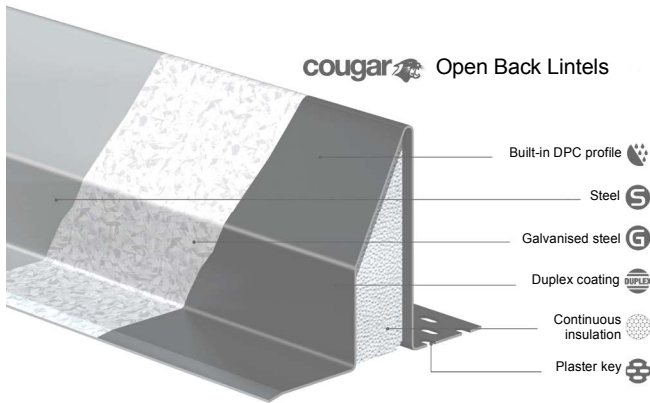


80 - Structural Performance of Lintels

Catnic's technical excellence is internationally recognised

Features of a Catnic Lintel

Catnic lintels offer many benefits to specifiers and builders through a combination of their design, thermal efficiency and corrosion protection. These major features ensure Catnic lintels are widely used and respected throughout the industry.



Duplex Corrosion Protection

Manufactured from hot-dipped galvanised steel to BS EN 10346:2009 of grade DX51D & Z275 with the added protection of a black coloured polyester resin finish.

The protection system complies fully with the chemical and physical test requirements outlined in Table 2 of BS 5977:PART 2:1983 and table C.1 of BS EN 845-2:2003 for lintels effectively having their own built-in Damp Proof Course (DPC).

The famous black coating makes Catnic lintels instantly recognisable and provides an effective barrier against moisture or chemical attack leached from the mortar and masonry.

Built-in Damp Proof Course

Many Catnic Lintels offer a unique profile shape that combine with the unique Duplex Corrosion Protection or Stainless Steel to create an effective barrier that acts as a built-in DPC meaning any water penetrating into the cavity automatically transfers across the sloping face of the lintel and is disposed of externally.

The ease of brick laying directly onto a solid surface eliminates the risk of damage while installing, or any possibility of incorrectly installing a separate DPC membrane.

Integral Plaster Key

Many Catnic lintels come complete with an integral plaster key that avoids the hazards of working with a mesh key. In addition the unique design of the perforated base plates on CH / CX lintels minimise cold bridging without affecting the structural performance.

Continuous Insulation

Many Catnic lintels are supplied with CFC & HCFC free insulation maximising their thermal performance along the full length of the lintel and cannot be dislodged, leaving no potential 'cold spots'.

Structural Performance

Catnic's structural data has been achieved in accordance with the requirements of BS 5977:Part 2:1983 and BS EN 845-2:2003.

Safe Working Loads, as defined by BS 5977:Part 2:1983 for cavity wall lintels refer to uniform distributed loads applied in the inner to outer leaf ratios:

- 1:1 for lintels supporting masonry only
- 3:1 for lintels normally carrying timber floors
- 5:1 for lintels normally carrying concrete floor

<u>effective span</u>	or	<u>ultimate failure</u>
325		1.6 (min)

The CH & CX lintel range refers to uniformly distributed loads in the ratio of 9:1 when non standard or unusual loading conditions occur. A lintel should not exceed a maximum vertical deflection of 0.003 x the effective span (effective span = distance between central of bearings) when subjected to the safe working load (SWL).

Fire Testing

Catnic lintels have been independently tested in accordance with the relevant parts of BS 476, Methods of Determination of Fire Resistance of Loadbearing Elements of Construction. Catnic's CXL and Special lintels are manufactured from structural grade steel plate of grade S275 to BS EN 10025-2:2004 and hot-dip galvanised after manufacture to BS EN ISO1461:1999.

Thermal Performance & Insulation

All Catnic cavity wall lintels contribute to the thermal integrity of the building as they are supplied with an insulated core. The core of the 'Cougar Open Back' style lintels is fully filled with CFC & HCFC free insulation to prevent cold voids.

Also because Catnic Cavity wall lintels are shaped to form built-in damp proof course, partial fill cavity wall insulation can extend down to the top of the lintel.

This means that the cold void normally associated with separate damp proof courses avoided, without the need to install specially shaped insulation batts behind the DPC.

To achieve the thermal benefits of a Cougar Open Back or Classic combined box lintels in accordance with the 'robust details' as referred in the approved documents: Part L1 and Part L2, the window frame should be positioned so that the back face of the frame overlaps the inner face of the outer leaf of the cavity wall by a minimum of 30mm.

The standard range of cavity wall lintels incorporating perforated base plates have been designed to minimise any potential cold bridge path without compromising its structural integrity. The unique slotted base plate design on the underside of the lintels provides an effective conductivity not exceeding 30W/mk which satisfies the requirements of the approved document to support Part L1 & L2 2002 edition.

Quality Assurance

Catnic lintels comply with the technical requirements of:

- National House-Building Council (NHBC)
- Housing Association Property Mutual (HAPM), with appropriate adjustments factors
- Zurich Municipal
- British & European Standards

Catnic lintels are designed to satisfy BS EN 845-2:2003 and are manufactured from pre-galvanised steel in accordance with BS EN 10346:2009 with or without applied polyester coated finish.

The majority of Catnic lintels are covered by BSI Kitemark licence or British Board of Agrément.