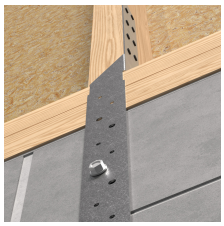
# Technical Sheet

LTS
**Light Twist Strap**

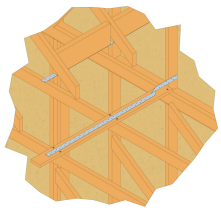
Restraint strap with a formed twist for timber to timber or timber to masonry connections. LTS1400E used for Timber Gable Panel lateral and vertical restraint.



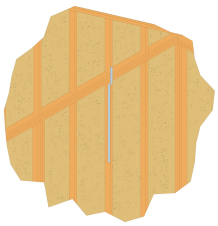




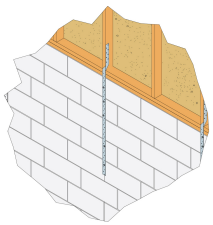




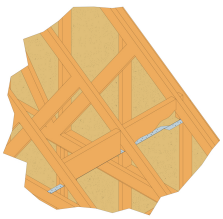
*LTS1400E - Lateral Restraint - Fixing to Bracing Board / Binder*



*LTS1400E - Vertical Restraint - Timber to Timber Frame*



*LTS1400E - Vertical Restraint - Timber to Masonry*



*LTS1400E - Lateral Restraint - Fixings to Solid Noggins*

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# Technical Data

## Product Dimensions & Performance Values

| Reference | Connector Dimensions | | | | | | | | Masonry capacity |
|---|---|---|---|---|---|---|---|---|---|
| | Product Dimensions[mm] | | | | Holes[mm] | | | | Characteristic Capacity[N] |
| | A[mm] | B[mm] | C[mm] | t[mm] | Round | | | | Strap Characteristic Tensile Capacity[kN] |
| | | | | | Ø4 | Ø5 | Ø6 | Ø9.5 | |
| LTS18 | 32 | 457 | 194 | 1.2 | 26 | - | - | 2 | 2.9 |
| LTS1400E | 38 | 1400 | 225 | 1.5 | 14 | 8 | 14 | - | 8 |

1. Characteristic tensile capacity is the capacity of the strap only.
2. Fixings type and quantity are to be specified by the building designer / structural engineer

# Installation

## General Installation:

- The LTS18 must have same number of fasteners installed at each end. Otherwise, the least number of nails in the either member limits the load.
- LTS1400E is suitable for use in providing lateral and/or vertical restraint for timber gable panels to timber frame or masonry walls.
- Unless otherwise specified, the building designer or structural engineer is to specify the type and quantity of fasteners to be installed, depending on required load requirements.

## LTS1400E: Lateral Restraint - Fixing to Truss Rafter Longitudinal Bracing / Binder

- LTS1400E is to be fixed to a 25mmx 100mm longitudinal truss bracing.
- In instances where position of strap does not coincide with existing longitudinal bracing, the strap can be fixed to an additional 25mm x 100mm binder. The binder is to be fixed over four trusses and nailed twice to each truss bottom chord with 3.35x65mm round wire nails.
- Ensure the position of the additional binder and strap coincide with the gable panel vertical timber stud.
- LTS1400E is to be fixed to the side of the gable panel vertical stud with a minimum of three 3.75x30mm square twist nails.
- LTS1400E is to be fixed to the bracing / binder with eight 3.75x30mm square twist nails, evenly distributed along the length of the strap. (For NHBC warrantied buildings, in accordance with NHBC Standards 2017, section 7.28, eight 25mm x 4mm steel screws, shall be used instead of the square twist nails).
- The strap is to be of sufficient length to be fixed to a minimum of three trusses.

## LTS1400E: Lateral Restraint - Fixing to Truss Rafter Solid Noggins

- LTS1400E is to be fixed to the side of the gable panel vertical stud with a minimum of three 3.75x30mm square twist nails
- LTS1400E is to be fixed to the noggin / trusses with eight 3.75x30mm square twist nails, evenly distributed along the length of the strap. (For NHBC warrantied buildings, in accordance with NHBC Standards 2017, section 7.28, four 50mm (minimum) x 4mm steel screws or four 75mm x 4mm round wire nails, with one fixing into the third rafter, shall be used instead of the square twist nails).
- The strap is to be of sufficient length to be fixed to a minimum of three trusses

## LTS1400E: Vertical Restraint - Fixing to Timber Frame Walls

- LTS1400E is to be fixed to the front face of the gable panel vertical stud with 3.75x30mm square twist nails
- LTS1400E is to be fixed to the side of the timber frame panel vertical stud with 3.75x30mm square twist nails, evenly distributed along the length of the strap.
- The number of fixings should be in accordance with the design requirements and the lowest fixings should be located within 150mm of the bottom of the strap

## LTS1400E: Vertical Restraint - Fixing to Masonry Walls

- LTS1400E is to be fixed to the side of the gable panel vertical stud with 3.75x30mm square twist nails
- LTS1400E is to be fixed to the face of the masonry with either Ø4mm x 75mm hardened nails, or Ø5.5mm x 50mm wood screws into plugs
- The number of fixings should be in accordance with the design requirements and the lowest fixings should be located within 150mm of the bottom of the strap

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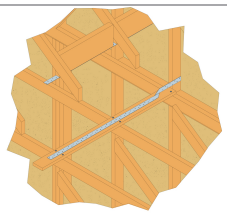
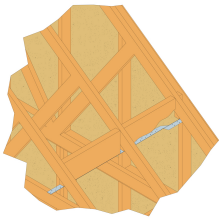
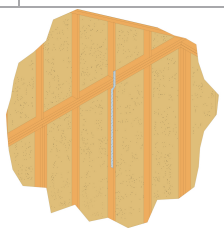


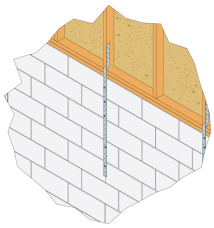
*LTS1400E - Lateral Restraint - Fixing to Bracing Board / Binder*



*LTS1400E - Lateral Restraint - Fixings to Solid Noggins*



*LTS1400E - Vertical Restraint - Timber to Timber Frame*



*LTS1400E - Vertical Restraint - Timber to Masonry*

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