

Standards

:IS EN 845-2:2013 Specification for ancillary components for masonry – Part 2: Lintels.

Prestressed Units

:-Minimum characteristic strength of concrete at 28 days– C32/40.
 :-Minimum characteristic strength of concrete at release of prestress– 35 N/Sq mm.
 :-Minimum characteristic strength of 9.3mm diameter strand–93.5kN, stressed to 65.45kN (70%) at release.

Composite Units

Lintel Bearing: As specified, 150mm minimum for spans up to 1.5m, 200mm for spans from 1.5m to 3m.

Lintel Bedding: Lintel should be bedded in mortar at supports. The masonry should be constructed so that the lintels bear onto whole solid blocks wherever possible

Propping during construction: Lintels must be propped at 1.2m centres (max.) until composite masonry or concrete has matured.

Filling of mortar joints: Horizontal and vertical joints in the masonry in the composite lintel area should be fully filled. Shell bedding is not allowed in composite lintels.

Placing of in-situ concrete: Watertight shuttering for the composite lintel should be wetted before placing concrete. The workability of the mix should be such that it can be fully compacted by the vibration techniques available

215mm hollow block wall: Solid blocks must be used within the area of masonry required for composite action.

Joist hangers, dpc etc.: Floor joist, joist hangers, dpc or any other ancillary components must not be allowed to impose a load or interfere with masonry bond within the area of the composite action. Dpc must not be built into the compression zone.

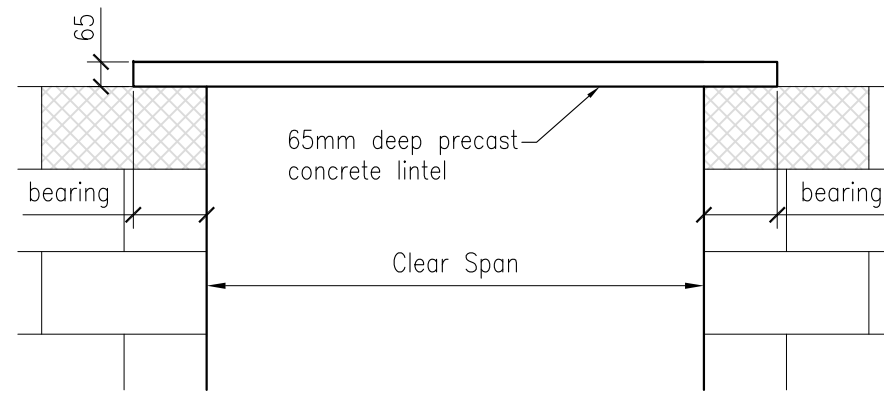
Cavity walls: Cavity walls should be constructed using a separate lintel under each wall leaf to avoid cold bridge which a single lintel would create. Additional wall ties at 225mm vertical centres should be provided within the area of composite action.

Design

:-Design to allow for handling and transport stresses in addition to stresses imposed in the final position of the lintel.

Loading

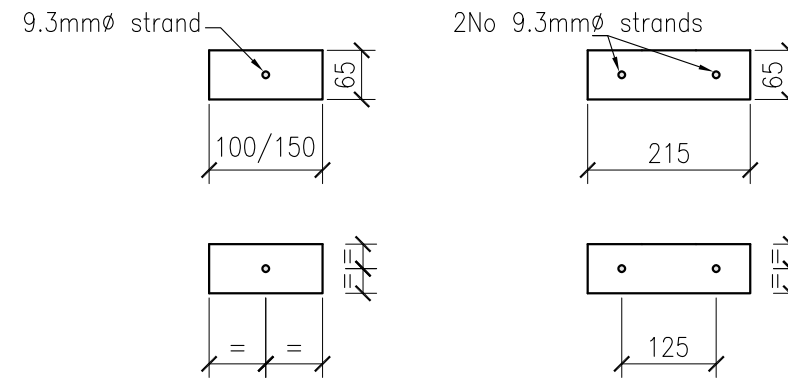
:-Loading should not exceed the relevant values given in the tables A, B & C. All loads in tables are given in Kn/m.



LOAD/SPAN TABLES FOR PRESTRESSED LINTELS

65mm deep (load in Kn/m)
 Prestressing strand is 9.3mmØ,
 Pult = 69Kn,
 Stressing load = 48.3Kn
 Load factor = 1.5 assumed

	Clear Span (m)				
	1.0m	1.2m	1.4m	1.6m	1.8m
100mm wide lintel (1 No. strand)	2.65	1.91	1.43	1.10	0.86
150mm wide lintel (1 No. strand)	3.52	2.53	1.88	1.44	1.13
215mm wide lintel (2 No. strands)	5.59	4.03	3.01	2.31	1.81



Location of 9.3mm Ø reinforcement strand.

A. Composite Lintel: 100mm wide solid masonry on 100x65mm deep prestressed lintel

No. of Courses	Blockwork Depth (mm)	Clear Span (m)					
		0.5	1.0	1.5	2.0	2.5	
1	75	9	4	3	-	-	
2	150	12	6	4	3	2	
3	225	>12	9	6	4	3	
4	300	>12	12	8	5	4	
5	375	>12	>12	10	7	5	
6	450	>12	>12	12	8	6	

B. Composite Lintel: 150mm wide solid masonry on 150x65mm deep prestressed lintel

No. of Courses	Blockwork Depth (mm)	Clear Span (m)					
		0.5	1.0	1.5	2.0	2.5	3.0
1	75	9	5	2	1	-	-
2	150	>12	10	6	4	2	-
3	225	>12	>12	8	6	4	2
4	300	>12	>12	11	8	6	4
5	375	>12	>12	>12	10	7	6
6	450	>12	>12	>12	12	9	7

C. Composite Lintel: 215mm wide solid masonry on 215x65mm deep prestressed lintel

No. of Courses	Blockwork Depth (mm)	Clear Span (m)						
		0.5	1.0	1.5	2.0	2.5	3.0	3.5
1	110	12	11	6	3	1	-	-
2	220	>12	>12	12	8	6	3	1
3	330	>12	>12	>12	12	10	7	5
4	440	>12	>12	>12	>12	12	10	8

• DO NOT SCALE USE FIGURED DIMENSIONS ONLY.
 • ALL DIMENSIONS TO BE CHECKED ON SITE.
 • A.P.C TO BE INFORMED OF ANY DISCREPANCIES BEFORE WORK PROCEEDS.

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Revision:	Description:	Drawn By:	Date:
A	Text amended to comply with I.S. EN 845-2:2013.	Niall	19/03/14
B	Title amended.	Niall	31/05/17
C	Location of reinforcing dimensioned.	Niall	30/11/17
D	Title text updated	Niall	22/02/20

Project: Technical Data Sheet.			Sheet Size: A3
Title: Prestressed Concrete Lintels			Drawing Scale: 1:20
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