DESIGN FOR CONNECTING HARDIEWALL (SUPPORTING NORSTONE CLADDING) TO BLOCKWORK WALLS

Design assumptions

1. The blockwork walls comprise 100mm thick thermal block with compression strength of 3.6 N/mm^2.
2. James Hardie Building products Ltd has had no involvement in and takes no responsibility for the architectural design (eg- thermal performance, interstitial condensation etc.) of the wall construction incorporating HardieWall/Norstone cladding.
3. It is assumed that the builder is aware of and has raised no objections to screws being driven into the blockwork and that the detailing necessary to ensure a satisfactory interface between the Norstone cladding and the rendered parts of the walls has been done between the Architect and builder.

Design loadings

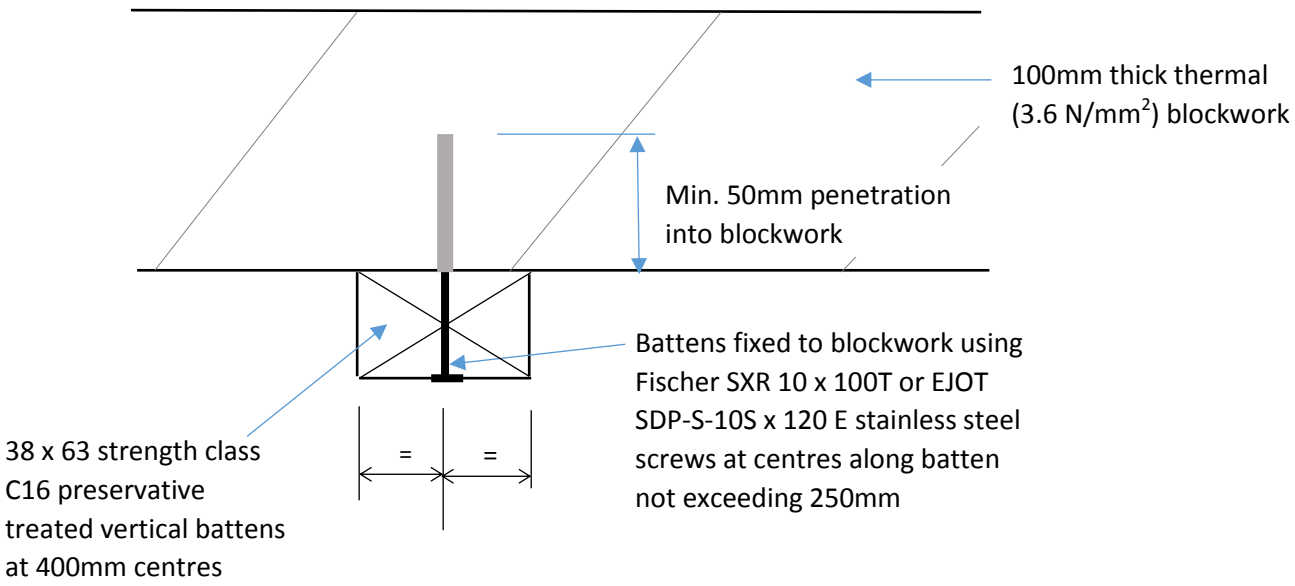
Our design is based on the following information and any changes to these must be brought to our attention and approved by us for our design to remain valid:

1. Dead loads for the wall construction incorporate the HardieWall sheet (0.5m x 2.4m) plus Norstone stack stone cladding bonded with Laticrete Platinum 254 adhesive.
2. Wind pressure. A maximum wind suction pressure of 1.34 kN/m^2 has been assumed at all locations and the structural designs for the HardieWall to vertical batten connection and the vertical batten to blockwork connection are therefore applicable at all levels and locations of the building.

Special notes for construction

1. The vertical battens should be of no greater length than 3.0m and 3mm gaps should be left between consecutive battens in the same vertical line. Advice should be sought from the Architect on the allowance for expansion/shrinkage of the blockwork that needs to be made. Both HardieWall and Norstone cladding must also have adequate gaps to accommodate the shrinkage and movement joints need to be detailed as required. Failure to account for differential movement could result in the cladding system being 'forced off' the face of the building.

Fig 1 - Cross-section showing fixing of 38 x 63 batten to blockwork



NOTES

1. *Fischer SXR 10 x 100T stainless steel screws to be installed strictly in accordance with manufacturer's instructions. The drill hole in the blockwork is to be created by punching using the AAC hole punch provided by Fischer.*
2. *EJOT SDP-S-10S x 120 E stainless steel screws should be installed in accordance with the manufacturer's instructions*
3. *The fixing shall not be installed in water saturated blockwork*

Fig 2 - Cross-section showing fixing of 19mm HardieWall to 38 x 63 battens

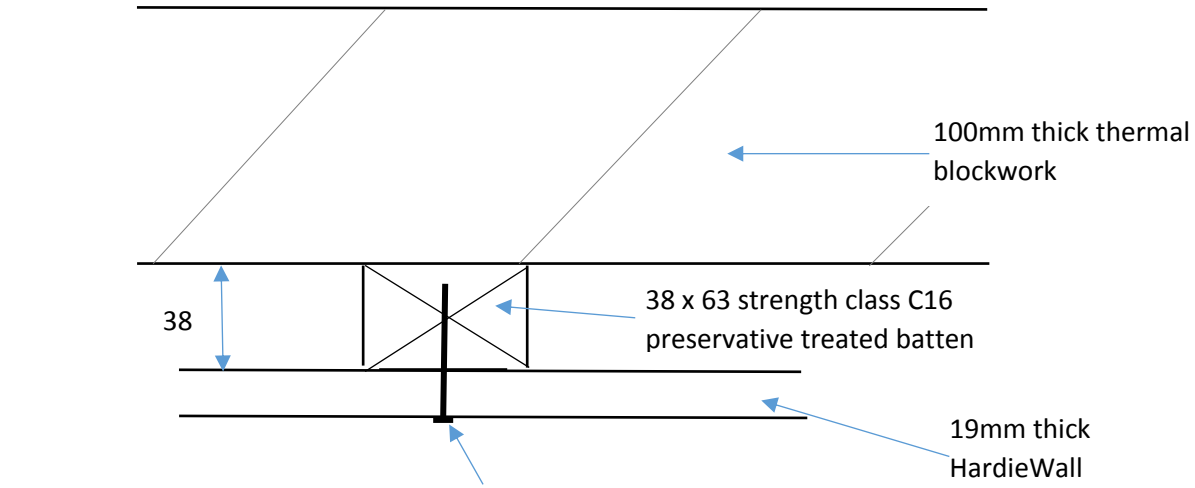


Fig. 3 - Elevation showing layout of screws fixing HardieWall to vertical battens

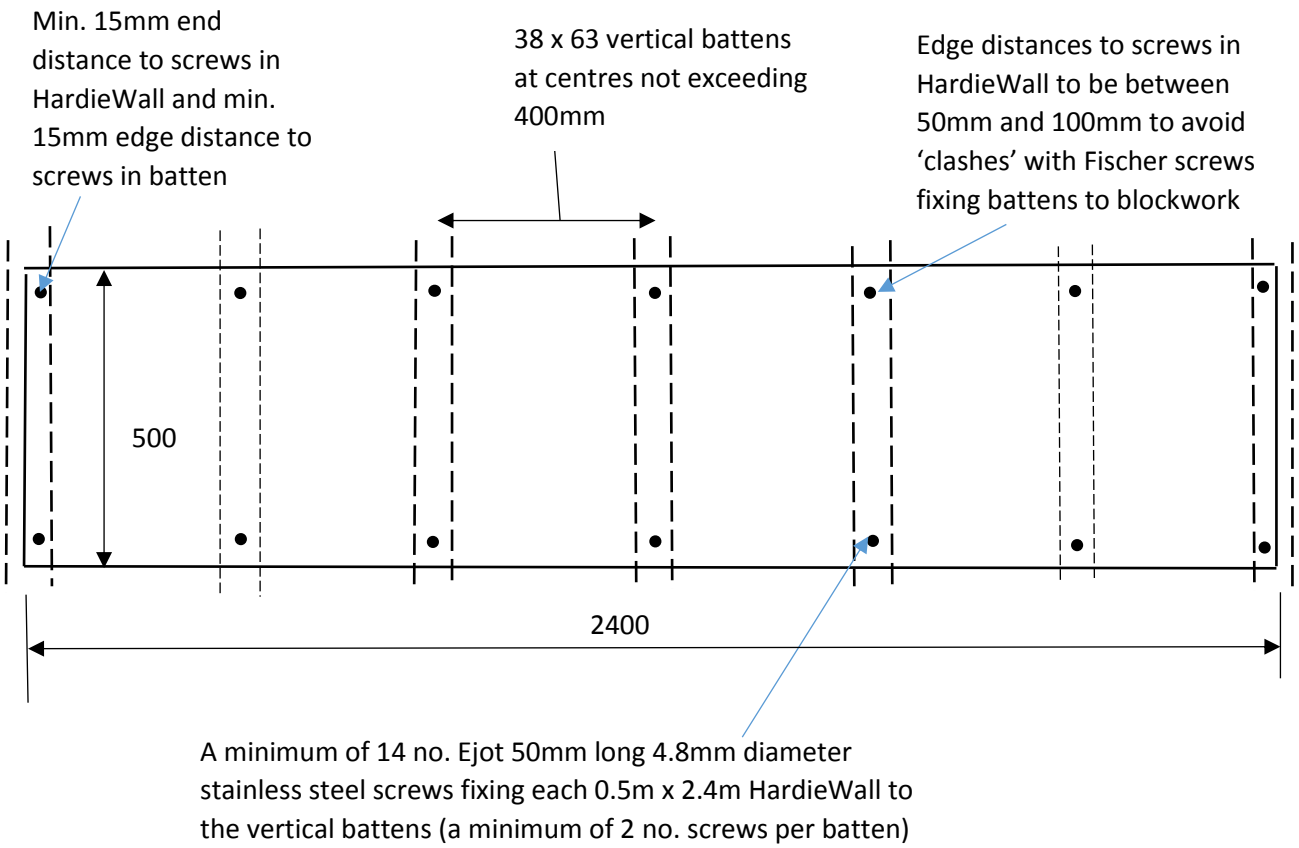
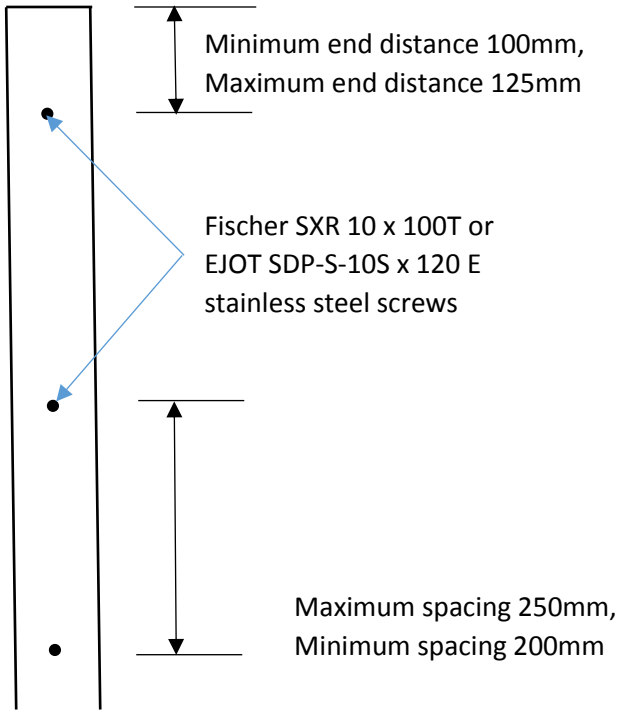


Fig 4 - Elevation showing spacing of screws fixing 38 x 63 batten to blockwork



NOTES

Minimum edge distance of screws in blockwork is to be 100m

HardieWall Installation Best practises

1. Boards must be stored dry, flat and under cover. They must not be allowed to become wet before installation.
2. Boards should be cut with a circular saw fitted with a HardieBlade. Suitable PPE should be worn including an FFP2/3 respirator. Cut outs and curves can be made with a jigsaw fitted with a blade suitable for cutting fibre cement (Bosch 141 TC tipped or similar)
3. Boards should be laid brick pattern, broken bond with the tongue facing upwards.
4. All board joints should be made on the centre of the batten
5. Movement/expansion joints, as noted in the above specification, must be respected.
6. Boards must be fixed to a minimum of 3 battens. Short infill pieces should be avoided. The boards should be set out and cut to avoid small pieces less than 3 batten spans in width
7. Apply a bead of exterior grade cartridge based adhesive to all edges before setting the boards together. The boards will engage naturally on the T&G edges, if they do not then tap gently with a hammer and protective block of wood or a rubber mallet until fully engaged. Push the plain vertical edges into moderate contact. Remove excess adhesive with a suitable tool (pallet knife or similar). Do not glue boards of adjoining walls (for example internal and external corners) together, the ends must be allowed to move freely.
8. Apply the nail fixings in accordance with the above specification as detailed in Fig 3
9. Boards must be tiled within 90 days of installation.