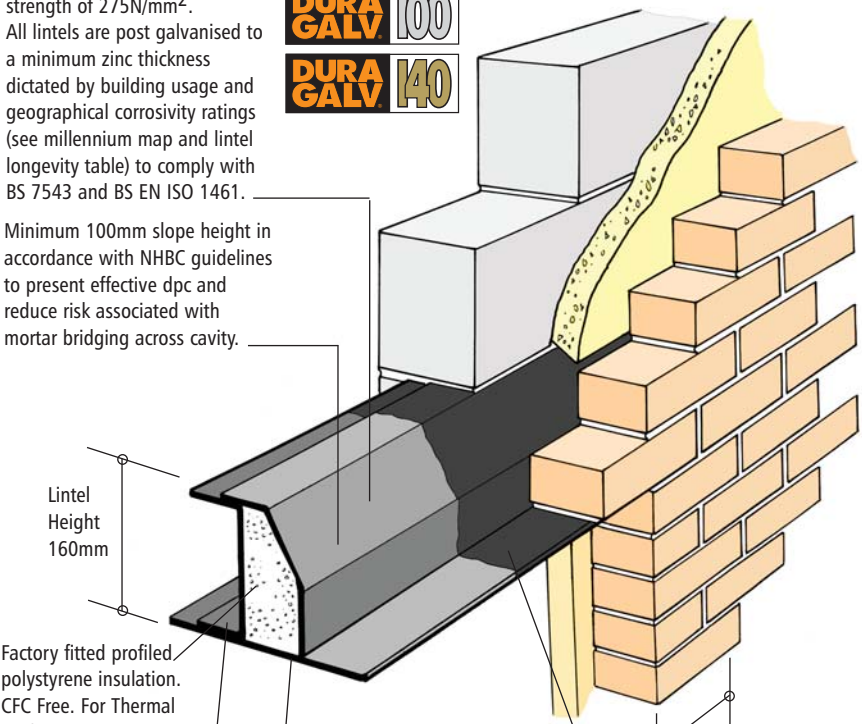
CAVITY WALL
CW/MH MEDIUM TO HEAVY DUTY

Lintels are manufactured from minimum 4mm thick structural steel plate with a minimum yield strength of 275N/mm^2.
All lintels are post galvanised to a minimum zinc thickness dictated by building usage and geographical corrosivity ratings (see millennium map and lintel longevity table) to comply with BS 7543 and BS EN ISO 1461.

DURA GALV 70
DURA GALV 100
DURA GALV 140

Minimum 100mm slope height in accordance with NHBC guidelines to present effective dpc and reduce risk associated with mortar bridging across cavity.



Factory fitted profiled polystyrene insulation. CFC Free. For Thermal performance requirements to parts L1 & L2 building regualtions.

Inner leaf of lintel section to accept a constant 100mm wide masonary infill for maximum load bearing capacity when subject to high load ratios

Cavity widths to lintel profile are tailored to suit specific wall construction to ensure sectional stability under load and reduced thermal transmittance through wall construction.

DUPLEX COATING

Duplex paint system over post galvanised lintel, dictated by building usage and geographical corrosivity ratings (see millennium map and lintel longevity table).

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GENERAL TECHNICAL DETAIL, COMPOSITION AND MANUFACTURE

GENERAL

Introduction. The SUPERLINTEL CW/MH range of lintels, for external cavity wall applications, have a number of outstanding features which contribute to performance and durability characteristics which exceed BSEN 845-2:2003 recommendations.

These Features include:-

- 4mm thick structural steel plate used throughout for rigidity, long life durability and dimensional consistency.
- Optimum protection against corrosion; Lintels are hot-dip galvanised after manufacture.
- Lintels have undergone a testing programme by the Warrington Fire Research Consultancy in accordance with BS 476:Part 20: 1987. The test structure utilised a typical everyday wall construction, with 12mm plaster and skim only, over the inner leaf and blockwork. Full structural integrity was maintained for in excess of 90 minutes.
- End bearings of 150mm as standard for high structural stability.

  Non-standard end bearings can be supplied to order.
- Choice from any cavity widths and flange options to enable 'U' values of less than 0.35W/m^2 K to be attained. Lintels are manufactured to suit the precise cavity and inner block widths for maximum load-bearing capacity and to achieve maximum 'U' values in conjunction with wall construction and hence meet requirements of

  Parts LI & L2 building regulations.
- Mortar keying slots to flanges at bearings.

COMPOSITION AND MANUFACTURE

Lintels are manufactured from minimum 4mm thick steel structural plate with a minimum yield strength of 275N/mm^2.

All lintels are Hot Dip Galvanised after manufacture, tested in compliance with BS EN ISO 1461 for zinc coatings of steel through the controlled inhouse galvanising "DURAGALV" process. Coating thicknesses vary in accordance with the requirements of BS 7543 and local corrosion categories levels.

For "DURAGALV" coatings above 70 microns, I.E: Duragalv 100 and 140, additional controlled processes are employed to ensure the heavier coatings adhere to the "minimum 4mm" specially selected steel plate required to accept these levels of heavy coatings.

To achieve protection for all five corrosion category areas, a further "DUPLEX COATING" paint system is applied to lintels, after galvanising, in the most severe areas of corrosion levels.

LOADING RATIOS, SECTIONAL DETAIL / PROPERTIES

PERFORMANCE

Mechanics. Safe working loads for the CW/MH range of lintels are established by testing based upon the non-destructive test procedures for steel lintels as recommended in BSEN 845-2:2003.

Inner leaf of lintel section is designed to accept a constant 100mm wide masonary infill for maximum load bearing capacity when subjet to high load ratios CW/MH lintels have been tested with high inner leaf loadings at load ratios equal to greater than 1:5.

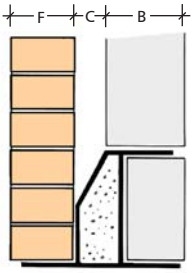
REQUIRED FOR SPECIFYING

F - Facing leaf width

C - Cavity width

B - Inner leaf width

Loading ratio ≥ 1:5



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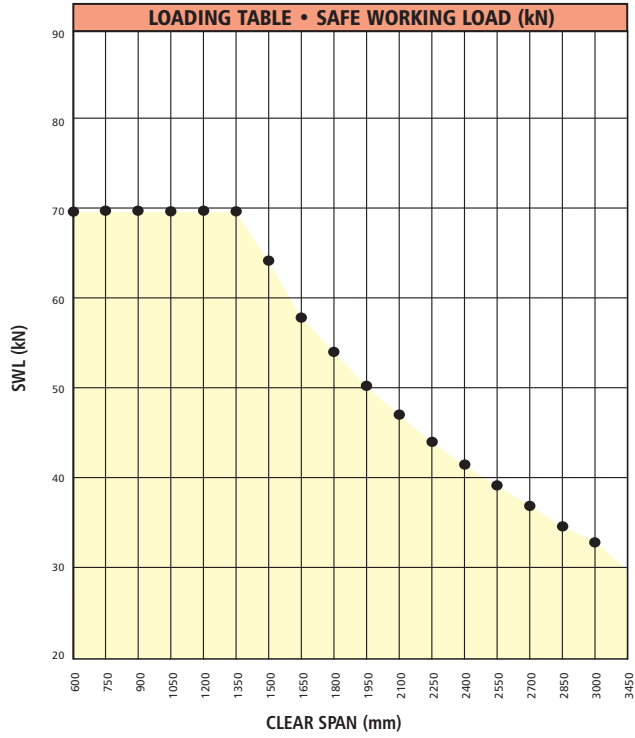
LOADING TABLES



SWL - LOAD RATIO ≥ 1:5			
CLEAR SPAN	(min) END BEARING	OVERALL LENGTH	SWL (kN)
600	150	900	70
750	150	1050	70
900	150	1200	70
1050	150	1350	70
1200	150	1500	70
1350	150	1650	70
1500	150	1800	64
1650	150	1950	59
1800	150	2100	54
1950	150	2250	50
2100	150	2400	47
2250	150	2550	44
2700	150	3000	37
2850	150	3150	35
3000	150	3300	33

SECTIONAL PROPERTIES

EXAMPLE OF SECTIONAL PROPERTIES							
SECTION REFERENCE	FACING LEAF WIDTH (F)	CAVITY WIDTH (C)	INNER LEAF WIDTH (B)	WALL WIDTH	LINTEL WEIGHT/M kg	Ixx cm^4	Zxx cm^3
CW/MH/102/50/100	102mm	50	100mm	252mm	21.20	993	97.2
CW/MH/102/70/100	102mm	70	100mm	272mm	22.47	1033.5	103.06
CW/MH/102/85/100	102mm	85	100mm	287mm	23.42	1111.2	111.72
CW/MH/102/100/100	102mm	100	100mm	302mm	24.36	1188.7	120.42
CW/MH/102/50/140	102mm	50	140mm	292mm	24.25	1201	120
CW/MH/102/70/140	102mm	70	140mm	312mm	25.50	1305	132
CW/MH/102/85/140	102mm	85	140mm	327mm	25.93	1316.8	134.95
CW/MH/102/100/140	102mm	100	140mm	342mm	27.31	14.59	149

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ARCHED LINTEL TYPES

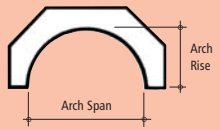
Arched soffit Superlintels can be designed to suit any of the cavity wall lintel sections. there are 6 standard arch profiles shown, each providing full support to masonary arch shapes as drawn.

Steel flange thicknesses to lintel soffits are allowed for within a design to ensure continuity of brick coursing to outer leaf, in particular springing points at each end of lintel spans.

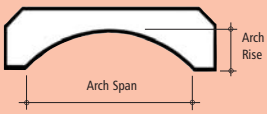
Where overall lintel height exceeds 450mm, webs are cropped to allow wall ties to be continued between both outer and inner leaf.

As with flat soffit Superlintels, the lintel section is dictated by wall construction, load and span. Arched forms may dictate minor changes to lintel section as shown, Arched lintels may require a seperate damp proof course membrane, supplied by others.

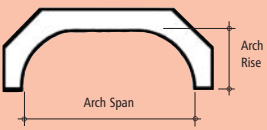
Semi Circular
Arch Type Ref = A1



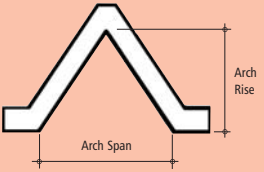
Segmental
Arch Type Ref = A2



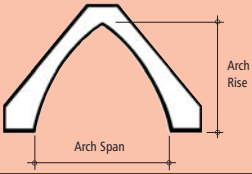
Quadranted
Arch Type Ref = A3



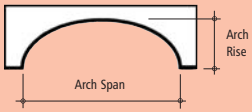
Pitched
Arch Type Ref = A4



Gothic
Arch Type Ref = A5



Elliptical
Arch Type Ref = A6



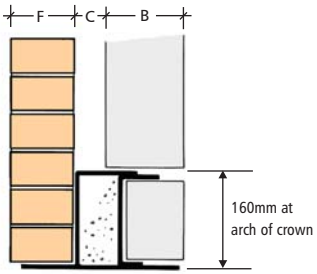
LOADING RATIOS, SECTIONAL DETAILS OF ARCHES

REQUIRED FOR SPECIFYING ARCHES

F - Facing leaf width

C - Cavity width

B - Inner leaf width



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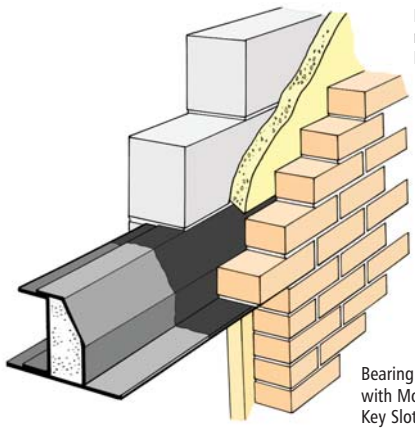
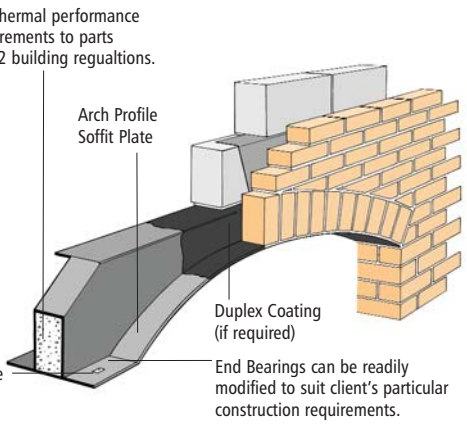
CAVITY WALL
CW/MH MEDIUM TO HEAVY DUTY

TYPICAL INSTALLATION/CONSTRUCTION DETAILS





ACCESSORY SUFFIXES

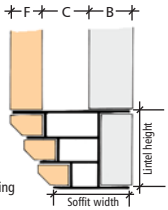
To specify add the following suffixes to the progressional specification code

COL Corbelled Outer Leaf
CS Concealed Soffit detail.
G Stepped outer flange (20 mm step unless stated).
JAF Moulded arch former.
JSF Superarch steel arch former.
M Phospate etch finish to lintel soffit.
OBLC Out of Balance Loading Conditions
SFC Steel frame connection..
SS Stainless steel lintel
Note: Finish coating suffix code i.e. DG140 (Duragalv 140) is not required when specifying stainless steel.
U Metal lathing plaster key.

COL Accessory
Corbelled Outer Leaf

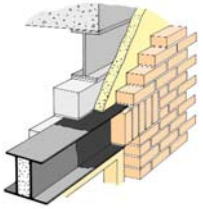
F,C,B required for specifying

Steel lintel support is essential to maintain stability through the height of a cavity wall which includes corbelling to the facework.



OBLC Accessory
Out of Balance Loading Conditions

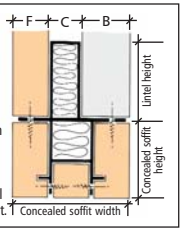
Steel or concrete framed structures can present an out of balance loading ratio due to a minimal inner leaf loading together with a height of facework to outer leaf. Soft joints to u/side of main beams generate the need for specifically designed lintel sections to address possible torsional shear forces due to the nature of the building construction.



CS Accessory
Concealed Soffit detail

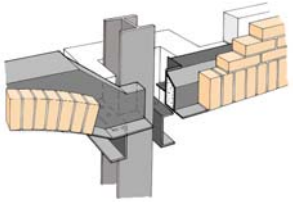
F,C,B required for specifying

Steel lintel support can be combined with concealed soffit undercarriage to present facework to all 3 external sides of soffit.



SFC Accessory
Steel frame connection

Illustration shows one of a large number of solutions where facework is required to pass across an inner column face without brick peirs interrupting below lintel soffit (e.g. continual curtain walling).
Column connections can also be used to resist overturning moments where insufficient bearing resistance can be achieved by conventional build at ends of lintel.



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CAVITY WALL
CW/MH MEDIUM TO HEAVY DUTY

FINISHES

How to use the Lintel Longevity Table

1. Locate your site on the Millennium map (E.g. Leeds - West Yorkshire)
2. Match the corrosion category square colour to the key (Leeds = 3 light blue)
3. From the left hand column clarify required Construction Type / Minimum life (High quality Refurbishment = 60 years)
4. Read along from 60 years to category 3 (Minimum coating to be specified to comply with standards = Duragalv 100)
5. At the end of the specifying code DG100 needs to be added.

Coating suffix specifying codes:
Duragalv70 = DG70
Duragalv100 = DG100
Duragalv140 = DG140
Duraglav140 + Duplex Coating =DG140DC

Fabricated mild steel lintel, Hot-Dip Galvanised after manufacture = **LINTEL LONGEVITY TABLE**

Millennium Map corrosion category 1/2/3/4/5, and the minimum coatings to be specified in those areas, to comply with BS 7543 and BS EN 845-2:2003.

See Millennium Map for your site location or visit www.hdg.org.uk/map/index.htm

	1	2	3	4	5
CONSTRUCTION TYPE / MIN LIFE Retail, Industrial and General Refurb. Minimum Life to Comply With BS 7543 = 30 YEARS	DURA GALV 70	DURA GALV 70	DURA GALV 70	DURA GALV 70	DURA GALV 100
CONSTRUCTION TYPE / MIN LIFE Health, Education, New Housing High Quality Refurb. Minimum Life to Comply With BS 7543 = 60 YEARS	DURA GALV 70	DURA GALV 70	DURA GALV 100	DURA GALV 140	DURA GALV 140 + DUPLEX COATING
CONSTRUCTION TYPE / MIN LIFE Civic and Other High Quality Buildings. Minimum Life to Comply With BS7543 = 120 YEARS	DURA GALV 70	DURA GALV 140	DURA GALV 140 + DUPLEX COATING	DURA GALV 140 + DUPLEX COATING	DURA GALV 140 + DUPLEX COATING

Any lintel profile can be created by our in-house design team with spans ranging from 600mm and rises to suit. Contact our advice team on techadvice@jonesofoswestry.com for online support and free design service.

HOW TO SPECIFY

PROGRESSIONAL EXAMPLE FOR SPECIFYING

Ref DESCRIPTION	MAIN PRODUCT CODE: WALL TYPE	LOADING	FACING LEAF WIDTH (F)	CAVITY WIDTH (C)	INNER LEAF WIDTH (B)	SPAN	THESE REQUIRED WHEN SPECIFYING ARCHES: ARCH TYPE	ARCH RISE	ACCESSORY SUFFIX	FINISHED COATING
DETAIL	(CAVITY WALL)	(MEDIUM TO HEAVY)	(102mm)	(70mm)	(140mm)	(2100mm)	(A2 = SEGMENTAL)	(450mm)	(METAL LATHING KEY)	(SEE LONGEVITY TABLE)
PRODUCT Ref	CW	MH	102	70	140	2100	A2	450	U	DG100

THE ABOVE EQUALS FULL SPECIFYING CODE OF = CW/MH/102/70/140/2100/A2/450/U/DG100

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04/05