

# **STRESSLINE** STRUCTURAL BUILDING PRODUCTS

## LINTEL TECHNICAL GUIDE 2016



[www.stressline.net](http://www.stressline.net)

T H E   S O L I D   C H O I C E

1964 **50** 2014

PROUDLY INDEPENDENT



# TECHNICAL – STEEL LINTELS

## MATERIAL SPECIFICATION

Stressline standard galvanised steel lintels are manufactured from DX51D grade steel to BS EN 10346:2006, with a zinc coating type Z600, giving a minimum zinc coating of 600g/m<sup>2</sup> per two sides. All cut edges are treated with corrosion resistant paint. RS and RSC lintels are manufactured from structural steel plate of grade S275 to BS EN 10025-2: 2004.

## INSULATION

Lintels used in external walls are fully insulated with expanded polystyrene, which has an Ozone Depletion Potential (ODP) and Global Warming Potential (GWP) of zero.



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## QUALITY

Stressline products are manufactured to the highest quality, under strict control, and comply with

all relevant British Standards. We are continually assessed by the BSI to ensure our quality assurance systems comply with BS EN ISO 9001: 2008.

## COSHH

Products are considered non-hazardous to health under normal use. Material data sheets are available from our technical department upon request.

## STRUCTURAL PERFORMANCE

The loadings published in the load-span tables were achieved in accordance with BS EN 845-2: 2003 and tested in accordance with BS EN 846-9: 2000. Stated figures represent the Total Serviceable Uniform Distributed Load (UDL) in kN.

'CXHD' and 'CH' type lintels have been tested compositely in accordance with BS EN 846-9: 2000 with the surrounding masonry built in accordance with BS 5628. The structural performance of our lintels is supported by continuous in-house testing.

**Load Ratios are always expressed as inner leaf to outer leaf:**

- 1:1 – lintels supporting masonry only
- 3:1 – lintels supporting masonry and timber floors
- 5:1 – lintels supporting concrete floors
- 19:1 – lintels for eaves applications

## RECOMMENDATIONS FOR INSTALLATION

- Minimum recommended bearing length is 150mm. The lintel should be bedded on mortar and levelled both along the lintel and across its width. Full bricks, blocks or padstones should be used as bearing areas. Do not bear lintels onto cut blocks!
- Prior to installation, the lintel should be examined carefully for any defects or signs of damage.

- All external wall lintels MUST be installed with a flexible damp proof course (DPC) or cavity tray. In the case of cavity walls the cavity tray should extend not less than 50mm beyond the cavity return.
- Inner and outer leaves supported by the lintels should be raised together to avoid excessive eccentricity of loading.
- Masonry must not overhang any flange by more than 25mm.
- Masonry above the lintel should be allowed to cure before applying floor or roof loads.
- Composite lintels (i.e. 'CXHD', 'CH' and 'RSC') should be adequately propped during construction, at maximum centres of 1.2 metres. The props should not be removed until the mortar has cured. Ensure that the composite part of the lintel (channel) is fully filled with well-jointed masonry and allowed to cure.

## Additional recommendations for lintels supporting concrete floor units

- Check that the correct lintel has been installed.
- Avoid shock loading of lintels during the installation of concrete floor units and any sideways loading while being fitted into position. Precast flooring units should be laid on a mortar bed across the whole wall width and should not be dragged over supports.

If you are in doubt as to the structural performance or suitability of a lintel then please contact our Technical department before ordering/installation.



**If in doubt please contact our technical department on**

**01 455 272457**

**or email**

**technical@stressline.net**

The Stressline technical support desk offers free technical advice to stockists, engineers, architects, builders and private individuals from 8.00 a.m. to 5.00 p.m. Monday to Friday.

We offer a free scheduling service providing clear and concise schedules based on your working drawings (plans, elevations, sections, floor/roof layout, etc.). Structural calculations for local authority can be provided upon request to support our specification.

We can design and manufacture 'special' lintels to suit a variety of innovative opening shapes and cavity wall constructions. State of the art production facilities and design expertise enable us to take an architectural idea and turn it into a functioning product.

# TECHNICAL – CONCRETE LINTELS



## STRUCTURAL PERFORMANCE

Stressline prestressed concrete lintels are designed with a concrete strength of 50 N/mm<sup>2</sup> and utilizing strands to BS 5896:2012. Lintels are manufactured to BS EN 845-2:2003, tested to BS EN 846-9:2000, and loadings assessed as per BS 5977-1:1981.

Materials used in the making of Stressline prestressed concrete lintels comply with BS EN 206-1:2000 and BS 8500.

Lintels offer a minimum of ½ hour fire resistance, which can be increased by additional protection (e.g. plasterboard).

The structural performance of our lintels is supported by continuous in-house testing.

## IMPORTANT NOTES

Apart from 140 x 65 and 215 x 65 lintel sections all the other STANDARD lintels are reversible, which means that they can be turned either way around to suit the wall construction. Always check loadings against our load span tables.

In accordance with good practice, HIGH-STRENGTH and FAIR FACED lintels are marked TOP and this surface must be kept at uppermost all times.



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## QUALITY

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British Standards. We are continually assessed by the BSI to ensure our quality assurance systems comply with BS EN ISO 9001: 2008.

## COSHH

Products are considered non-hazardous to health under normal use. Material data sheets are available from our technical department upon request.

## RECOMMENDATIONS FOR INSTALLATION

- The lintel should be bedded on mortar and levelled both along the lintel and across its width. Full bricks, blocks or padstones should be used as bearing areas. Do NOT bear lintels onto cut blocks!
- **Recommended minimum bearings are:**
  - 100mm both ends in structural openings up to 1000mm long
  - 150mm both ends in structural openings over 1000mm long

This does not discharge the installer's responsibility to ensure that the bearing pressures of the masonry are not exceeded. To overcome this, longer bearings may be required or additional padstones and spreaders could be provided under the bearings of the lintel.

- Prior to installation, the lintel should be examined carefully for any defects or signs of damage.
- All external wall lintels MUST be installed with a flexible damp proof course (DPC).
- Masonry must not overhang the lintel by more than 25mm.

## LIFTING AND STACKING

- When using mechanical plant, only 1 layer of units should be lifted at a time and supported at or near ends.
- Units should be handled carefully as they will not withstand heavy blows, dropping or reverse bending.
- Lifting should be carried out with regard to weather conditions, particularly wind, adequate lifting capacity and lengths of chains.
- No lifting should be carried out over work areas.
- Load weight should be checked prior to lifting.
- Stacking should be the right way up on suitable firm, level ground.
- The bearers should be near to the ends and vertically over each other.

## Additional recommendations for lintels supporting concrete floor units

- Check that the correct lintel has been installed.
- Recommended minimum lintel depth is 140mm
- Avoid shock loading of lintels during the installation of concrete floor units and any sideways loading while being fitted into position. Precast flooring units should be laid on a mortar bed across the whole wall width and should not be dragged over supports.

If you are in doubt as to the structural performance or suitability of a lintel then please contact our Technical department before ordering/installation.



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We offer free, clear and concise scheduling service based on your working drawings (plans, elevations, sections, floor/roof layout, etc.). If required, we can schedule and deliver lintels in house plots with an easy referencing system to ensure that the correct lintel is used in the chosen location. Structural calculations for local authority can be provided upon request to support our specification.



# CONTACT US

For more information on our Lintel range contact our sales team now:

**01455 272457**

**email:**

**[technical@stressline.net](mailto:technical@stressline.net)**

**[marketing@stressline.net](mailto:marketing@stressline.net)**

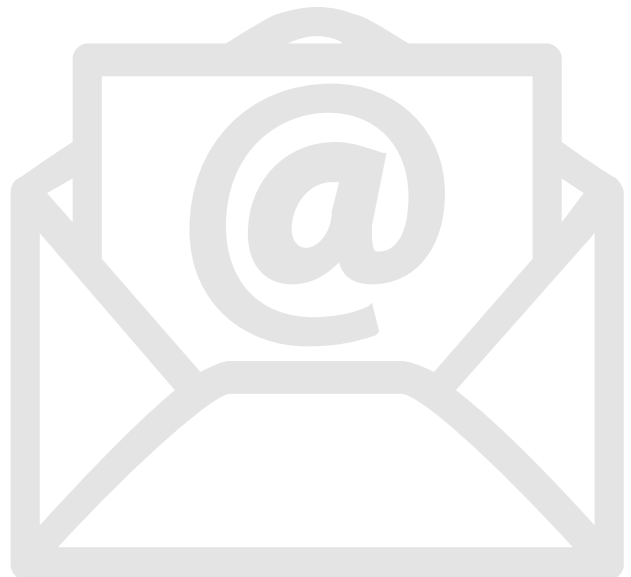
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