STS Construction Board

Product & Installation Guide

Guide Version: 1120

STS Ltd | Ravens Park | Victoria Rd | Leeds | LS14 2LA

Document Contents

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STS Construction Board Product & Installation Guide
EXTERNAL RENDER CARRIER BOARD

High Performance & High Strength Render Carrier Board.

The STS Construction Board is a heavy-duty fibre cement board highly recommended by many leading render manufacturers.

It's high strength and density create an impact resistant, dimensionally stable and weatherproof construction board which lends itself for use as an external render carrier.

The simple fibre cement composition provides a perfect surface on which to receive thin coat render systems such as the brands stated below.

By using the 12mm STS Construction Board you have the assurance of a solid foundation meaning not only a stunning render finish, but also the peace of mind that it will last for years and remain crack free.

Composition Of Board: Fibre Cement (Sand, Cement, Water & Organic Fibres)

Suitable for the following construction types: Timber Frame, Lightweight Steel Frame and Modular/Offsite.

Description	Measurement	M^2
Board Dimensions & Weight	1200mmx800mm (15.2kg) 2400mmx1200mm (45kg)	0.96 (15.83kg/m^2) 2.88 (15.83kg/m^2)
Test Standard	BS EN 12467:2016 + A1:2016	-
Pull through testing	Mean result: 1650 Newtons	-
Pull out testing	Mean result: 840 Newtons	-
Density	1.23g/cm3	-

Do You Recommend vertical or horizontal batten framework?

The STS Construction Boards must have a cavity behind, vented at the top and bottom so we recommend fixing the boards to vertical battens. In some applications where you are trying to achieve a specific build up or match an existing cladding detail a cross batten can be used. This includes horizontal battens being fixed to the building substrate and then vertical battens fixed to the horizontal battens (ensure fixings between battens are suitable for the application and cladding/render weight).

Do you recommend specific vertical batten centres?

In most cases battens at 600mm centres is suitable although if the building is exposed to higher wind load or exposure, we would recommend vertical battens fixed at 400mm centres. ***See Illustrations numbers 3&4.***

Should a use a breather membrane?

For most timber frame buildings, a breather membrane is required to be installed onto the building walls prior to battens being installed. We would always recommend checking with your local building control or project architect/structural engineer to confirm the need and/or type of this membrane.

The breather membrane is installed to the outer side of the inner wall. It allows the water vapor to pass through from the inside of the walls, without requiring any ventilation to be installed directly above the insulation layer. The membranes should be installed onto the timber using galvanized stainless-steel staples or nails. The staples/nails should be placed at regular intervals to ensure a stable and secure fit. In all applications the timber frame breather membrane should always be an overlap between membranes and the upper layers should overlap the lower layers by at least 100mm.

Do I need a gap on the joints?

STS recommend a 3-5mm gap on all sides of the boards. Mostly render boards are either fixed to a timber batten, insulation, or a timber/steel frame building. Whilst timber is a cost effective and a fast build option it is one of the most susceptible substrates to movement. Any amount of moisture or heat can cause the timber frame/substrate to twist or move. If the boards are butt-jointed without a gap and the timbers move it cause the boards to push/grind against one another and will either push one boards up, down, out or in. By leaving a 3-5mm gap you are allowing for that slight movement and as the render systems incorporate a mesh layer little or no movement will be transferred through to the topcoat. ***See Illustrations numbers 3&4.***

Do I have to render onto the STS Construction boards immediately after installation?

The STS Construction boards can be left exposed to the elements for up to 6 months. If you are not going to render within the first 2 months, we would advise you to use STS MegaStrength PU adhesive between the boards at the point of install. This would ensure a watertight/weatherproof finish and remove the need to tape the joints.

If the boards are already installed and the render project is delayed more than 2 months after installation you can use an external grade joint filler and weatherproof tape on the joints.

If you are rendering soon after the boards have been installed, the gaps can be filled with the base-coat mix.

In every instance the STS Construction boards must be dry, dust free and undamaged before applying render.

Can the STS Boards go down to a block/brick wall course without ventilation?

No. the cavity must be vented top and bottom. If the original build up means the boards are flush with the outside of the wall below you will need to ensure batten are put in place to allow for a minimum of a 15mm airflow gap. ***See Illustrations number 8.***

STS Construction Board Application Hints & Tips
EXTERNAL RENDER BOARD

Does the STS Construction Board have good pull-out & pull-thought strength?

Yes. The STS Construction boards have been tested by many fixing manufactures and due to the high density of the boards composite it offers both high pull-out and pull-through strength. This means that in many cases this board can be used for EWI Systems/Installations as well as a standard render carrier board.

Does the STS Construction Board contain MgO?

No. The STS Construction board is Fibre cement (sand, cement, organic fibres and water) which is one of the most endorsed material composites in the industry for both internal and external use.

How close can I screw to the edge of the STS Construction Board?

We recommend fixing 20mm in from edges although we have also successfully tested fixing at 15mm from the edge of the board.
See Illustrations numbers 3&4.

When Fixing the STS Construction Boards what fixings should I use?

When fixing into a timber framework we would recommend a 4.2x42mm, self-drilling and self-countersinking screw.

For fixing into all SFS framing we would recommend a 4.8x38mm, self-drilling and self-countersinking, wingtip fixings.

For both timber and SFS applications the fixings should be either stainless steel or suitably treated against corrosion and approved for external use.

Example of Wingtip Screw

Example of Self-Drilling Screw

How Many Fixing are required for STS Construction Board?

400mm Centre Battens

- 28 No. fixings per 2400x1200mm sheet when fixed in a horizontal or vertical orientation. ***See Illustrations numbers 3&4.***

600mm Centre Battens

- 27 No. fixings per 2400x1200mm sheet when fixed in a horizontal orientation. ***See Illustrations numbers 3&4.***

What blade is best for cutting the STS Construction boards?

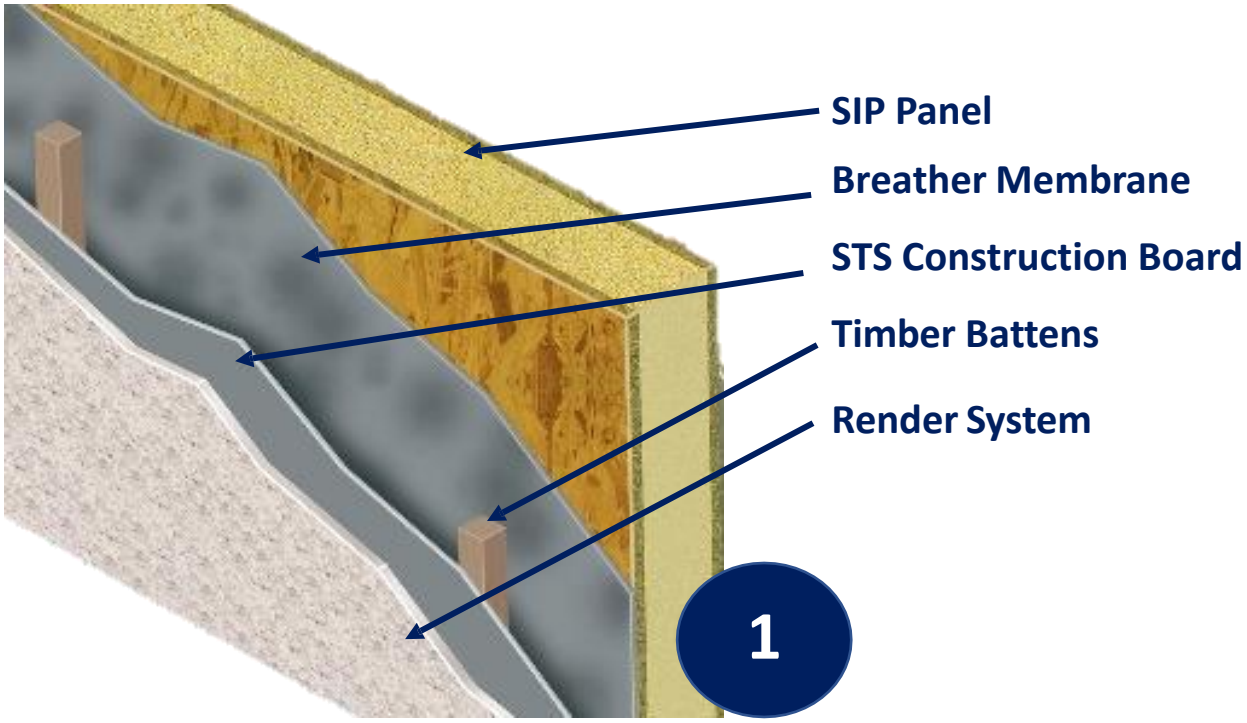
We would always recommend using the STS Poly Crystalline Diamond (PCD) blade. This will ensure a clean, low dust cut and will last significantly longer than any other multipurpose circular saw blade.

Can I apply sand & cement render onto the STS Construction Boards?

Although the bonding surface of STS boards is very good for any cement-based products, the problem you may have with this type of render is cracking on the joints. Generally, a silicon thin coat render system is recommended for render boards because it is much more flexible and forgiving to movement. Cement, however, sets completely solid.

How do you fix STS Construction Boards to SIP Panel Systems?

Unlike standard timber frame SIP panels do not have internal stud work but the outer OSB layer is structural enough to fix the render carrier system directly to it. Like any timber sheathing it will require a breather membrane and then battened out vertically at either 400mm or 600mm centres and proceed as you would in a standard timber frame build up.



The above drawing is for illustration purposes only and is not drawn to scale.

STS Construction Board - Typical Fixing Details
Window/Door Corner Detail

The above drawing is for illustration purposes only and is not drawn to scale.

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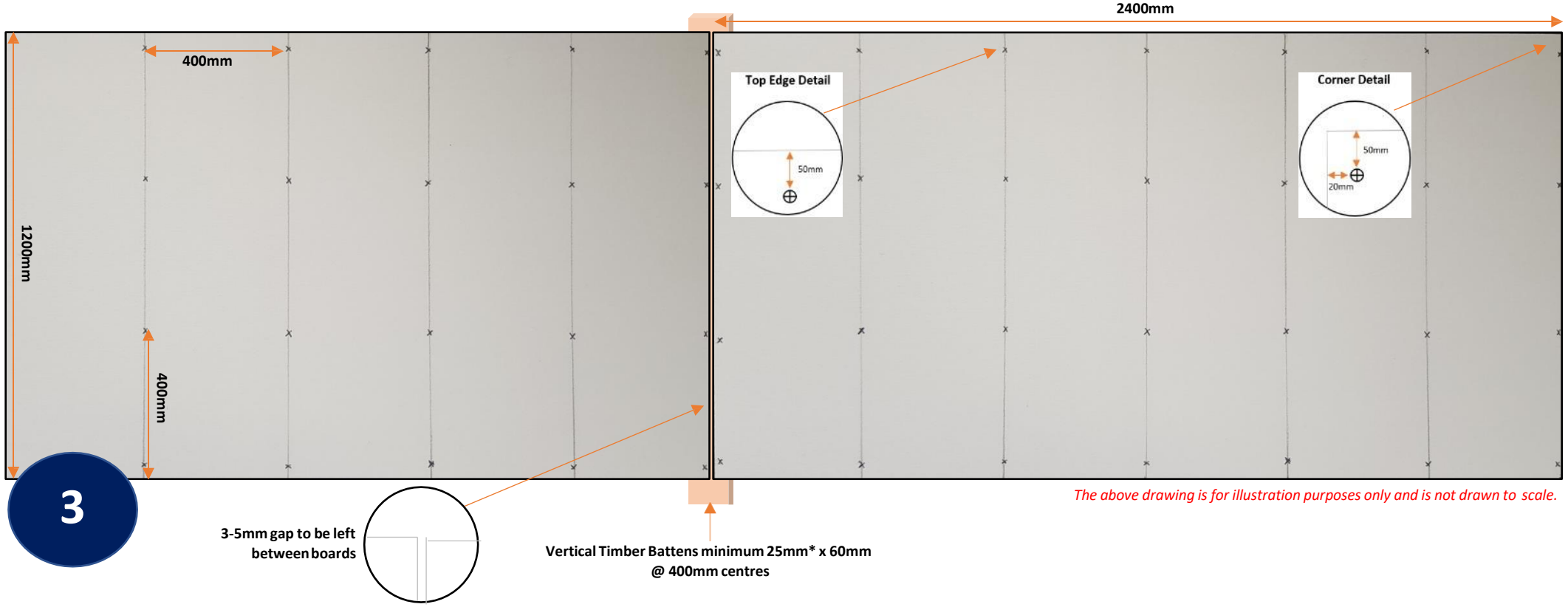
Joints ***MUST NOT*** be aligned with the edge of the door or window, but boards should be cut around the opening and fixed on to a minimum 25x60mm batten in the centre of the opening.

Most render manufacturers recommend using either a single or double layer of render mesh over the key stress points such as corners of the opening.

The boards must be supported by a minimum of a 25x60mm batten all the way around the opening to ensure a stable support to render on to.

STS Construction Board – Typical Fixing Details
EXTERNAL APPLICATION

400mm Centres Horizontal Orientation - Vertical Battens



The above drawing is for illustration purposes only and is not drawn to scale.

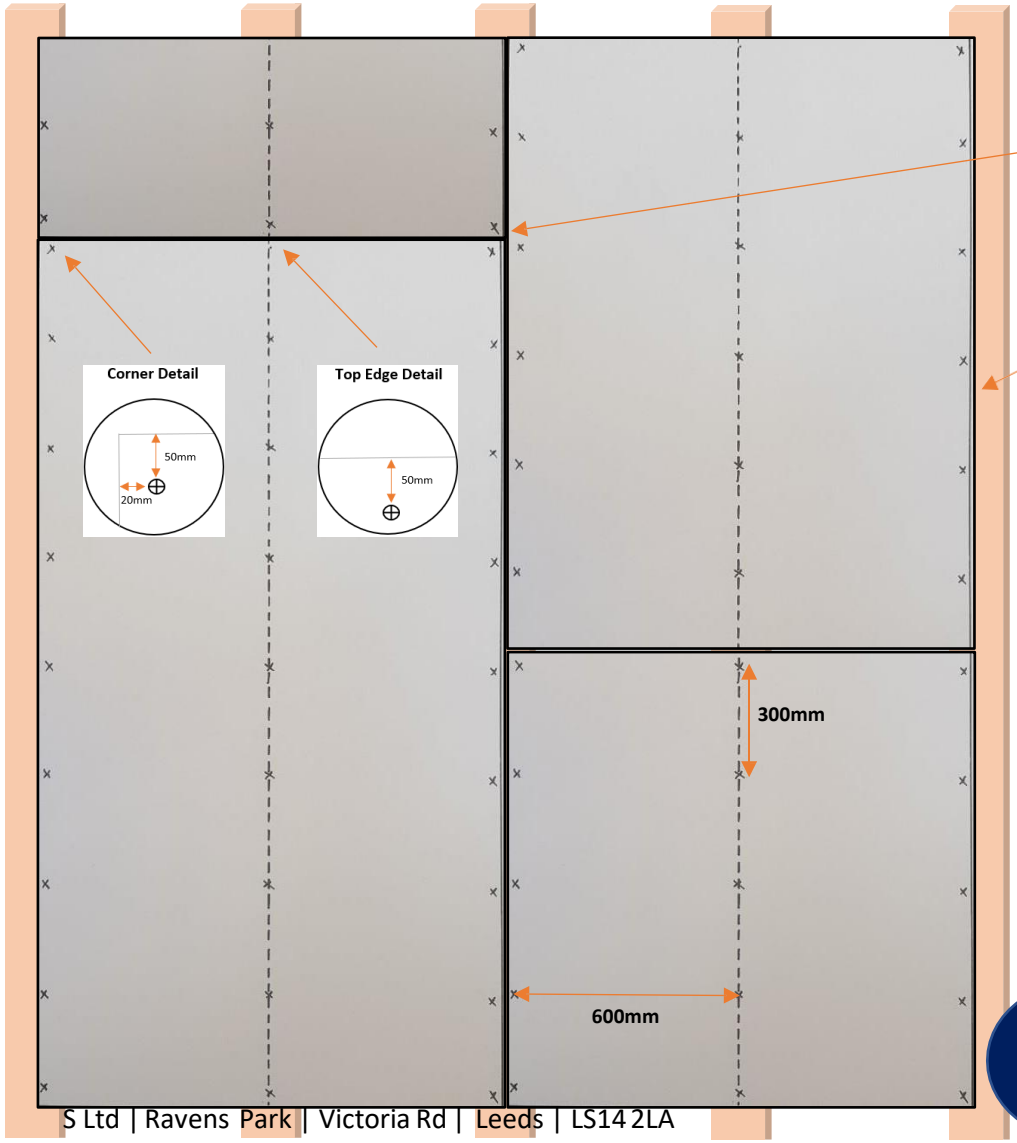
* This applies in England and Wales. For Scotland, Northern Ireland and Republic of Ireland the minimum cavity depth should be 50mm.

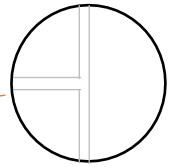
Following the fixing pattern on this drawing for both horizontal and vertical board orientation on to 400mm centre battens.

STS Construction Board – Typical Fixing Details
EXTERNAL APPLICATION

600mm Centres Vertical Orientation - Vertical Battens

The below drawing is for illustration purposes only and is not drawn to scale.





3-5mm gap to be left between boards

Vertical Timber Battens minimum 25mm* x 60mm @ 600mm centres

* This applies in England and Wales. For Scotland, Northern Ireland and Republic of Ireland the minimum cavity depth should be 60mm.

Following the fixing pattern on this drawing for both horizontal and vertical board orientation on to 600mm centre battens.

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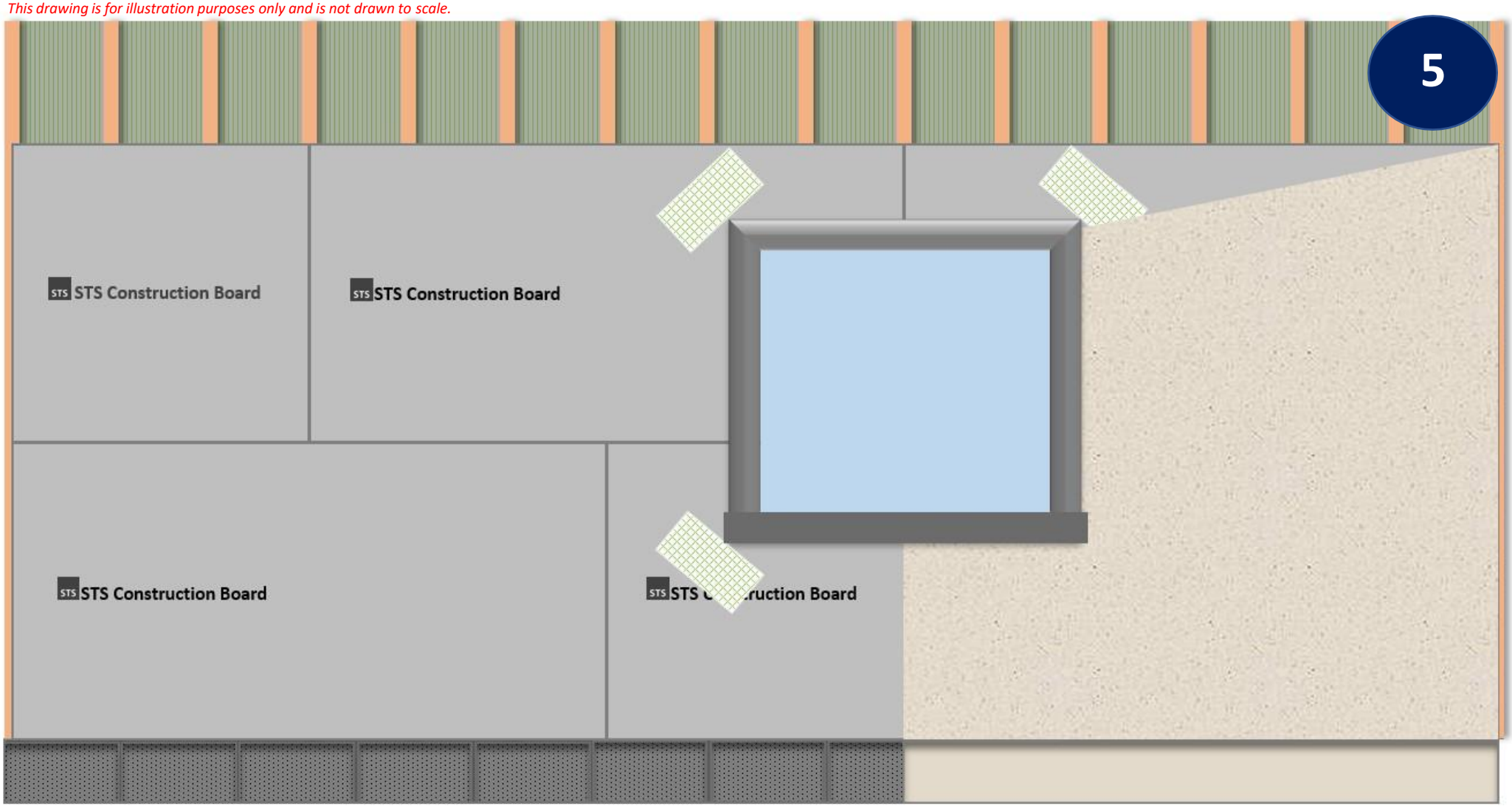
STS Construction Board – Typical Fixing Details
EXTERNAL APPLICATION

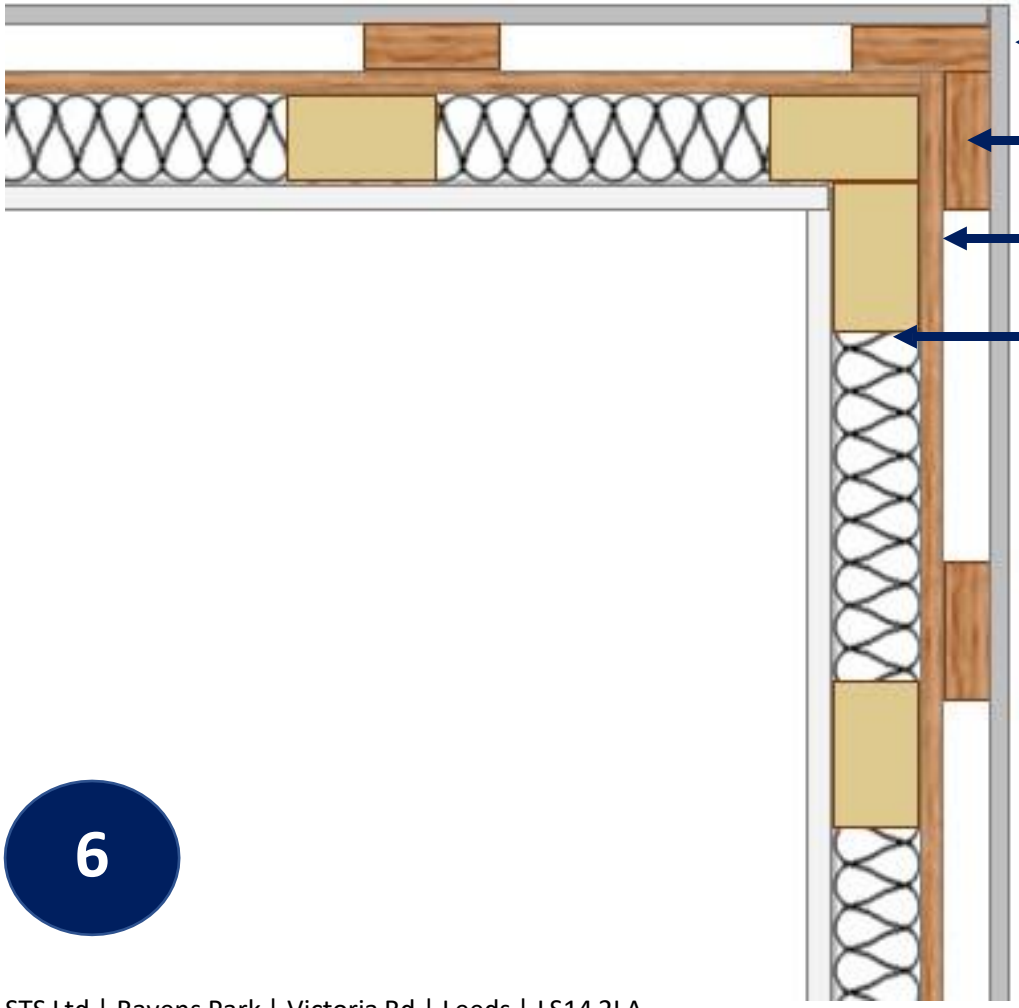
Complete Wall Build Up & Window Illustration

This drawing is for illustration purposes only and is not drawn to scale.



STS Construction Board – Typical Fixing Details
EXTERNAL APPLICATION

External Corner Detail



STS **Construction Board**

Timber Batten fixed at 400-600mm Centres

External Sheathing board with breather membrane

Internal insulation and wall build up

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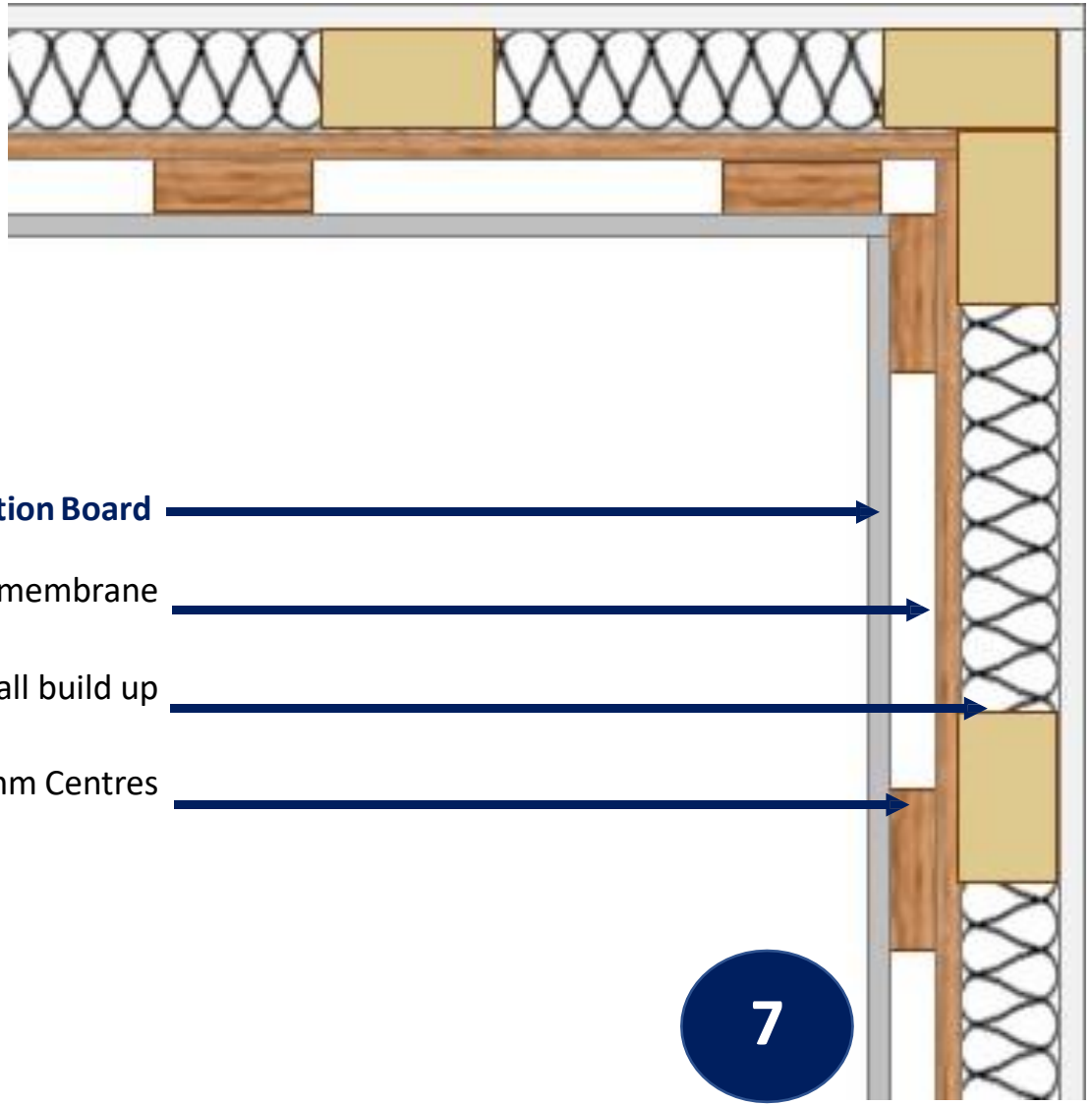
The above drawing is for illustration purposes only and is not drawn to scale.

STS Construction Board – Typical Fixing Details
EXTERNAL APPLICATION

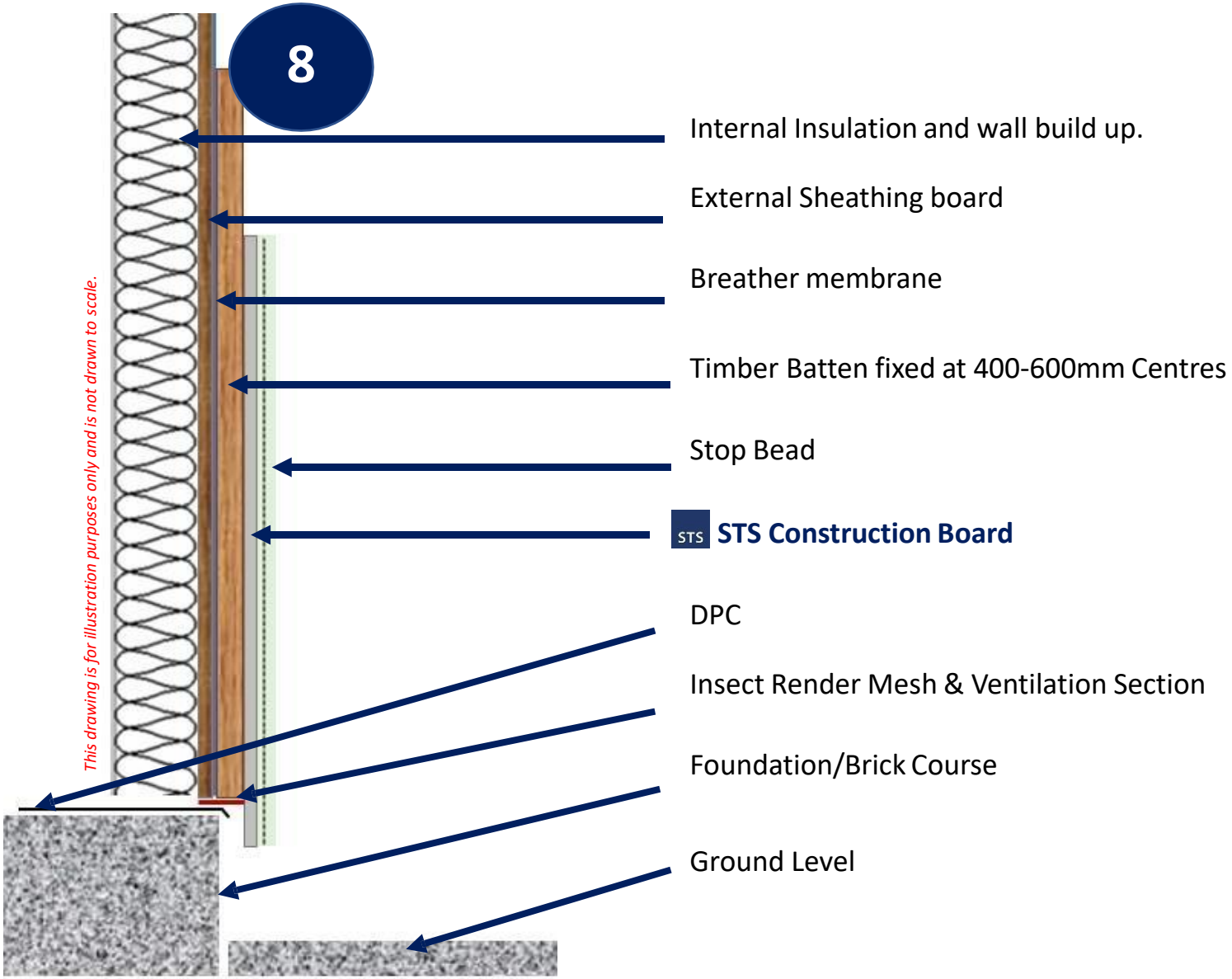
Internal Corner Detail

The below drawing is for illustration purposes only and is not drawn to scale.



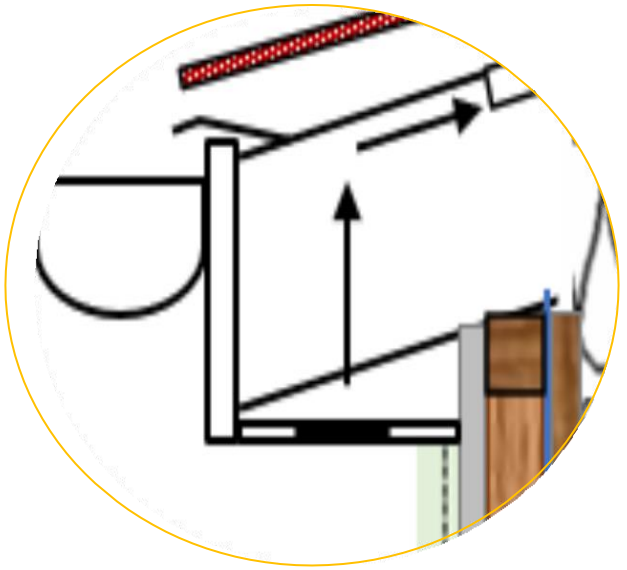
STS Construction Board – Typical Fixing Details
EXTERNAL APPLICATION

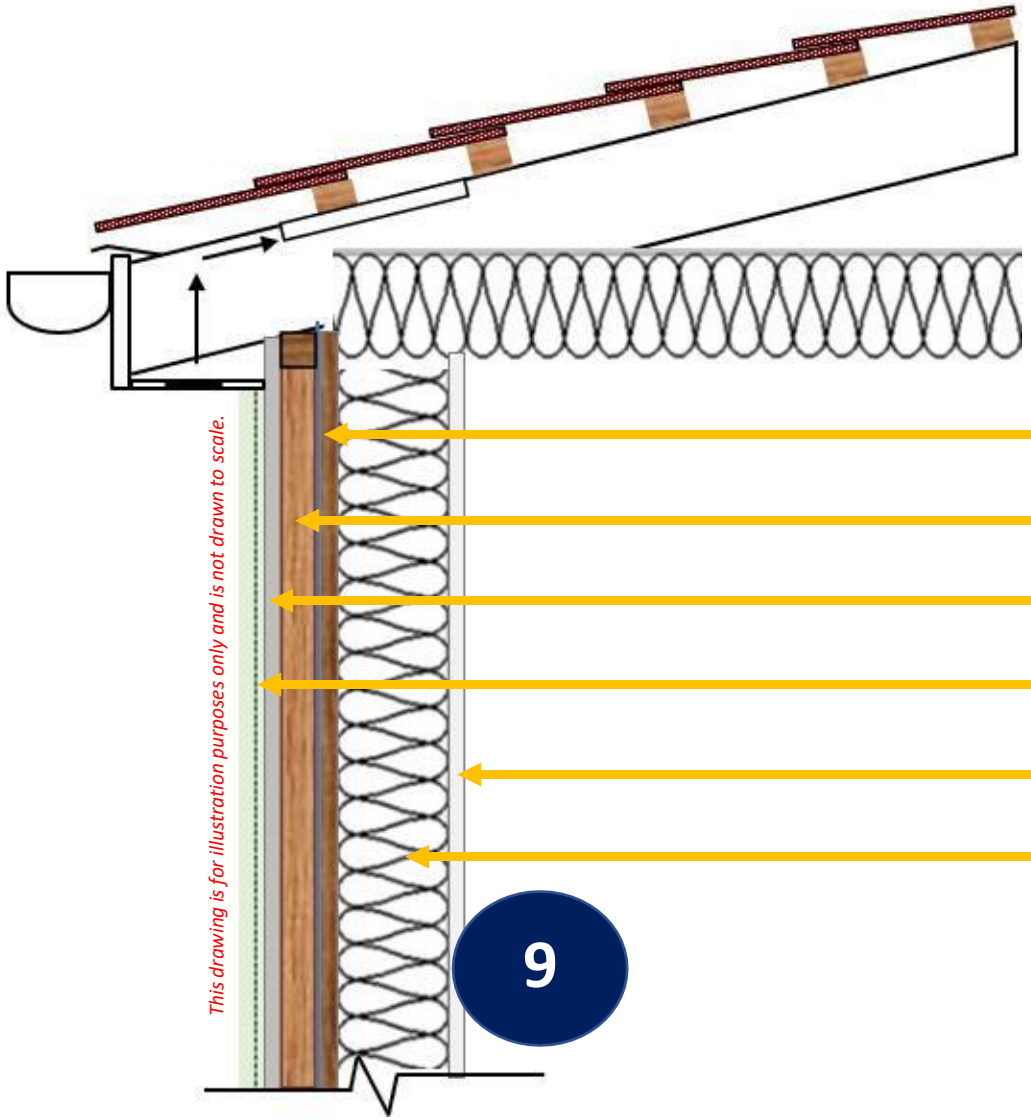
Base Formation Detail



STS Construction Board – Typical Fixing Details
EXTERNAL APPLICATION

Eaves Detail





Breather Membrane

Timber Batten

STS Construction Board

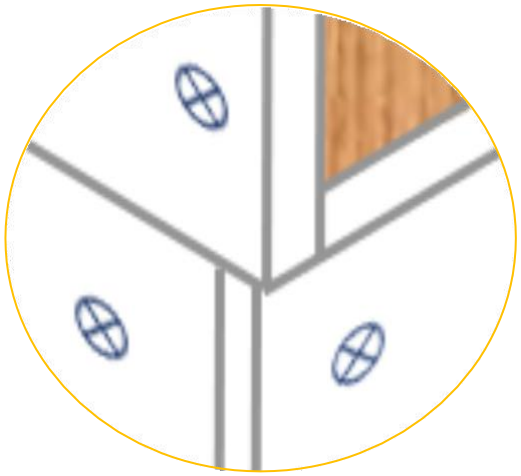
Stop Bead

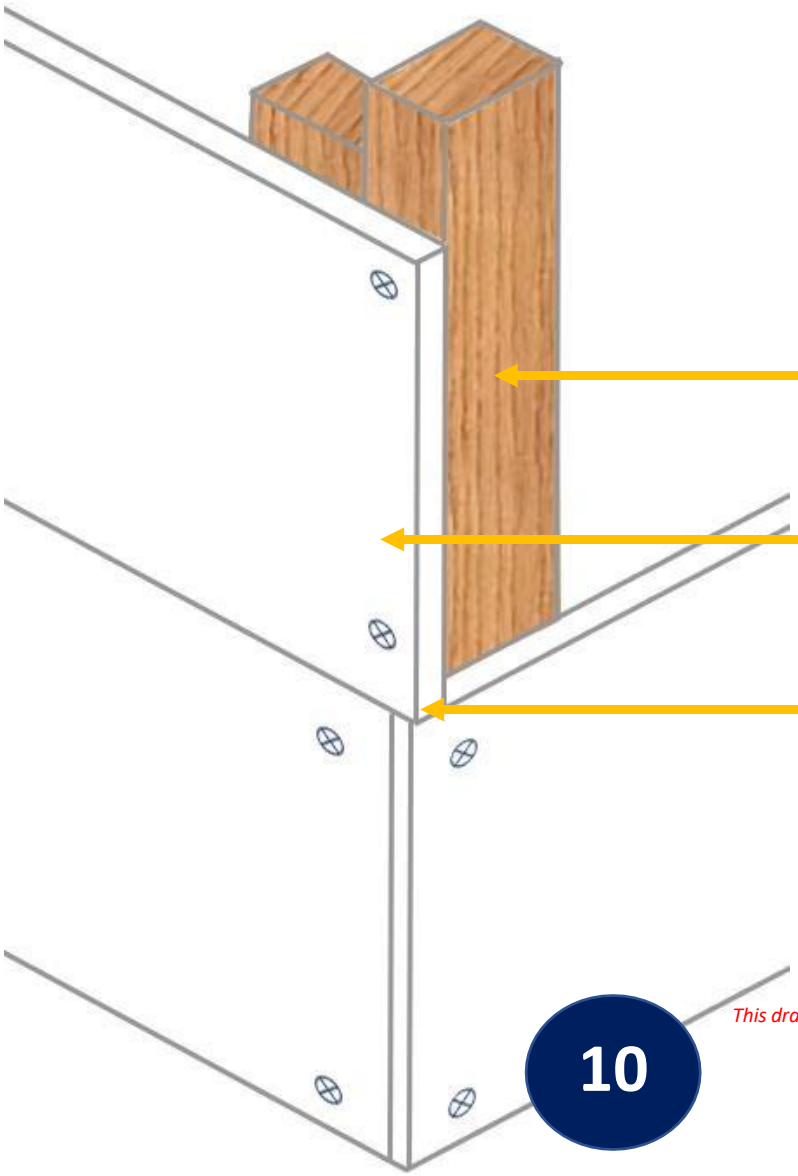
Internal Wall Boarding

Cavity Wall Insulation

STS Construction Board – Typical Fixing Details
EXTERNAL APPLICATION

Staggered Corner Joint Detail





Timber Batten

STS Construction Board

Staggered Corner Joint *(always leave 3-5mm gap between boards).*

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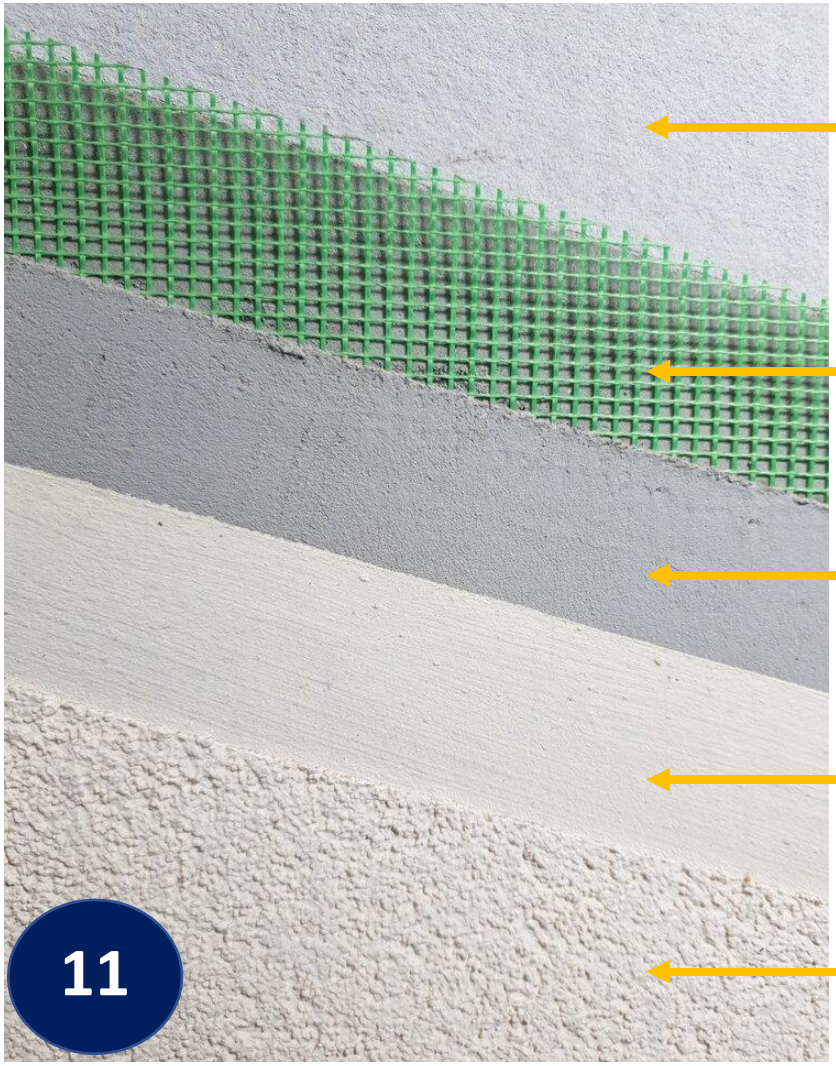
STS Construction Board – Typical Fixing Details
EXTERNAL APPLICATION

Typical Silicone Render Build Up



STS Construction Board

Render Mesh (embedded in base coat)

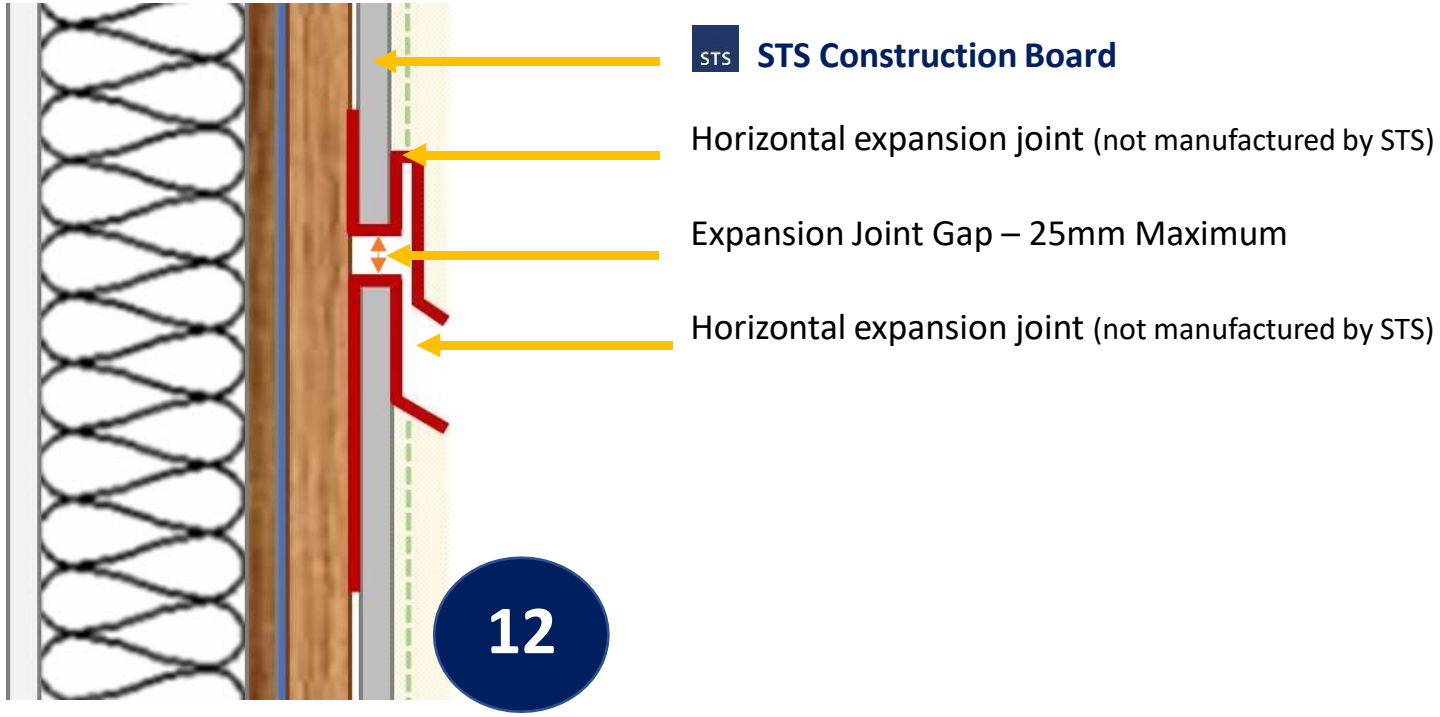
Render Base Coat

Primer

Render Finish

STS Construction Board – Typical Fixing Details
EXTERNAL APPLICATION

Expansion Joint Detail



Note: For most structures horizontal and vertical movement joints required at 15m spans (maximum) or to match movement joints in the substrate behind. The specific use, spacing and detail of expansion joints should be clarified with the render manufacture, architect or building control prior to installing.

STS Ltd do not supply, or manufacture expansion joints and the above image is for illustration purposes only.

Tested & Approved By

Contact Information & Useful Links

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Website: https://www.sts-uk.com/building-board-solutions/render-carrier

Product Brochure: https://www.sts-uk.com/s/OneBoardMulitpleApplicationsJan2020updated-9jcw.pdf

Product Overview Video: https://youtu.be/G-rVF-0OqLg

Please get in touch for product samples, further information or help to find your nearest stockist.