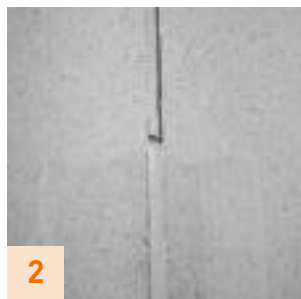
leaving a 5-7mm gap and then filling with

FERMACELL Jointfiller – see page 24-25



1

Screw



2

Leaving a 5-7mm gap



3

Fill



4

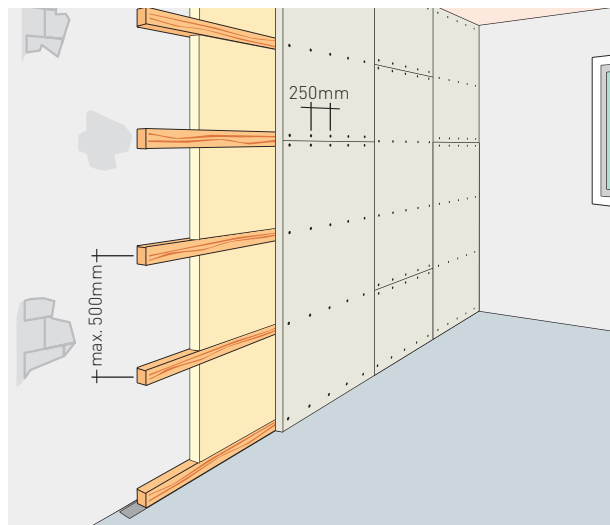
Float off



**Note:**  
Tapered edge and filler joints  
must be backed/supported.

## Timber batten upgrade with FERMACELL

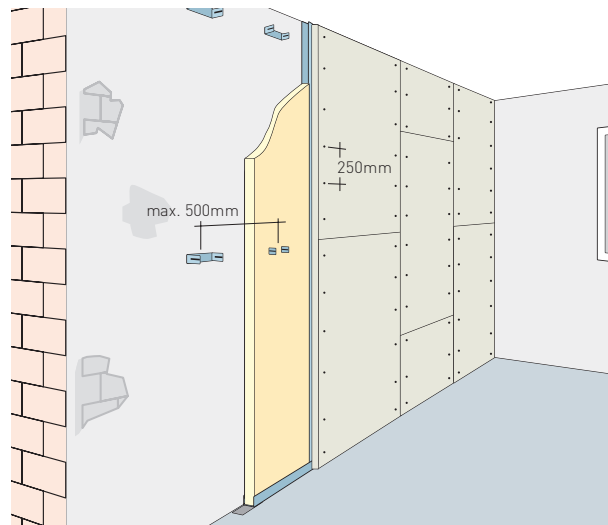
– see page 36-37



A typical upgrade using FERMACELL on timber.  
This shows a domestic upgrade using 10mm FERMACELL.

## Adjustable steel wall lining with FERMACELL

– see page 36-37



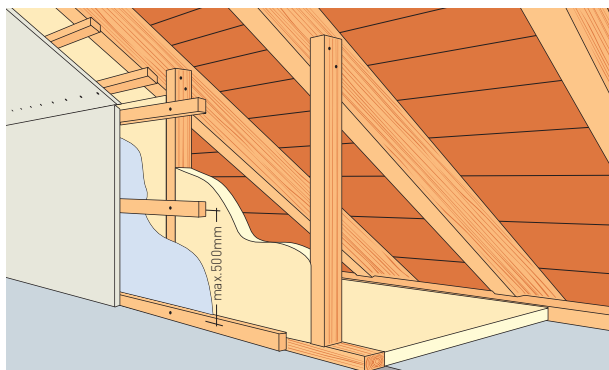
FERMACELL is just as easy to fit to steel systems as well.  
This shows a domestic upgrade using 10mm FERMACELL.

# It's flexible

Typical installation methods at a glance

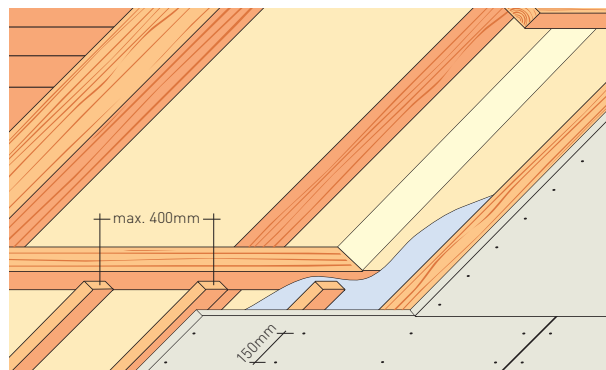
## Typical Attic upgrade

– see page 52-53



## Sloping Roof details

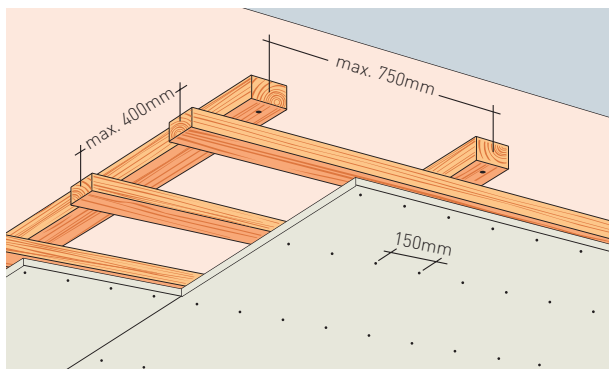
– see page 52-53



Showing staple fixings

## Timber Ceiling

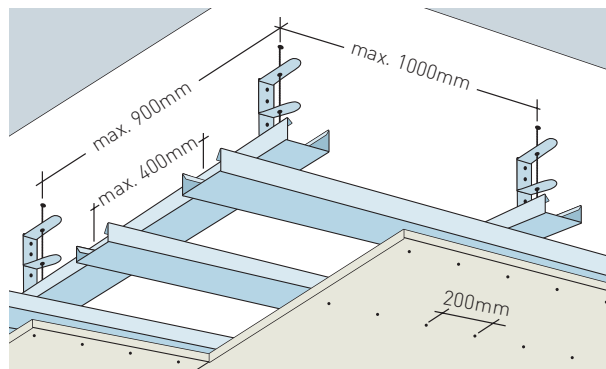
– see page 50-51



Showing staple fixings

## Steel Ceiling

– see page 50-51



# Materials

An 11-point guide to the materials you need to build a FERMACELL partition wall.

## 1. Studwork

- **Timber studs** – use 75mm x 50mm PSE well seasoned studs for both the vertical studwork and the head and floor track. CLS timber can also be used but only with glued or Tapered Edge jointing methods.
- **Steel studs** – use min 50mm x 50mm x 0.6mm galvanised steel U section for the head and floor track. FERMACELL recommends Protektor studwork.
- **Stud spacing** will depend on the board thickness and size. (Refer to pages 28-29).

## 2. Fixings

- **Timber frame** – use min 80mm screws to fix head and floor tracks and end studs to the existing structure.
- **Steel frame** – use min 40mm screws to fix head and floor tracks and end studs to the existing structure.
- Fix the stud frame to the supporting structure using appropriate frame anchors at 600mm centres.



## 3. Flanking strips

- Appropriate Fire and Acoustic flanking strips must be placed between the stud tracks and the support structure. These must be suitable for use in FERMACELL constructions, for example, felt strip.

## 4. Mineral fibre insulation

- Mineral fibre insulation must be used as per the FERMACELL construction specification. For fire rated constructions, the mineral fibre must have a melting point of greater than 1000°C.

## 5. FERMACELL boards

- FERMACELL boards are available in 10mm, 12.5mm, 15mm and 18mm thicknesses.
- For most domestic constructions, 10mm board is sufficient.

## 6. FERMACELL screws

- For full screw and staple recommendations, refer to the tables on pages 40-43.
- If nails are used, they should be min 32mm long, at least 2.2mm gauge and galvanised. These should be pneumatically fixed.





## 7. Tapered Edge Board Joint Tapes

- A FERMACELL paper or fibre tape should be used. Paper tape is recommended as this will give a stronger joint.

## 8. FERMACELL Jointstik

- Jointstik is used for gluing square edge boards together. Each 310ml cartridge will joint 20 linear metres of board using a 3mm bead.



## 9. FERMACELL Joint Filler

- A hard filler used for jointing tapered edge boards, filling the gaps between scored and snapped boards and for filling screw heads etc.
- Allow 1kg per 4 metres of jointing length, and 1kg per 7-8 metres of joint length for jointing offcuts.

## 10 Flexible Mastic

- For use in sealing the gap between boards and other material surfaces such as walls, floors and ceilings.
- The edges of the boards must be primed before application, as per manufacturers instructions.
- This must be fire and acoustic rated as required.
- This must be able to accommodate 20% movement (i.e. +/- 10%).

## 11. FERMACELL Fine Surface Treatment (FST)

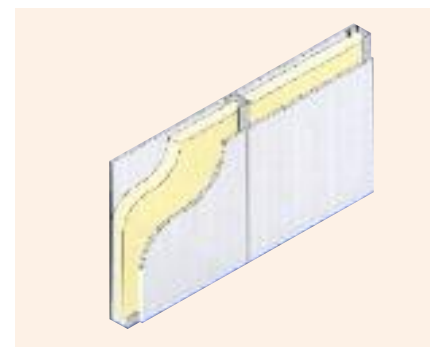
- A ready-mixed face filler used for smoothing the surface of the boards.
- A 10 litre tub will cover around 60m<sup>2</sup> of wallboard.
- Use FST where a skim-coat smoothness is required.



### Materials usage depending on site conditions

<b>FERMACELL Jointstik</b>	20ml per 310ml tube
<b>FERMACELL Joint Filler</b>	For jointing Tapered Edge boards allow 1kg per 4m of joint length. For offcuts allow 1kg per 7-8m of joint length offcuts.
<b>FERMACELL FST</b>	Allow 60m <sup>2</sup> per 10 litre tub.
<b>FERMACELL Screws</b>	Typically 20-26 per m <sup>2</sup> .

Fermacell's 1S21 wall gives 60 minutes fire protection and an amazing Rw 54dB sound performance.



# The tools you will need

Below is a list of tools you may require when working with FERMACELL Dry Lining products.



**Electric screwgun** with a minimum speed of 3500rpm. Slower speed tools may cause lipping when installing boards on steel studwork.



**Pneumatic gun** with a compressor operating at 7 bar will be needed when using staples or nails.



**Saw** (hand or electric – use vacuum extraction).



**Decorator's scraper** or similar for removing excess FERMACELL Jointstik and for applying FERMACELL Joint Filler to the joint.



**FERMACELL board knife.**



**Sandpaper** for smoothing joints.



**Decorator's sponge** for use when stippling joints.



**A clean bucket and trowel** for mixing filler.



**A steel float or FERMACELL applicator** for applying FERMACELL Fine Surface Treatment.



## Storage

- FERMACELL boards are delivered on pallets and are protected by a plastic film.
- Boards should be stored on a flat even surface and should be kept dry.
- Damp boards should not be used until they have dried out.

## Handling

- Boards should be carried on edge.
- Boards are heavy. **Take care when lifting.**
- For ceiling use, we recommend the use of mechanical board lifters.
- For full size boards we recommend the use of board lifters/clamps.

# Cutting

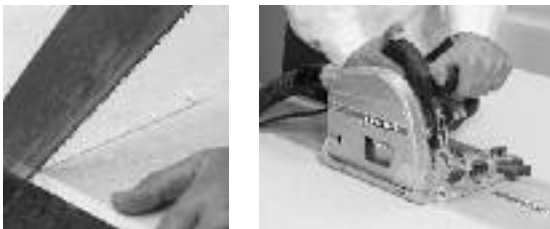
## Scoring and Snapping

- Score using a FERMACELL board knife along a straight edge. Then break off the scored section as shown.
- A Fermacell board knife is specially designed to give a deeper score into FERMACELL.
- Scored and snapped edges can be smoothed off using a surform or a plane, as required.



## Hand or electric saw

- Boards can also be cut using a hand or electric saw (blades should be tempered or Tungsten Carbide steel).
- When using electrical cutting tools, we recommend using a vacuum attachment to collect dust.
- Saw blades should have fewer teeth, e.g. a ripping blade, and a slower saw speed.



# Fixing and jointing

## Introduction

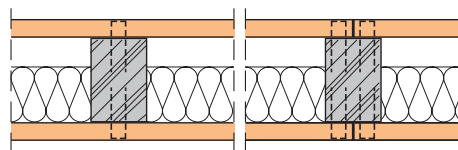
- Specific techniques relate to individual areas of application – please consult the relevant section.
- Boards are fixed using FERMACELL screws to within 10mm of the edge of the board, and 50mm from corners.
- They may also be fixed to timber subframes using pneumatically fired staples or nails.

**!** **Note:**  
Joints on either side of a steel stud partition must be mirrored on the same stud.

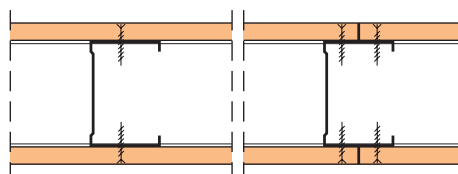


### Fixing sequence

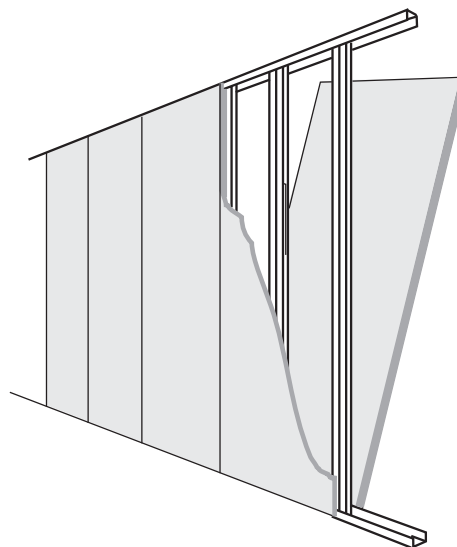
- Square edge boards are mounted in sequence and if using the glue method each board is jointed as it is installed.
- Once boards have been fixed they **cannot** be jointed afterwards using FERMACELL Jointstik adhesive.
- If boards have been installed incorrectly without Jointstik adhesive, turn to page 66.
- Tapered edge boards are dry butt-jointed and filled using FERMACELL Joint Filler and FERMACELL joint tape.
- When fixing boards in a double height partition, cross joints must be avoided by installing boards as shown in **Diagram A & Diagram C** on pages 22-23.
- When fixing boards, work the fixings from one side of the board to the other or from the centre outwards.
- Don't fix the four corners first as this can overstress in the board.
- Ensure that there is a gap at junctions with other adjoining surfaces (normally 5mm). This is filled later with a flexible sealant.
- **All joints should be staggered by at least 200mm, both horizontally and vertically.**
- This applies to both layers of a double layer partition. See **Diagram B** on page 22.



Layout of FERMACELL on a timber subframe. Screws may also be used.



Layout of FERMACELL on a timber subframe.

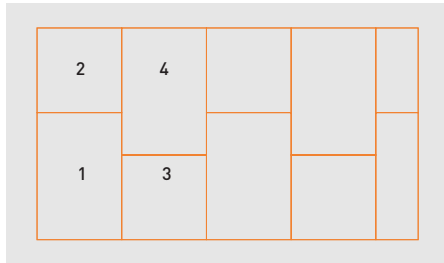


Steel stud partition.

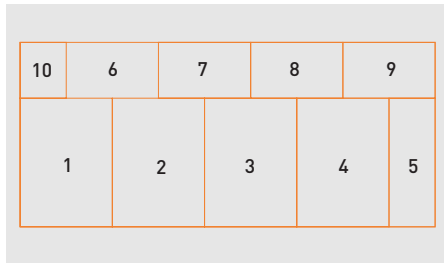
## Fixing and jointing continued

### Fixing sequence continued

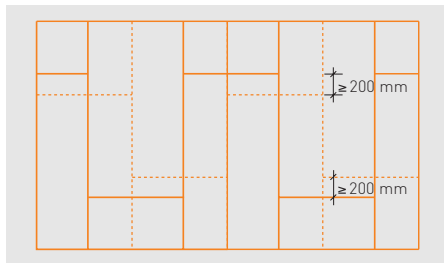
The following diagrams show the alternative fixing sequences for single and double layer FERMACELL partitions



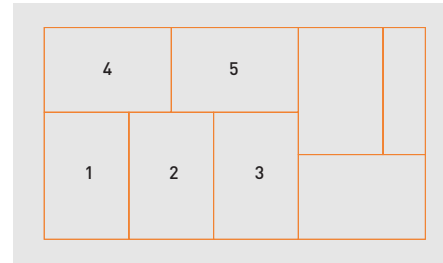
**Diagram A:** Recommended fixing sequence for double board height partitions.



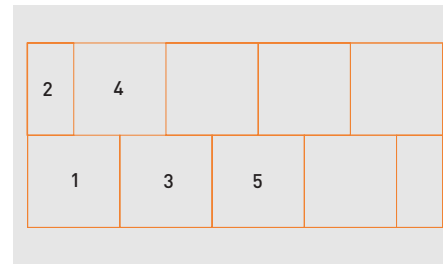
**Diagram A1:** Optional fixing sequence for double height boards.



**Diagram B:** Recommended fixing sequence for boards in a double layer partition.



**Diagram C:** Alternative fixing sequence.



**Diagram D:** Fixing sequence one man boards.



**Note:**

Once boards have been fixed they cannot be jointed afterwards using FERMACELL Jointstik adhesive.

**Note:**

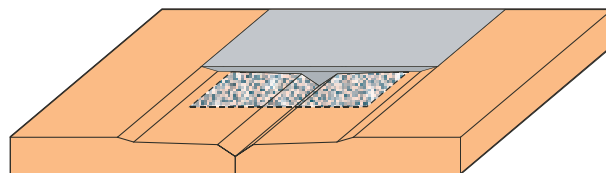
Offset all joints by a minimum of 200mm.

### Fixing and jointing tapered edge boards or offcuts

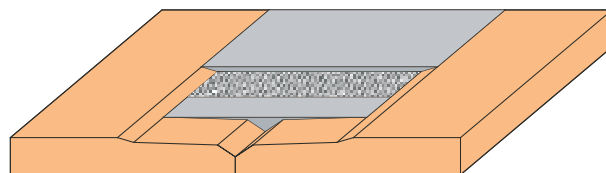
- Tapered edge boards are fitted to the subframe with the boards dry butted.
- Once installation is complete, the boards can be jointed using FERMACELL Joint Filler. Apply filler to the joint, ensuring that the central 'V' is fully filled, then bed paper tape into the joint and apply a second fill.
- Self adhesive fibre tape may be used instead of paper tape and the filler must be pushed through the holes to the back of the joint, the central 'V' **must** be fully filled.
- We recommend the use of paper tape.
- Once the main joint is dry, a feather fill may be necessary to take up any slump.
- It is not necessary to seal the routed edge profile of FERMACELL tapered edge boards prior to jointing. **But – ensure they are clean!**



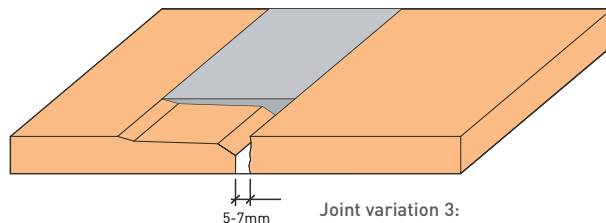
Jointing tapered edge boards.



**Joint variation 1:**  
Two factory Tapered Edge boards with FERMACELL FIBRE Jointing Tape and FERMACELL Joint Filler.



**Joint variation 2:**  
Two factory Tapered Edge boards with paper tape and FERMACELL Joint Filler.



**Joint variation 3:**  
One factory tapered board and one square edge board with FERMACELL Joint Filler.



**Note:**

All filled joints must be backed – both vertically and horizontally!

### Fixing and jointing square edge boards

- FERMACELL Jointstik adhesive is applied to the **edge** of the board in a continuous 3mm bead prior to fixing the next board.
- The bead must be applied to the centre of the edge of the board and not the 'V' between board and subframe.
- The next board is then offered up to the subframe, 10mm away from the joint, then pushed firmly against the first board spreading the adhesive across the face of the joint and ensuring that the joint gap is less than 1mm. Fix as before.
- Allow the adhesive to harden fully (typically 24 hours) before attempting to remove any excess
- Once hardened, the excess can be scraped off with a decorator's scraper or any similar tool.
- The joint width with FERMACELL Jointstik adhesive should be 1mm. Gaps greater than this may result in weaker joints and may possibly show through with certain paint finishes.
- If Jointstik has been left longer than 24 hours it may require a Surform or similar tool to remove.
- The joint and screw heads should then be filled with FERMACELL Joint Filler.
- Horizontal joints are jointed in the same way as vertical ones.
- **Ensure board joints are finished flush!**



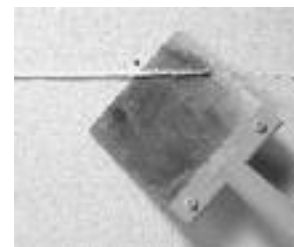
**Note:**  
All filled joints  
must be backed!

Jointstik is applied to the centre of the edge of the board, in a 3mm bead.



**Below left:**  
Allow a 5-7mm gap when joining offcuts.

**Below right:**  
Remove excess glue after 24hrs.



### Offcuts

- Ensure any board edge is clean and free from dust.
- A 5-7mm gap is left between boards, which is then filled with FERMACELL Joint Filler (FERMACELL Jointstik adhesive is not a gap filler).
- The filler can then be rubbed down before to final decoration.
- Flush fill rather than over fill, as the board joint should be flush with the board surface.

# Partition installation



Fixing C studs to the walls with an acoustic isolation strip.

## Measuring and scoring

- Mark out positions of walls on the floor using a chalk line or a laser level.
- Transfer the position of the partition from the floor to the ceiling.
- Set out the position of doors and load-bearing members.

## Fixing the studwork

- FERMACELL can be fixed to either timber or steel studwork.

**Table 1**  
Partition walls – Stud spacing

Stud spacing for board thickness	Maximum stud spacing		
	10mm	12.5mm	15mm
50 x board thickness	500mm	625mm	750mm

\* Figures are based on constant atmospheric conditions with relative humidity levels of up to 80%

Note: For ceilings use 40 x board thickness.

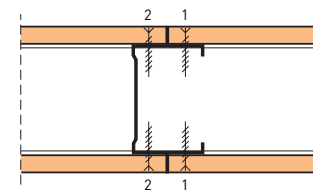


Above:  
Lay down U channel/  
track to the floor.

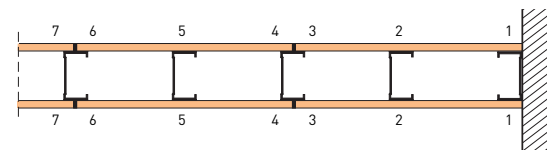
Left:  
Setting the position  
of the partition with  
a chalk line.

## Steel studwork

- Fix header and track sections and then fix the first C stud to the wall.
- Use an isolation strip as required for fire and acoustic performance.
- The maximum distance between fixings should be 700mm horizontally and 1000mm vertically.  
**The distance between fixings must be reduced when connecting to uneven surfaces.**
- Fire rated or acoustic sealants should be used as required to meet the partition specification.



← Fixing sequence



**Always fix to open side of the stud first!**

Sequence for fixing FERMACELL to steel studs using FERMACELL Jointstik adhesive. If boarding from one side only then screws should be fixed from the top downwards.



### Steel studwork continued

- Insert C studs into the header and footer track.
- The studs **must not** be fixed mechanically, but should be cut short of the ceiling height by 10mm and floated within the channel.
- All C studs must face the same way.
- In all cases, fix to the 'open' side of the C stud first.
- Horizontal studs – noggings or dwangs – are not normally required behind boards jointed using the glued Jointstik method.
- Support is required behind horizontal joints formed using Tapered Edge boards or offcuts (filler method).
- If a double metal stud system is being constructed, an air gap between the C studs should be maintained to achieve the best sound insulation results, 20mm is recommended.
- If the partition height is greater than 3000mm, incorporate cross bracing or similar between the parallel C studs. Call our Technical Helpline on +44 (0)870 6090306 for further details.

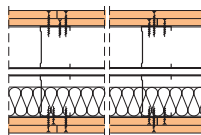


Fitting steel studs into a steel floor track.

On steel studs, boards must be fixed to the vertical studs only, and not to the horizontal header and footer tracks.

### Timber studs

- The sole and head plate must be fixed to the floor and ceiling in the positions already marked (use isolation strips as required).
- The two end vertical studs can now be fixed in position (use isolation strips as required).
- The maximum distance between fixings should be 700mm horizontally and 1000mm vertically. The distance between fixings must be reduced when connecting to uneven surfaces.



Above:  
Separated/double  
stud system.

Right:  
Installing timber studs.



## Partition Installation continued

### Timber studs continued

- If the partition is a double stud system, two separate parallel subframes are installed in the same way as a single stud system but with a small gap with typically 10mm separating the frames.
- The vertical studs are fitted to the head and sole plates at the appropriate centres given in table 1 on pages 28 -29.
- Horizontal studs (noggings or dwangs) are not normally required when using the Jointstik method of jointing square edge boards, but should be used when using installing tapered edge boards or offcuts (filler method).
- Fixing centres and details are given in the tables on pages 40-43.

### Sealants

- To fulfil fire protection and sound insulation requirements, junctions should be finished using the appropriate materials.
- Mineral wool isolation strips or similar should be incorporated in the connection.
- Fire resistant sealants should be used for partitions where specific elements of fire protection are required.
- When sealants are used, they should be suitable for use with gypsum based boards, and the FERMACELL board should be primed before the sealant is applied.



**Note:**

Please refer to mastic/sealant manufacturer for installation details.



Electrical penetrations.

### Electrical and other services

- In acoustically sensitive partitions (and ceilings) such as party walls or floor/ceiling constructions, service penetrations should be avoided where possible.
- In some areas (kitchens or high acoustic partitions) this may be difficult and the use of a sacrificial lining should be considered.
- Timber battens or metal furrings are fitted to the original FERMACELL wall and services laid in the new cavity.
- Once complete the cavity is closed with a final layer of board.
- Patressing and fire protection details should be installed as required.
- Do not put sockets directly opposite each other in a partition.
- Avoid more than one socket per stud spacing.
- The diagrams show options for acoustic and fire protection to sockets. Mineral wool should extend 100mm each side of the socket.



**Note:**

Pre made back boxes or putty pads are commercially available.

### Installing mineral fibre

- Mineral fibre insulation can be installed in FERMACELL partitions.
- The thickness and density of the mineral fibre installation will depend on sound insulation and fire protection requirements. Refer to our literature for more details.
- Typical constructions showing the fire performance and sound insulation values details are available from [www.xella.co.uk](http://www.xella.co.uk)
- Mineral fibre insulation should be a sufficiently tight fit to prevent the material slipping.
- Ensure that there are **no** gaps or holes within the insulating material as this reduces the sound insulation and fire protection, as well as the thermal performance.
- Double layers of insulation should be fitted staggered.

Installing mineral wool insulation batts.



Mounting boards on a timber subframe.

### Fixing FERMACELL to the subframe

- The boards can now be fixed to the subframe using the techniques described on pages 19-23.
- Note for steel studwork, that FERMACELL boards are fixed symmetrically on the vertical studs i.e. the boards are mounted on the same studs on either side of the partition (**mirrored**).
- When fixing FERMACELL to steel subframes, the boards must only be fixed to the vertical C studs.
- When installing on timber studwork, boards must be fixed to both vertical studs and horizontal head and floor tracks, but the joints do not need to be mirrored.
- Ideally the length of the boards should correspond to the height of the room, minus 10mm for the junction at the top and bottom of the boards to the floor and ceiling. Fire or acoustic mastic should be used here when required to seal off the partition.
- Where curved partitions are being installed, use standard size boards and install horizontally. Stud centres should be reduced to 250mm or less to reduce faceting of the curve. We recommend using 10mm boards as they are more flexible.
- FERMACELL can be dry bent to a radius of 4m.

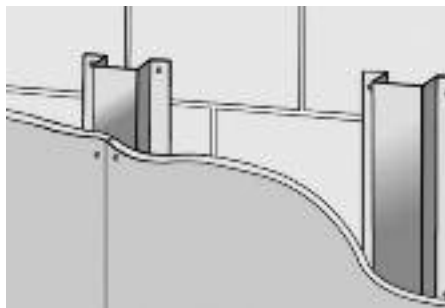
# Dry Lining details

The traditional dot and dab technique is not recommended for fitting square edge FERMACELL boards, only tapered edge FERMACELL.

- Use 50mm x 25mm timber battens or metal furrings screwed to the wall to provide a suitable subframe for the adhesive jointing system.

## Dot and Dab with Tapered Edge FERMACELL

- For dot and dab installation, use tapered edge boards.
- The surface to which the boards are to be bonded MUST be clean, dry and mechanically stable.
- FERMACELL bonding compound should be applied to the wall in dabs of 50-75mm wide and approx 250mm long at 400mm centres for 10mm board. 600mm centres should be used for 12.5mm boards or over.
- Apply a continuous ribbon of bonding compound around the perimeter of the wall, door and window frames to restrict air movement behind the boards.



Fixing method for metal furrings.

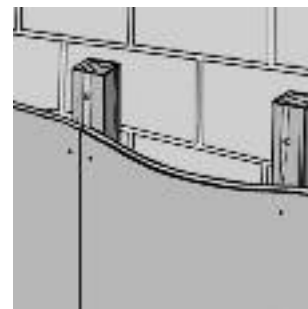
- The boards are offered up to the wall and pressed firmly until they adhere, then levelled vertically, horizontally and diagonally.
- The bonding compound must not be allowed to seep into the joint.
- Once the bonding compound has set, all other procedures for the normal installation of tapered edge boards can be followed.
- Ensure that you leave a gap between the boards and other building elements of around 5mm.
- Allow for at least **two** mechanical fixings (frame anchor or similar) on each board as a safety factor.
- With door frames, wash basins, window ledge areas etc, additional mechanical fixings are recommended.

## FERMACELL Bonding Compound

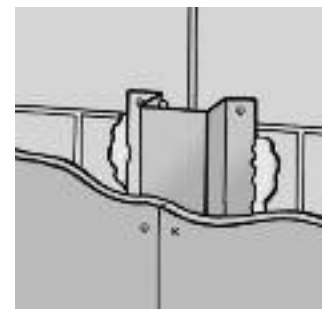
Amount of FERMACELL Bonding Compound required for different types of wall application

Type of application	kg per m <sup>2</sup> of wall surface
Very smooth Surface application	1.5-2
Blockwork application	3-4

Fixing method for timber battens.



Metal furrings fixed on dabs with mechanical back up.



### Vapour Control and Breathing Walls

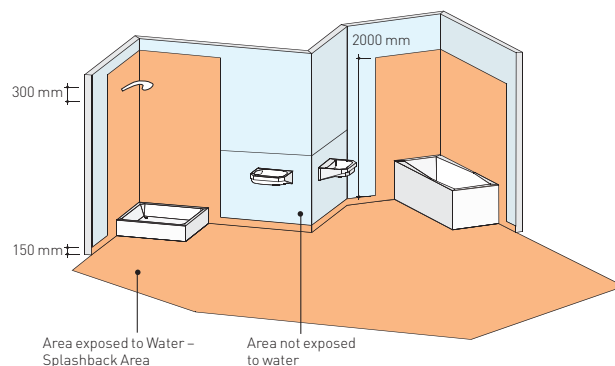
With all external wall constructions, consideration should be given to the risk of condensation.

- A proprietary vapour barrier should be used immediately behind the board. The vapour barrier should be free from defects and tears, and all joints should be overlapped by 250mm and taped.
- Where breathing wall constructions are being considered, a Condensation Risk Analysis should be undertaken by a suitably qualified building professional.
- FERMACELL is not supplied with pre laminated insulation.
- Where insulation or vapour barriers are to be used, the boards (either tapered or square edge) should be fixed using mechanical means rather than using dot and dab.
- The insulation is fitted against the wall and the battens or metal furrings are then fixed through the insulation into the wall using frame anchors or similar.
- This method helps prevent cold bridging and provides a useful service cavity. A vapour barrier is then fitted over the face of the battens.



**Note:**

FERMACELL can be used in breathing wall applications. It has a vapour resistivity of  $130\text{MNsg}^{-1}\text{m}^{-1}$ .



### Wet room and water proofing applications

FERMACELL Powerpanel H<sub>2</sub>O is a cement-bonded light-concrete construction board with a laminated structure for use in saunas, wet rooms, swimming pools and public shower room applications.

- Reinforced on both sides beneath the surface with an alkali-resistant glass fibre mesh (5mm x 5mm).
- Powerpanel H<sub>2</sub>O is non-combustible and conforms to construction material class A1.
- Designed to be used for interior walls ceilings and floors.
- The panels can be fitted using standard hand held tools.
- For cutting, tungsten bladed tools should be used.

The FERMACELL waterproofing system is easy to use for all your splash back areas.

## Fixing Centres and Usage – Walls

Type, spacings and usage of fixing materials when fixing first and second layers back to steel or timber studwork for non-load-bearing partitions (per m<sup>2</sup> partition).

Board thickness	Staples (galvanised and resinated) Gauge ≥ 1.5mm, Head Width ≥ 10mm			FERMACELL screws Gauge = 3.9mm		
	Length (mm)	Spacing (mm)	Use (no./m <sup>2</sup> )	Length (mm)	Spacing (mm)	Use (no./m <sup>2</sup> )
<b>Metal – single-layer</b> 10 mm 12.5 mm 15 mm 18 mm	-	-	-	30	250	26
	-	-	-	30	250	20
	-	-	-	30	250	20
	-	-	-	40	250	20
<b>Metal – 2 layered / 2nd. layer into the stud</b> 1st. Layer: 12.5 mm 2nd. Layer: 10 mm or 12.5 mm 1st. Layer: 15 mm 2nd. Layer: 12.5 mm or 15 mm	-	-	-	30	400	12
	-	-	-	40	250	20
	-	-	-	30	400	12
	-	-	-	40	250	20
<b>Wood – single layer</b> 10 mm 12.5 mm 15 mm	≥ 30	200	32	30	250	26
	≥ 35	200	24	30	250	20
	≥ 44	200	24	40	250	20
	-	-	-	-	-	-
<b>Wood – 2 layered / 2nd. layer into the stud</b> 1st. Layer: 12.5 mm 2nd. Layer: 10 mm or 12.5 mm	≥ 35	400	12	30	400	12
	≥ 50	200	24	40	250	20
	-	-	-	-	-	-
	-	-	-	-	-	-

## Walls

Type, spacing and usage of fixing materials when fixing second and subsequent layers to the lower layer of board for non-load-bearing partitions (per m<sup>2</sup> partition).

Board thickness	Diverging staples (galvanised and resinated) Gauge ≥ 1.5mm, Row spacing ≤ 400mm			FERMACELL screws Gauge = 3.9mm, Row spacing ≤ 400mm		
	Length (mm)	Spacing (mm)	Use (no./m <sup>2</sup> )	Length (mm)	Spacing (mm)	Use (no./m <sup>2</sup> )
10 mm FERMACELL to 10 and/or 12.5 mm FERMACELL	18 – 19	150	43	30	250	26
12.5 mm FERMACELL to 12.5 and/or 15mm FERMACELL	21 – 22	150	43	30	250	26
15 mm FERMACELL to 15 mm FERMACELL	25 – 28	150	43	30	250	26
18 mm FERMACELL to 18 mm FERMACELL	31 – 34	150	43	40	250	26

N.B. For fire rated and load-bearing partitions please check with our Technical Helpline: +44 (0)870 6090306

## Fixing Centres and Usage – Ceilings

Spacing and material fixing usage for ceiling structures per m<sup>2</sup> ceiling area.

d = diameter

Board thickness	Staples (galvanised and resinated) d ≥ 1.5mm, Head Width ≥ 10mm			FERMACELL screws d = 3.9mm		
	Length (mm)	Spacing (mm)	Use (no./m <sup>2</sup> )	Length (mm)	Spacing (mm)	Use (no./m <sup>2</sup> )
<b>Metal – single-layer</b>						
10 mm	-	-	-	30	200	22
12.5 mm	-	-	-	30	200	19
15 mm	-	-	-	30	200	16
<b>Metal – double-layer / 2nd layer into the sub-structure</b>						
1st layer: 10 mm	-	-	-	30	300	16
2nd layer: 10 mm	-	-	-	40	200	22
1st layer: 12.5 mm	-	-	-	30	300	14
2nd layer: 12.5 mm	-	-	-	40	200	19
1st layer: 15 mm	-	-	-	30	300	12
2nd layer: 12.5 mm or 15 mm	-	-	-	40	200	16
<b>Timber – single layer</b>						
10 mm	≥ 30	150	30	30	200	22
12.5 mm	≥ 35	150	25	30	200	19
15 mm	≥ 44	150	20	40	200	16
<b>Timber – double-layer / 2nd layer into the sub-structure</b>						
1st layer: 10 mm	≥ 30	300	16	30	300	16
2nd layer: 10 mm	≥ 44	150	30	40	200	22
1st layer: 12.5 mm	≥ 35	300	14	30	300	14
2nd layer: 12.5 mm	≥ 50	150	25	40	200	19
1st layer: 15 mm	≥ 44	300	12	40	300	12
2nd layer: 12.5 mm or 15 mm	≥ 60	150	22	40	200	16

## Ceilings

Type, spacing and use of fixing materials when fixing board to board.

Board thickness	Diverging staples (galvanised and resinated) d ≥ 1.5mm, Row spacing ≤ 300mm			FERMACELL screws d = 3.9mm, Row spacing ≤ 300mm		
	Length (mm)	Spacing (mm)	Use (no./m <sup>2</sup> )	Length (mm)	Spacing (mm)	Use (no./m <sup>2</sup> )
<b>Ceiling zone per m<sup>2</sup> ceiling surface</b>						
10 mm FERMACELL on 10 mm FERMACELL	18 – 19	120	35	30	150	30
12.5 mm FERMACELL on 12.5 or 15 mm FERMACELL	21 – 22	120	35	30	150	30
15 mm FERMACELL on 15 mm FERMACELL	25 – 28	120	35	30	150	30

N.B. Row spacing max 300mm

# Finishing

## Surface preparation

- The surface should be dry and free of stains and dirt.
- Any damage or indentations must be filled with FERMACELL Joint Filler and allowed to dry.
- Before any decoration, the moisture content of the boards must be less than 1.3%. This moisture content level will be achieved automatically within 48 hours if the relative humidity of the air is kept below 70%, the air temperature is over 15°C and the boards are stored off the ground in well ventilated conditions.

## Fine Surface Treatment (FST)

- Apply FST to the board surface direct from the tub using a trowel or a 250mm FST applicator.
- Work on 1–2m<sup>2</sup> at a time and ensure that the surface is fully covered.
- Then remove all excess FST in a smoothing out motion. Use the same tool for this, or a 450mm FST applicator.



Fine surface treatment (where a smooth finish is required).

- The FST will dry within 45 minutes and subsequent layers can be applied as required.
- If necessary, smooth the surface with 'a fine 240 grit' sandpaper or an offcut of FERMACELL prior to further decoration.
- You may find it easier if you work from the bottom of the board to the centre, followed by the top of the board to the centre.
- For larger projects or modular applications, FST is available in a sprayable format for use with airless spray equipment. Spray nozzle sizes should be 431-435 (i.e. a 40° spray angle with an opening size of 31-35). Contact our Technical Helpline on +44 (0)870 6090306 for more details.



### Note:

FST is so versatile that it can even be used over painted surfaces. This makes it simple and easy to touch up old and new walls or ceilings. Prepare surfaces as required.

## Wallpapering



- With the exception of vinyl wallpapers, all types of paper can be applied to FERMACELL using standard trade pastes, without priming the surface.
- When using vinyl papers, it is recommended that the board is primed and a suitable paste is used.



## Plaster and textured plasters

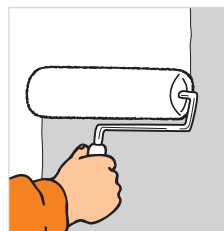
- A smooth plaster or finish is not normally recommended as the same finish can be achieved using FST much faster and at a fraction of the cost.
- Where plasters are being applied, **all joints** must be reinforced with a fibre tape fixed with PVA adhesive **and** a sealant applied to the surface of the board.
- We recommend that a test area is tried first as some plaster formulations will crack under certain climatic conditions. Generally a multi-finish tends to work better with FERMACELL.

## Alternative joint finishing or stippling for direct decoration



- After sanding, brush off any loose dust.
- The joint can then be textured to match the texture of the board. This is done using a thin slurry coat of FERMACELL Jointfiller applied with a damp jointing sponge.
- Rub the slurry coat on to the joint then finish off with a light dabbing motion. This will put a light stipple on the joint which will disappear when painted.

## Painting



- FERMACELL boards are ready to paint.
- Alternatively, the use of FERMACELL FST is recommended to provide a very smooth final surface.
- Where vinyl or oil based paints are to be used without a prior application of FERMACELL FST, we recommend that the boards are sealed before painting.
- Alternatively, the joint should be stippled as described above, and a mist and two undiluted top coats of emulsion applied with a roller.
- **We do not recommend the use of eggshell paint finishes.** However, where eggshell paints are used, a minimum of two coats of FERMACELL FST should be applied first, followed by a sealant. In all cases refer to the relevant British Standard.
- **In all cases, the paint manufacturers recommendations should be followed.**

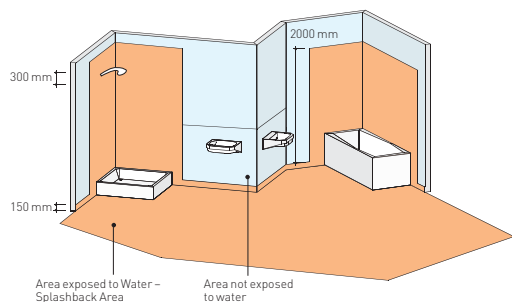
FST – The easy way to give a plaster smooth finish ready to paint.  
Dry in 45 minutes.

## FERMACELL recommend a maximum tile size of 300 x 300mm.

For larger tile sizes please contact our technical helpline +44 (0)870 6090306.

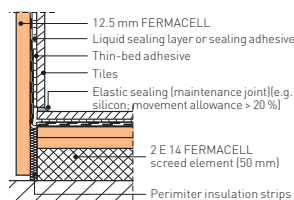
### Tiles

- Before tiling, all areas should be clean, dry and free from dust.
- If a priming coat is required, this should be allowed to dry for 24 hours before tiling work starts.
- Surfaces subject to frequent splashing should be treated with a waterproof system such as the FERMACELL waterproofing system.
- Tile adhesives with a low water content should be used and tiles fixed using a thin bed adhesive method without pre-wetting.
- Generally tiles should not be grouted for a 24 hour period after fixing. Follow the adhesive and tile manufacturer's recommendations.
- Wet areas like showers and bathrooms must be treated with an extra sealant. A paintable waterproofing agent should be applied that is suitable for use with a gypsum based board and cement powder adhesives.
- Wall surfaces that require sealing must be protected against the penetration of water to a height of 2000mm above the bath floor with adequate spacing at the side above the actual shower and bath area.

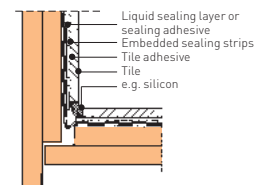


- For showers, waterproofing must extend to at least 300mm above the shower head.
- Corners and penetrations should be sealed with recommended sealing tapes or collars proprietary to the system.
- In addition, the entire base of the walls in a room with a shower or bath should be sealed against any rising moisture to a height of at least to 150mm above the finished floor level.
- In all cases refer to the manufacturers instructions.

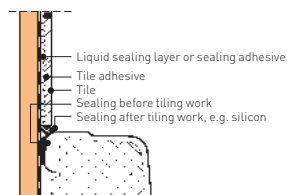
### FERMACELL waterproofing system



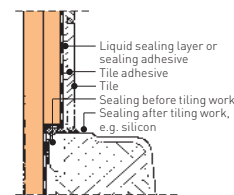
Wall/floor formation in wet areas.



Internal corner construction in wet areas.



Wall junctions between shower and baths and single-layer FERMACELL partition.

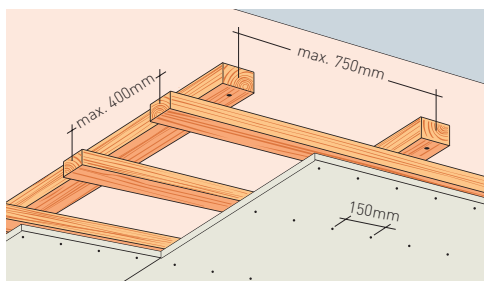


Wall junction where an additional layer of FERMACELL is used above the bath or shower.

# Ceiling details

- When installing a ceiling using FERMACELL, fixing centres and the spacings of the supporting members should be in accordance with the table opposite.
- Take into account the additional weight of FERMACELL when compared to plasterboard.
- The ability of FERMACELL to be fixed to timber substructures using pneumatically applied nails or staples is a particular benefit.
- The table on the opposite page gives full details of the load-bearing members of the supporting structure for ceilings.
- Where these details are not used, the deflection of the supporting construction must not exceed 1/3600 of the effective span, or as per Part A of the Building Regulations.
- In ceilings where acoustic considerations are important (such as party floor constructions), penetrations should be kept to a minimum, preferably omitted.
- Where penetrations are unavoidable (using recessed downlighters for example), we strongly recommend the use of a sacrificial ceiling or acoustic hoods.
- For sacrificial linings, adjust any fixing centres to take into account the different requirements of walls and ceilings or call our Technical Helpline on +44 (0)870 6090306.

## Primary bearers fixed direct to ceiling



Ceiling lining with direct fix timber sub-structure.

## Ceilings – Support spacings

Multiplying factor for board thickness	Maximum stud spacing		
	10mm	12.5mm	15mm
40 x thickness	400mm	500mm	600mm

\* Figures are based on constant atmospheric conditions with relative humidity levels of up to 80%

## Fixing loads to ceiling linings

Maximum allowable load in kg <sup>(1)</sup> per FERMACELL board thickness in mm <sup>(2)</sup>	
FERMACELL Board Thickness (mm)	kg <sup>(3)</sup>
10mm	25
12.5mm	30
15mm	35
18mm	40
12.5 + 10mm	40

<sup>(1)</sup> Tested to DIN 4103, safety factor 2.

<sup>(2)</sup> Support spacing of the sub-structure  $\leq 35 \times$  board thickness. Board fixed to the sub-structure with FERMACELL screws.

<sup>(3)</sup> Observe the manufacturers operating and installation instructions.

Where additional loads are to be applied then the loading capability of the sub-structure should be checked.

## Cross-sections of supporting members for suspended ceilings

Supporting structure in mm			
Sheet steel sections			
Primary bearers	CD 60 x 27 x 0.6	900	750
Support sections	CD 60 x 27 x 0.6	1000	1000
Timber battens (width x height) Typical rough sawn sizes.			
Primary bearers, fixed direct to ceiling	48 x 24	750	650
	50 x 30	850	750
	60 x 40	1000	850
Primary bearers, suspended	30 x 50	1000	850
	40 x 60	1200	1000
Secondary bearers (battens)	48 x 24	700	600
	50 x 30	850	750
	60 x 40	1100	1000

The spacings between the supporting sections or battens for horizontal surfaces and linings and undersides of pitched roofs up to 50° angle is 400mm for 10mm board or 500mm for 12.5mm board. For other thickness of board the spacing is 40 times the board thickness.

# Under roofs, in lofts and attics

## Horizontal and sloping roofs

There are three options for constructing the junction between the roof section and the sloping part of the roof.

It is very important that the supporting elements are not located right in the corner next to the joint. Please see the notes on page 27 on how to construct a FERMACELL Joint Filler joint.

Fig. 1:  
FERMACELL  
Joint-Filler joint  
with an adhesive  
reinforcement tape  
or paper tape.

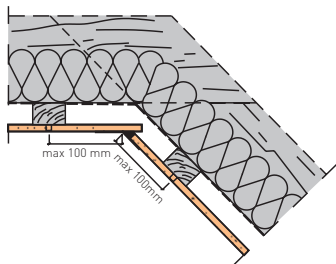


Fig. 2:  
Quick-drying  
filler joint with  
separating tape.

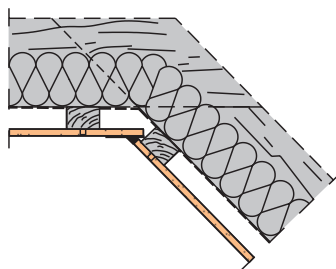


Fig. 3:  
Elastic joint  
(e.g. acrylic joint).

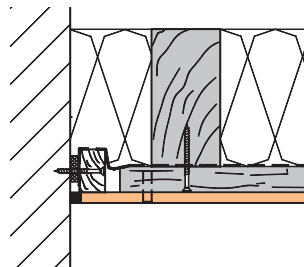
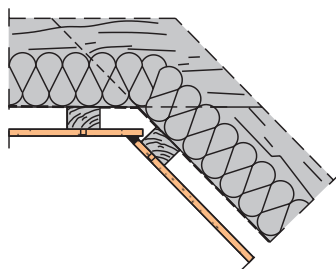


Fig. 4:  
Roof to wall  
junction.

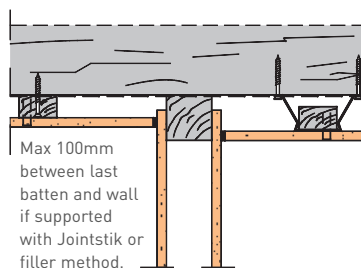


Fig. 5:  
Ceiling to  
Partition junction.

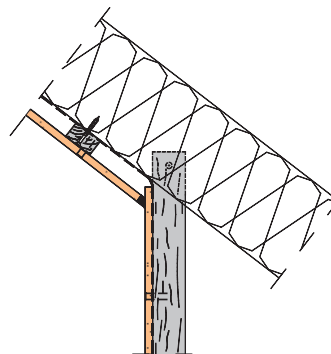


Fig. 6:  
Junction of a  
sloping roof with  
wall under the  
sloping roof.

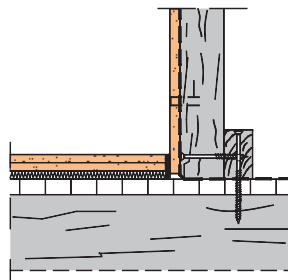


Fig. 7:  
Wall to floor  
junction.

# Doors and windows

- For door or window openings which are not ceiling height, FERMACELL boards should be cut so joints between adjacent boards never lie on the vertical C studs (timber or steel) or reinforced head track to which the door or window frame is fixed.
- The joint between the boards around the opening should always be placed above the head of the door. This joint should be at least 200mm from the edge of the frame.
- Horizontal joints between boards should be avoided around door and window frames.
- If a horizontal joint cannot be avoided, the boards should be jointed using the FERMACELL Jointstik method. (See Jointing section on page 27).
- Joints in FERMACELL boards above a door or window head should not be on the same stud.

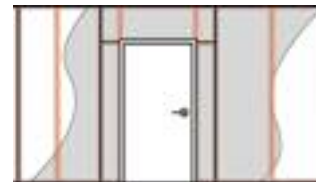
Timber grounds must extend to the full height of the partition. This is especially critical around door frames.



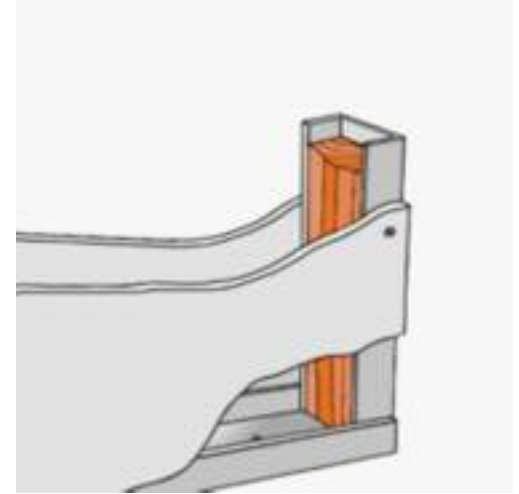
Forming door openings – front view.



Forming door openings – rear view.



Forming door openings – alternative using board lengthways extending past door head. This can only be used with the FERMACELL Jointstik jointing method.



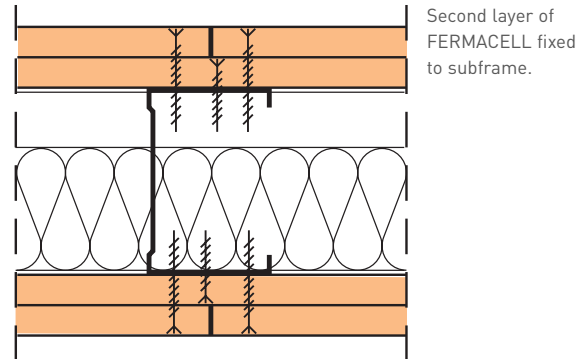
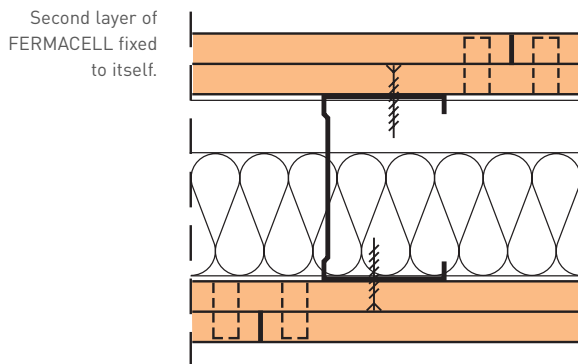
Timber grounds in a vertical C section steel stud.

- On metal subframes, the boards should be fixed to the C studs only, and on timber subframes to both vertical and horizontal members.
- When fitting large or heavy doors and windows using metal subframes, pack out the vertical C studs with timber grounds to provide a stronger anchorage point for hinges and other furniture.
- These timber grounds must extend to the full partition height.
- Door reinforcement kits may be necessary depending on door weights, or other factors. Special Protektor door reinforcement kits are available from Cornercare – telephone +44 (0) 1562 515200.
- Please refer to the door manufacturer for door weights and loading in all instances.

# Other details

## Adding a second layer of FERMACELL

- Second and subsequent layers of FERMACELL can be added to the first layer by direct fixing to the boards themselves.
- The joints in the second layer should be staggered from the first layer by at least 200mm in both directions.
- Where two layers are to be fixed, the first layer can be tightly dry-butted. Any gaps must be filled.
- Where tapered edge boards are being used, the joint area of the lower layer must be filled to maintain fire and acoustic integrity.



- When fixing FERMACELL to itself, use either 30mm FERMACELL screws or galvanised diverging staples, (see table on pages 40-43).
- Where a second layer of FERMACELL is to be fixed directly to the subframe, joints should be staggered by the spacing of one stud and for the second layer 40mm FERMACELL screws should be used; or staples on timber frames.
- The fixing centres for fixing the second layer are the same as for a single layer application.






Subsequent layers of FERMACELL may be fixed direct to the first layer, dependant on partition performance.

## Fixing to boards

### Fittings

- FERMACELL boards have a great hanging strength. Many items can be fixed directly to the boards without fastening to the sub-structure.
- The table opposite shows the load bearing capability of a wide range of fittings.
- The load bearing capability refers to static (dead) loads only. For live loads which are subject to increase (eg washbasins or stair-rails), the maximum load should be calculated and patresses of plywood or reinforcing pads of FERMACELL added behind the wall.
- Fixing back to the existing studs will provide additional support where required.



Fitting	Load carrying (kg) Thickness of FERMACELL boards in mm				
	10	12,5	15	18	10+12,5
Picture hooks fixed with nails					
	15	17	18	20	20
	25	27	28	30	30
	35	37	38	40	40
Screw with continuous thread 5mm dia					
	20	30	30	35	35
Cavity fixing 8mm dia					
	40	50	55	55	60

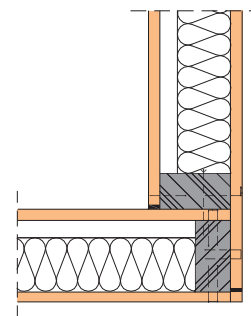
#### Conditions

- Safety factor: 2 (permanent loading, with relative humidity of up to 80 %).
- Depth of cupboard or shelves: in tests 350mm.
- Standard wallplugs with 4mm diameter screw.  
(The wallplug manufacturer's instructions should be followed).
- Distance between stud centres: 50 x board thickness.
- With spacing less than 500mm, the load bearing of each fixing should be reduced by 50%.

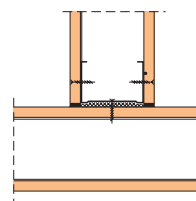
The flexibility of fixing to FERMACELL means you can put your shelves or cupboards where you want to.

## Resilient bars or counterbattening for increased acoustic performance

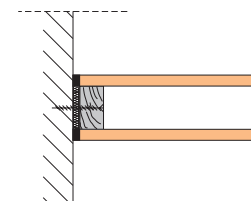
- Before mounting boards, fix resilient bars at right angles to the subframe (vertical studs or floor joists) at the appropriate centres (see table 1 on page 28 or the table on page 51).
- Install the mineral fibre batts, before cross battens, and then the FERMACELL boards as before.
- With timber counterbattens use at least a 50mm x 25mm wooden lath.
- Before installing the battens, mineral wool strips may be sandwiched between the subframe and the lath to provide an isolation layer.



External junction on timber stud work.



Internal junction between two FERMACELL partitions.



Internal junction between FERMACELL partition and other building elements.

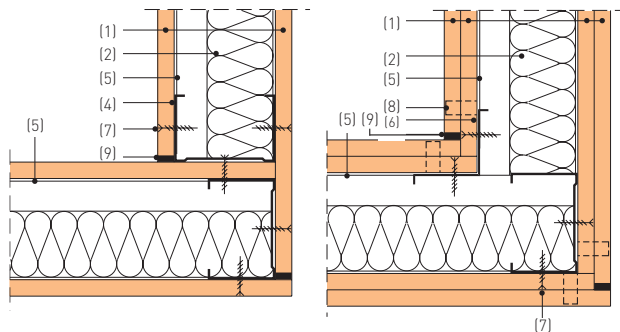
## Junctions

- Right angled partitions can be started at any point along a FERMACELL wall by fixing the end vertical stud (metal or timber with fixings at 500m c/c) directly to the FERMACELL board.
- FERMACELL Joint Filler should be used to finish the joints between boards, because it can be difficult to remove excess Jointstik adhesive from an internal corner.
- When FERMACELL partitions are connected to different building materials, the materials should always be separated by a 5mm gap and a flexible sealant used because of their different expansion and contraction rates.
- Where any building movement is expected, the internal junctions may be jointed with a flexible sealant capable of absorbing variations of up to 20% of the joint width.
- FERMACELL edges must be primed before sealing the joint – in all cases consult the sealant manufacturers instructions.
- Where a fire performance is required, a fire rated sealant must be used.
- An external angle bead is not required and any damage to the edge of the boards can be touched up with FERMACELL Joint Filler before painting or other decoration.
- Once the boards have been jointed and finished, it may be necessary to profile the external corner into a small radius to mimic the effect of plaster bead.
- If a sharp edge is required, a metal reinforced flexible paper tape can be fitted using a PVA adhesive, then finished with FERMACELL Fine Surface Treatment.

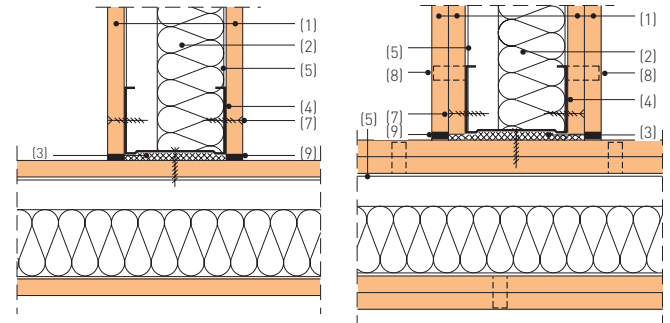


## Corner and T-junctions with steel profiles

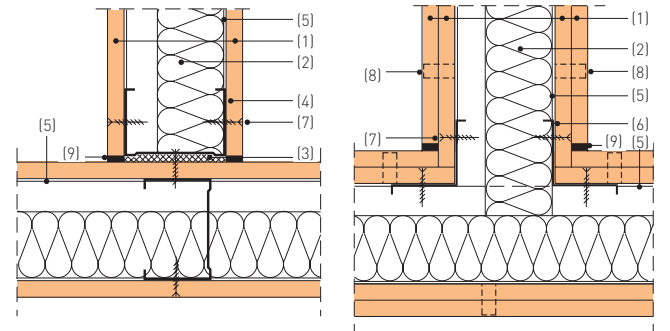
- When constructing FERMACELL corner and 'T' junctions, use the steel profiles and construction details as shown here.
- For partitions with enhanced sound performance requirements, the FERMACELL boarding of the flanking partition should not be continuous i.e. a break in the boards.
- FERMACELL boards are then fastened at the corner or T-junction using inner and/or outer corner profiles.
- The corner joints of the FERMACELL boards should be formed using either the glue or the 5 to 7mm joint filler method as described in 'Fixing and Jointing' on page 27.
- The corner and T-junctions of single or double-layer boarded FERMACELL walls on a timber substructure should be constructed in the same way.



Corner connections with single or double-layer boarding.



T-junctions with single or double-layer boarding, with steel C stud fixed to FERMACELL board.



T-junction with steel C stud fixed back to stud in main wall.

Wall T-junction with interrupted longitudinal flanking transmission and steel inner corner profile.



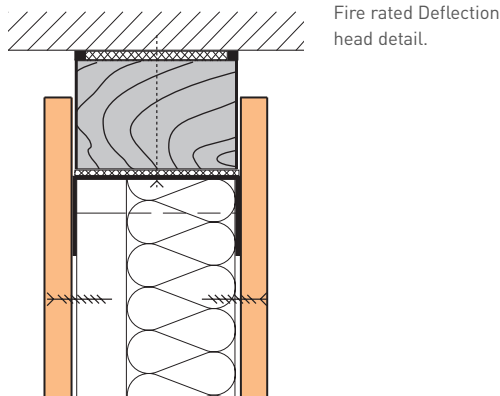
### Note:

Steel profiles to be min 0.6 guage and to have a 50mm fixing face. We recommend Protektor Stud.

- |                                   |   |
|-----------------------------------|---|
| (1) FERMACELL boards 12.5 or 10mm | (6) Inner corner profile                                |
| (2) Insulating material           | (7) FERMACELL screws 3.9 x 30                           |
| (3) Edge insulating strips        | (8) Screws or staples for fixing FERMACELL in FERMACELL |
| (4) Steel Stud profile            | (9) FERMACELL Joint Filler or Jointstik.                |
| (5) Steel Header or footer track  |   |

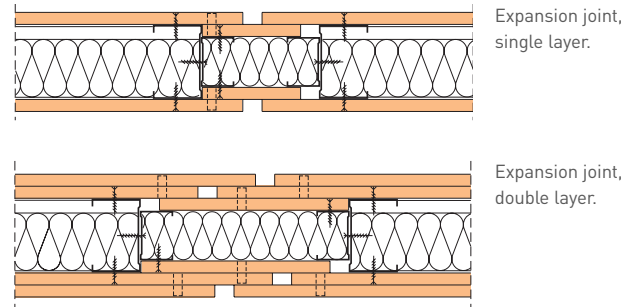
## Deflection heads

- Deflection Heads should be incorporated if any deflection of the structural ceiling is expected after the installation of the partitions.
- Where a fire rated Deflection Head is required, the joint may be constructed using FERMACELL strips which are cut to fit the width of the adjoining U channel.
- The total thickness of the combined layers of FERMACELL strips should be enough to cater for any deflection from the structure plus the required overlapping from the FERMACELL boards.
- Alternatively, a timber ground may be used. For a F30 partition, the timber ground should be 50mm wide, and for an F60 partition min 70mm wide.
- The same principle applies to vertical and horizontal loadings on the building structure.



## Expansion/Movement joints

- Expansion joints are needed in FERMACELL partitions where there are expansion joints in the building structure.
- Movement joints in FERMACELL partitions should be used as these can be subject to changes in length owing to differing climatic conditions.
- We recommend a maximum spacing of 8m between movement joints in FERMACELL partitions. This can be extended to max. 10m with the glue joint.



**Note:**  
Movement joint are required  
at maximum 8m spacings

# Repairs

## Repairs to boards

- If a board is dented, the localised damage can be made good using FERMACELL Joint Filler.
- If the board has cracked, or the damage penetrates through the board, it is not necessary to remove the whole board as the damaged area can be cut out and a new piece inserted. Also use this method where horizontal joints have not been constructed correctly.
- Offcuts of FERMACELL (min 100mm wide) are placed around the back of the edge of the cut out section and fixed to the existing board using FERMACELL screws.
- A new piece of FERMACELL is cut to size (allow for a 5-7mm gap around each side), fitted in place and screwed to the offcuts using FERMACELL screws.
- The gap is then filled with FERMACELL Joint Filler in accordance with the instruction gives in the jointing section (see page 27).

## Repairs to corners

- FERMACELL does not need corner beads, so any minor damage can be made good using FERMACELL Joint Filler.

## Cracked joints – possible reasons

Before repairing a cracked joint, go through the following checklist to establish the cause of the failure.

- Is there movement or subsidence in the building?
- Is the partition loaded from above without a deflection head being installed?
- Are there any rigid junctions between the FERMACELL and other building materials?
- If using a steel subframe, has the board been fastened to either the head track or the sole plate (footer track)?
- Is the frame sufficiently rigid?
- Have the doors or wall openings been correctly braced/reinforced?
- Is the supporting frame at the correct centres for the thickness of board?
- Is the frame profile (either thickness or depth) correct, particularly for tall partitions?
- Are the fixing centres correct?
- Are the boards correctly jointed around any openings?
- Have cross/cruciform joints been formed?
- Is an impervious surface coating trapping moisture, resulting in high humidity levels?
- Has the Joint Filler been used correctly: is the joint gap correct for offcuts? Has the filler been pushed to the rear of the joint? Was the filler mixed in accordance with the instructions?
- Has the Jointstik adhesive been used correctly: is the joint width not greater than 1mm?

### Cracked joints – remedial works

Once the root cause has been addressed, the following remedial action should be taken:

- Open the joint and remove any Jointstik or filler.  
The joint must be opened up to a minimum of 5mm.  
This may be done using a router or a circular saw.
- The joint is then cleaned, removing any dust particles using either a vacuum cleaner or a moist brush.
- The clean edges must be primed using a PVA sealant and allowed to dry.
- Joint with FERMACELL Joint Filler. Follow the instructions given on the packet\*. (N.B. Filler joints must be backed.)
- Finish off the joint with a fine fill. When this has dried, apply a PVA coat around 100mm wide over the joints.
- Tape over the joint using FERMACELL fibre joint repair tape and allow to dry.
- Once the PVA has dried, apply a second layer of PVA over the tape and allow to dry. For finishing see the relevant section.



#### Note:

It is also possible to re-glue the two boards using Weiss Cosmofen Duo Beige PU Adhesive. The adhesive comes in a special twin barrel container and requires a twin applicator. Where this adhesive is used, it is not necessary to carry out steps 5–7. Cosmofen is available from the main dealers, see panel opposite.

### Cracked joints – tapered edge boards

- For possible causes, check the previous page.
- Additionally, check whether paper tape been used, that filler has been pushed to the rear of the joint or that the filler was mixed in accordance with the instructions.

Once the cause has been addressed, the following remedial action should be taken:

- Open the joint and remove any tape and filler.
- The joint is then cleaned, removing any dust particles using either a vacuum cleaner or a moist brush.
- Prime the clean edges using a PVA sealant and allow to dry.
- Refill the clean joints with FERMACELL Joint Filler and bed in a paper joint tape in accordance with the instructions in the relevant section.

### Main dealers – for Cosmofen Duo Repair Glue

ATP Bonding Systems Limited.  
P.O. Box 626  
Maltby, Rotherham  
South Yorkshire  
S66 6AF  
Tel.: +44 (0) 1909-562240  
Fax: +44 (0) 1909-562270  
mail:sales@atplimited.com

National Seal Systems Limited.  
Unit 210 Western Industrial  
Estate Naas Road,  
Dublin 12, Ireland.  
Tel.: +353 (0) 1-456 5170  
Fax: +353 (0) 1-450 2371  
mail:natseal@iol.ie

# Questions & Answers

## DIY

**Q** Can I really install FERMACELL myself?

**A** Yes, as long as you are reasonably fit.

- The board is heavier than standard wall board, so if you are tackling the project on your own, use the smaller sizes.
- All of the installation steps are straightforward. If you are using FERMACELL for the first time, start in an area which is out of sight (an airing cupboard for example) where you can practice your technique.

## Installation compared to plasterboard

**Q** I'm an experienced builder/dry liner – what should I know that's different about FERMACELL?

**A** FERMACELL is heavier than standard plasterboard. You should therefore allow more time or labour for the project (about 25% on average).

- Unless you are using the tapered edge board, the installation sequence does not follow the traditional tacking and jointing technique – each board is edge glued to its neighbour in sequence.
- The glue dries overnight and is scraped off, the screw (or staple) heads stopped with FERMACELL filler and the board finished according to specification.

## An indication of cost for installation of FERMACELL boards

Skim or Tape and joint	FST Jointing	↑ Installed costs, £
Insulation	Insulation	
Board Fix	Board fix	
Board	Board	
Noggings		
Studwork Supply and Fix	Studwork Supply and Fix	
<b>Plasterboard</b>	<b>FERMACELL</b>	

## Large and non standard size boards

**Q** What is the biggest board that FERMACELL make?

**A** Boards up to 6000mm x 2540mm are available, and we can also make boards as small as 600mm x 600mm. They must be ordered through a FERMACELL stockist with a minimum quantity of 200m<sup>2</sup>.

- Note that large format boards require special handling and storage – more information is available from the Xella Technical Helpline +44 (0)870 6090306.

## Cutting FERMACELL

**Q** Are any special tools needed?

- A** **No.** FERMACELL may be cut with standard woodworking tools.
- When using a circular saw, use a vacuum attachment, select a blade with fewer teeth, a maximum of 16 is advisable – and reduce the cutting speed.
  - Battery or mains powered skilsaws are ideal.

## Installation compared to plasterboard

**Q** Can I use standard drywall fixings?

- A** **No.** FERMACELL is a very dense board and standard fixings will either break or result in failure of the finished construction.
- All FERMACELL Accessories match the board requirements – others do not!
  - FERMACELL is a complete system.

## Fixing

**Q** How else can I fix FERMACELL?

- A** On timber structures, FERMACELL may be fixed using FERMACELL screws or staples.
- Recommendations on FERMACELL screws and staple dimensions are contained in this guide. Staple guns and accessories are available for hire or purchase through trade outlets.
  - Contact the manufacturers for details of local outlets. BeA (**01482 861075**), Josef Kihlberg (Haubold & ITW) (**0151 479 3010**), POPPERS SENCO (**01925 445566**) and Young Black (**01793 838400**) manufacture a range of tools suitable for this type of work.
  - It is also possible under special circumstances to nail FERMACELL to steel studwork. Please contact the Xella Technical Helpline on +44 (0)870 6090306 for more details.

## Jointing

**Q** Is FERMACELL available in a taper edged format?

- A** Yes. FERMACELL is available two sided or four sided tapered edged in a range of sizes and thicknesses.
- Tapered edge joints are flush filled creating a flat finished surface. Please see pages 24-27.

## Fire

### Q Is FERMACELL a F30 (1/2 hr) board?

A Fire ratings come from the overall construction, not the individual board. A variety of constructions are shown on our website, together with datasheets.

## Finishing

### Q What's special about FERMACELL filler?

A It's a combined filler, sealant and adhesive.

- Joints made with FERMACELL won't crack if installed properly.
- It sets very hard, so don't be tempted to put too much on or you will spend all of your time sanding it back.
- When mixing it, use clean tools, bucket and water – every time – and put the water in first, adding the filler afterwards.
- Once the filler has soaked up the water, allow it to slake for five minutes. It will then last up to 35 minutes before going off. If you mix it mechanically, it will set very quickly.

## Finishing continued

### Q Can I skim FERMACELL?

A Yes, although it is not necessary as FERMACELL will accept direct decoration.

- The board is presized, but we recommend that a PVA sealant is applied first as some finishing plasters can craze in certain conditions. Typically a multi-finish will give a better result.
- When skimming, jointing must still be carried out using the methods described in this guide and joints should be taped.
- A finish identical to skim plaster can be achieved by using FERMACELL FST which dries in 45 minutes and costs a fraction of specialist plasterwork.

### Q What about paint, tiles or wallpaper?

A Paint should be applied as a mist coat and two undiluted top coats. Tiles can be fixed directly.

- In splash back areas such as showers, a waterproof system is recommended. Please see details on the FERMACELL waterproofing system.
- All wallpapers except vinyls can be applied without priming. On vinyls, use a low water content paste.

## Moisture

### Q Is FERMACELL waterproof?

A It is not waterproof, but it is water resistant. It can be used in domestic showers or bathrooms, or in semi-exposed applications such as soffit, and areas of high humidity (up to 80% Rh). It's fine for carport ceilings, but not for exposed facades.

### Q Can I use FERMACELL in swimming pool applications?

A **No.** This isn't recommended.

- While the pool area may be ventilated mechanically, air conditioning can break down causing the relative humidity to exceed 80% Rh. In these conditions, the board can soften and sag.
- For this application we recommend the use of Powerpanel H<sub>2</sub>O.

### Q Is FERMACELL available as a foil backed board?

A **No.** Where a vapour barrier is required, we recommend the use of a 200 g (min) VCL sheet fixed to the face of the studs, with joints overlapped by 250mm and taped.

- This will ensure that a continuous and effective vapour barrier is provided. Foil backed boards cannot be sealed at joints.

## Dot and dab

### Q Can I fix FERMACELL to masonry walls using plaster dabs?

A Yes, we recommend using the tapered edge FERMACELL for this application. Although if fixing shelves, cupboards etc to the board then a mechanical fixing through the board to the blockwork may be required.

## CLS Timber

### Q Can I fix FERMACELL to CLS (38mm x 89mm) section timber?

A Yes, but added care should be taken because of the narrower fixing face. We generally recommend a 50mm wide fixing face.

- When using CLS, fix the boards with pneumatically applied staples (nails may be used).
- The CLS should be graded as straight as possible.
- It is not practical to use 5-7mm joint filler with this narrower timber, the glue or tapered edge joint should be used.

Fire certification is limited to a maximum of F60. Please contact the Xella Technical Helpline on +44 (0)870 6090306 for more details.



## Steel studwork

**Q Does Xella make steel studwork for use with FERMACELL or can I use any type?**

**A** Xella does not make steel studwork although we strongly recommend the use of Protektor studwork and metal accessories.

- Other stud types have not been tested by Xella and as such are not warranted as a system. The majority of other makes that are available are made from thinner gauge steel and the additional mass of the FERMACELL board means that a thinner section may not provide sufficient rigidity.
- Protektor studs have a 0.6mm gauge and a 50mm fixing face.
- The studs and accessories are available from Cornercare (01562 515200).

**Q Can I use a flexible filler at junctions?**

**A** Yes. If there is a concern that there will be structural movement from the main building frame, it is usually best to use a flexible filler at these junctions.

- The edges of the FERMACELL should be sealed or primed in accordance with the flexible sealant manufacturers instructions.

## Sound

**Q If I fix FERMACELL direct to the wall, will I silence noisy neighbours?**

**A** A little, but best results are obtained by constructing an independent lining that is less than 75mm deep – like our 3S11 or 3H11 detailed.

- Please contact the Xella Technical Helpline on +44 (0)870 6090306 for more details.



## Product range

A simple-to-use board with a complete set of accessories.

### Wall boards

FERMACELL is available in 10mm, 12.5mm, 15mm and 18mm thick boards with square or tapered edges in a range of different sizes.

### Accessories

1. FERMACELL screws (3.9 x 30mm) must be used with a high speed screwdriver.
2. FERMACELL Jointstik for glue jointing FERMACELL boards.
3. FERMACELL Joint Filler must be used to fill and seal gaps between offcuts or for filling screw heads.
4. FERMACELL Bonding Compound for Dot and Dab application of FERMACELL Tapered Edge Boards.
5. FERMACELL Fine Surface Treatment may be applied to give a smooth finish without the need to skim.

For further information on FERMACELL products or to find your nearest stockist contact the FERMACELL Technical Hotline on **+44 (0)870 6090306**





## **Xella Dry Lining Systems**

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Sutton Coldfield B75 7ZF

Telephone: 0870 6090306

Fax: 0870 2402948

[www.xella.co.uk](http://www.xella.co.uk)

[fermacell-uk@xella.com](mailto:fermacell-uk@xella.com)

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Version: UK/07.08/DLG01. We reserve the right to change specifications.

Please call the helpline to ensure that you are in possession of the latest information.

For additional information please see the FERMACELL website.