

Date: May 20.

Ref No: 20/43

Continuation Sheet No. 03 A

Ground floor slab
A252 mesh

125 concrete reinforced with

Walls: 50-125 grade C24 Slabs @ 400 c/c

BM $0.45 \text{ kN/m}^2 \times \frac{2.5^2}{8} = 0.35 \text{ kNm/m}$

bending stress

$\frac{0.35 \times 10^6}{50 \times 125^2} \times 0.4 = 1.08 \text{ N/mm}^2$
nominal.

Lintels to 1800 wide windows

loading $4.9 \times 1.52 = 3.7 \text{ kN/m}$

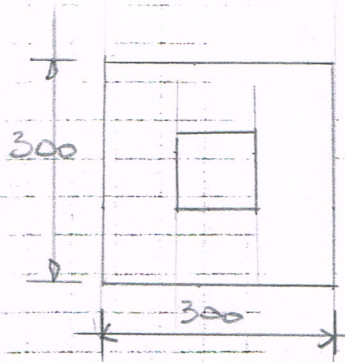
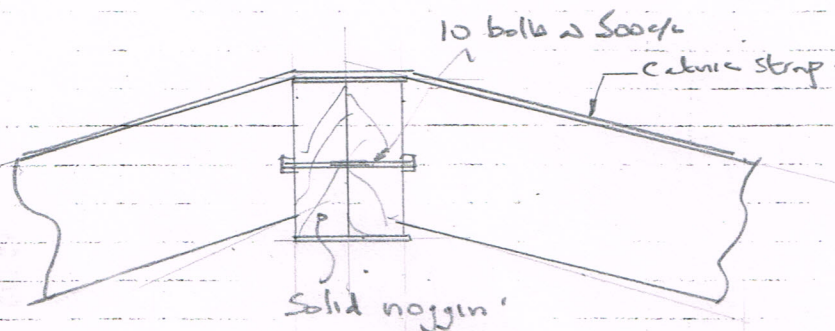
BM $3.7 \times \frac{1.9^2}{8} = 1.67 \text{ kNm}$

Z provided $2.50 \times 125^2 = 260.4 \times 10^3 \text{ mm}^3$

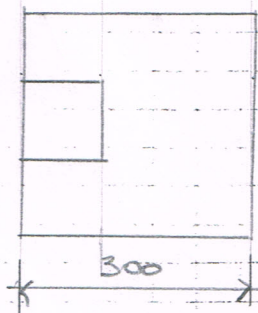
bending stress $\frac{1.67 \times 10^6}{260.4 \times 10^3} = 6.4 \text{ N/mm}^2$

Provide 2 no. 50-125 grade C24 bolted together

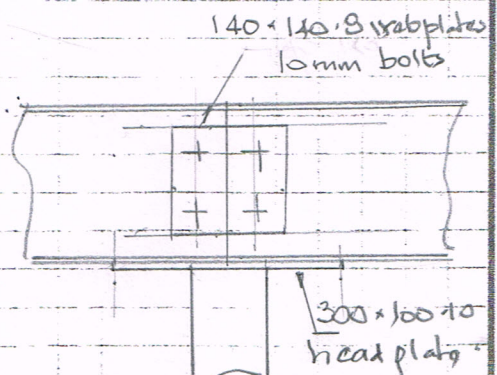
Rev A
added
18.05.20



Intermediate posts
Base plates



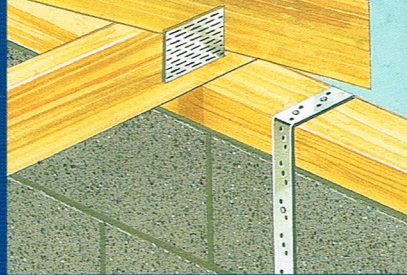
end posts
10 mm thick



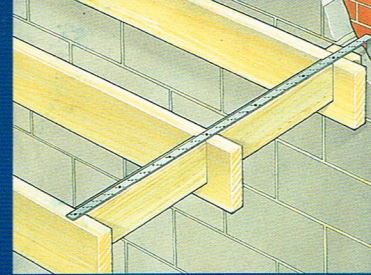
100-100-t post

Straps

BAT straps are manufactured in two types. The M305 to provide horizontal restraint and Standard to provide vertical restraint against wind pressure and uplift forces.



STANDARD STRAP



M305 STRAP

Design Features

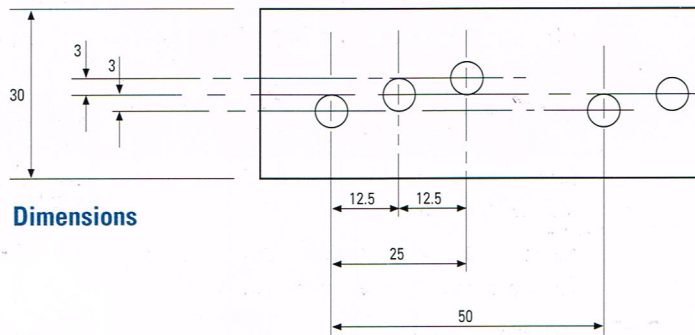
The straps are manufactured from pre-galvanised steel strips with zinc coated edges to BS EN 10142 : 1991, DX51D + Z275 or stainless steel to BS 1449 Part 2 : 1983, Type 304S15.

Nominal Dimensions

M305 - 30 x 5.0mm

Standard - 30 x 2.5mm

Hole diameters are 6mm and they are holed at 12.5mm grouped in threes, diagonally across the width of the strap.



Dimensions

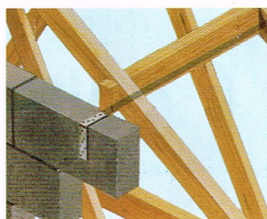
Installation Requirements

The installation of restraint straps must comply with the current Building Regulations, British Standards BS 5628 : Part 1 and Part 3 and BS 8103 : Part 1 as well as NHBC recommendations.

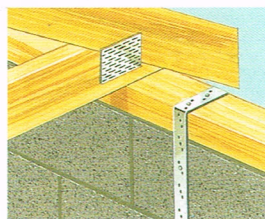
When straps are being fixed across joists or trussed rafters which are parallel with the wall, and where there is a gap between the wall and the first joist or truss, the gap must be packed. Noggins must be provided between each joist or truss.

Fixing for M305 and Standard Straps: use either No 12 x 50mm wood screws or 4.00 dia x 75mm corrosion resistant nails.

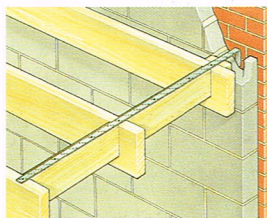
For stainless steel straps, stainless steel fixings must be used.



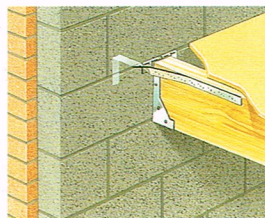
Anchorage of gable end to roof structure, M305



Fixing to wall plate and wall with one bend

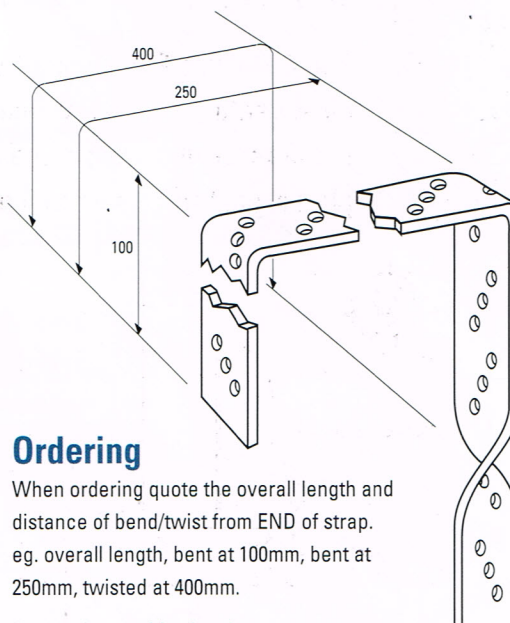


Floor level straps M305 notched into parallel joists. Note: Gaps between masonry and adjacent joists must be packed



Floor level straps M305. 150 x 650mm long once bent and once twisted fixed to perpendicular joists.

Note: Turn down of the strap must be in contact with the masonry

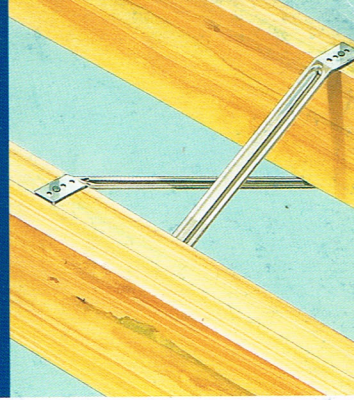


Ordering

When ordering quote the overall length and distance of bend/twist from END of strap.
eg. overall length, bent at 100mm, bent at 250mm, twisted at 400mm.

If in doubt, provide sketch.

Herringbone Joist Strut



Floor joists spanning more than 2.5m should be provided with one or more rows of strutting to limit twisting. Spans greater than 4.5m should have 2 rows fixed at $\frac{1}{3}$ spans.

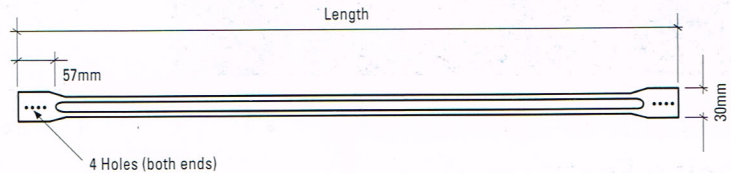
Design Features

Manufactured from 1mm thick pre-galvanised mild steel to BS EN 10142 : DX51D + Z275.

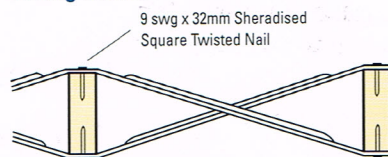
Suitable for joist widths between 38mm and 63mm, and joist depths between 150mm and 225mm.

Available in 3 sizes:

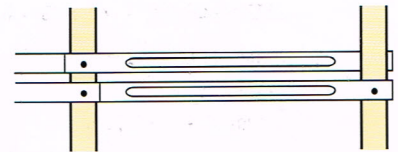
Ref.	Joist Centres	Length	Qty/Box
HJS400	400	480	50
HJS450	450	523	50
HJS600	600	660	50



Fixing Detail



When fixing the second strut a 6mm (approx) gap should be kept between the struts.

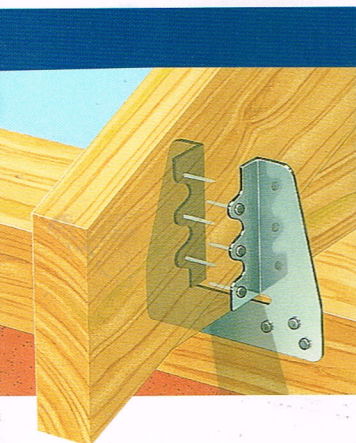


Installation Requirements

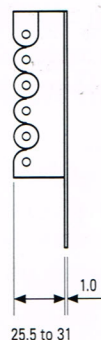
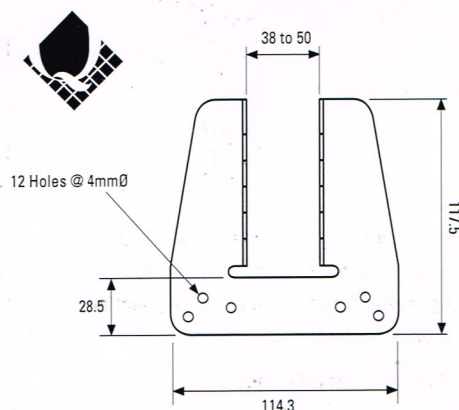
Joist Span – 2.5m to 4.5m
greater than 4.5m
1 Row at mid span
2 Rows at $\frac{1}{3}$ span positions

Fixing: use BAT 3.75 x 30mm long square twisted sherardised nails.

Truss Clips



The Bat Truss Clip eliminates the disadvantages of skew nailing trussed rafters to timber wall plates; damaged connector plates; split rafters or wall plates.



Design Features

Manufactured from 0.9mm thick pre-galvanised mild steel to BS EN 10142 : 1991, DX51D + Z275.

Hole diameter: 4mm
Height: 117mm

Available in 2 sizes:
TC38 – 38mm thick truss – 200 per box
TC50 – 50mm thick truss – 200 per box

Other thicknesses of trussed rafters may be fixed using pairs of BAT Framing Anchors, type AL and AR.

Installation Requirements

Fixing: use BAT 3.75 x 30mm long square twisted sherardised nails.

All nail holes must be filled.

Safe Working Load – 1.3kN uplift.

The timber wall plate must be securely held down onto the supporting masonry.