**Technical Sheet**

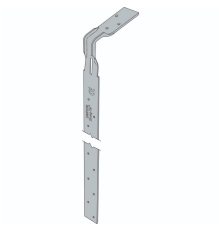
LES
**Light Engineered Restraint Strap**

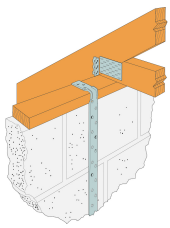
*A direct replacement for traditional restraint straps, the innovative design of these lightweight straps allows ease of handling and installation whilst maintaining the structural strength and robustness of much heavier weight types.*
*The HES (heavy engineered strap) & LES (light engineered strap) replace traditional heavy and light restraint straps in roof and floor construction.*
*Reducing the thickness allows the LES strap to span the bottom chords of trusses and over floor joists without the need for notching.*
*LES straps are less than 40% of the weight, quicker to fit, and overcome many fixing problems associated with traditional heavy straps.*
*The LES is designed for vertical applications e.g. holding down wall plates.*

- Formed edge design gives additional strength on bend
- Quicker to install - can fit over top of floor joists and truss bottom chords
- Easier to course with blockwork
- No need to notch joists
- Complies with BS EN 845-1









*Certificate numbers: HES: RD1160211A LES: RD1160211B*

## Features

### Material

- Pre-galvanised mild steel

**Technical Sheet**

LES
**Light Engineered Restraint Strap**

# Technical Data

## LES Product Dimensions

| Reference | Connector Dimensions | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Other | | Product Dimensions[mm] | | | | Flange B2 | Flange B1 | |
| | Installation Type | Weight[kg] | A[mm] | B1[mm] | B2[mm] | t[mm] | Round | Round | |
| | | | | | | | Ø4.1 | Ø4.1 | Ø6.1 |
| LES06B10 | Vertical | 0.18 | 35 | 500 | 100 | 1.2 | 3 | 8 | 8 |
| LES08B10 | Vertical | 0.241 | 35 | 700 | 100 | 1.2 | 3 | 12 | 12 |
| LES10B10 | Vertical | 0.302 | 35 | 900 | 100 | 1.2 | 3 | 16 | 16 |
| LES12B10 | Vertical | 0.362 | 35 | 1100 | 100 | 1.2 | 3 | 20 | 20 |

## LES Performance Values

| Reference | Masonry capacity | | | |
|---|---|---|---|---|
| | Number of Fasteners | | | Characteristic Capacity[N] |
| | Masonry Wall | Floor Joist or Rafter | Wall Plate | Characteristic Load[kN] |
| LES | 5 - 5.5x50mm Wood Screws | - | 3 - N3.75x30 | 4 |

# Installation

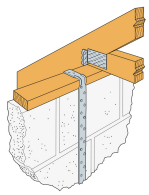
## Installation

### Horizontal strap installation

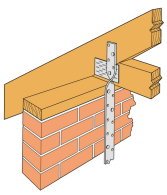
- Approved Document A of the Building Regulations requires lateral restraint to be provided at each floor at a maximum of 2 metre centres
- Restraint straps “perpendicular” to the floor joists are required to be held tight against the masonry and fixed across the first 3 joists
- Restraint straps “parallel” to the floor joists are required to be held tight to the masonry and be at least 1200mm long
- The characteristic tensile strength for horizontal restraint straps should not be less than 8kN

### Vertical strap installation

- Vertical strapping, at least 1 metre in length, should be provided at eaves level to hold down timber wall plates, at intervals not exceeding
  2 metres
- Fix LES or L strap to wall plate with 3 No 3.75 x 30mm square twist nails and to masonry with 5 No 5.5 x 50mm wood screws, plugged and screwed into masonry.
- The lowest fixing should be located within 150mm of the bottom of the vertical strap.
- Where L strap is fixed to truss, install with 3.75 x 30mm square twist nails, quantity depending on required uplift values.



*Vertical Strap - Wall Plate Application*



*Vertical Strap - Twisted L Strap - Truss Application*

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