

THESE TABLES ARE SPECIFIC TO KILLESHAL PRECAST CONCRETE LINTELS

SPECIFICATION FOR PRECAST CONCRETE LINTELS

Killeshal Precast Concrete can certify their lintels when used as specified in these tables

STANDARDS

1. NHBGS : 2008 House Building Manual
2. BS 8110 : 1985 Reinforced and Prestressed Concrete
3. IS EN 845 : 2003 Specification for Ancillary Components for Masonry Part 2 Lintels
4. IS 326 : 1988 Code of Practice for Structural Concrete
5. IS EN 771 : 2011 Specification for Masonry Units - Part 3: Aggregate Concrete Masonry Units (Dense and Lightweight Aggregates)
6. IS 406 : 1987 Masonry Mortars

PRESTRESSED UNITS

- Minimum characteristic strength of concrete at 28 days- 45 N/Sq mm.
- Minimum characteristic strength of concrete at release of prestress- 30 N/Sq mm.
- Minimum characteristic strength of 7.9 mm diameter strand- 69 kN, stressed to 48.3 kN (70%) at release.
- Minimum characteristic strength of 9.3 mm diameter strand- 93.5 kN, stressed to 65.45 kN (70%) at release.

REINFORCED UNITS

- Minimum characteristic strength of concrete at 28 days-40 N/Sq mm.
- Minimum characteristic strength of reinforcement 460 N/Sq mm (High Tensile) or 250 N/Sq mm (Mild).
- Detailing of reinforcement in accordance with BS 8110, particularly anchorage at bearings.

COMPOSITE UNITS

- Lintel- per specification in either of two previous paragraphs.
- In situ concrete should have a minimum characteristic strength of 30N/Sq mm.
- Solid blocks should have a minimum strength 5N/Sq mm with joints fully filled with mortar.
- Bricks of external quality 15N/Sq mm.
- Mortar should be either 1:1:6 Cement: Lime: Sand or 1:6 Cement: Sand with plasticiser.
- Bedding of blocks onto precast lintel should be with mortar uninterrupted with DPC. Blockwork depth shown on the tables is minimum required.
- Bearing should be a minimum of 150 mm for spans up to 1.5m and 200 mm for spans over 1.5m. Lintels should be bedded on mortar at supports.
- Props should have a maximum spacing of 1.2m and remain in position until construction has matured. Props should be used for spans in excess of 1.2m.

LOADING


- Loading should not exceed the relevant values given in the tables presented in the following pages.
All loads in tables are given Kn/m.

DESIGN


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



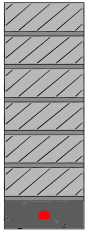
A. Composite Lintel: 100mm wide solid masonry on 100x65mm deep lintel

No. of Courses	Blockwork Depth (mm)	CLEAR SPAN (m)							
		0.5	1	1.5	2	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: 100mm wide concrete on 100x65mm deep lintel

	Concrete Depth (mm)	CLEAR SPAN (m)							
		0.5	1	1.5	2	2.5			
	1	75	12	11	6	4	2		
	2	150	>12	12	10	6	4		
	3	225	>12	>12	12	8	5		
	4	300	>12	>12	>12	10	6		
	5	375	>12	>12	>12	12	9		

C. Composite Lintel: 150mm solid masonry on 150x65mm deep lintel

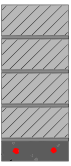
No. of Courses	Blockwork Depth (mm)	CLEAR SPAN (m)						
		0.5	1	1.5	2	2.5	3	
	1	75	9	5	2	1	-	-
	2	150	>12	10	6	4	2	-
	3	225	>12	>12	8	6	4	2
	4	300	>12	>12	11	8	6	4
	5	375	>12	>12	>12	10	7	6
	6	450	>12	>12	>12	12	9	7

D. Composite Lintel: 150mm wide concrete on 150x65mm deep lintel


	Concrete Depth (mm)	CLEAR SPAN (m)						
		0.5	1	1.5	2	2.5	3	
	1	75	12	12	9	6	3	2
	2	150	>12	>12	12	9	6	4
	3	225	>12	>12	>12	12	7	5
	4	300	>12	>12	>12	12	9	6
	5	375	>12	>12	>12	>12	12	8



E. Composite Lintel: 215 mm solid masonry on 215x65mm deep lintel

No. of Courses	Blockwork Depth (mm)	CLEAR SPAN (m)							
		0.5	1	1.5	2	2.5	3	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

F. Composite Lintel: 215mm wide concrete on 215x65mm deep lintel

	Concrete Depth (mm)	CLEAR SPAN (m)							
		0.5	1	1.5	2	2.5	3	3.5	
	1	75	12	12	12	8	5	3	2
	2	150	>12	>12	>12	12	9	6	4
	3	225	>12	>12	>12	>12	10	7	5
	4	300	>12	>12	>12	>12	12	9	6
	5	375	>12	>12	>12	>12	>12	12	9

LOAD SPAN TABLES FOR PRESTRESSED LINTELS

LOAD/SPAN TABLES FOR PRESTRESSED LINTELS, 65mm Deep (Loads in Kn/m)
 (Prestressing Strand is 7.9mm Diameter, Pult = 69 Kn, Stressing Load = 48.3kn)
 (Load Factor = 1.5 assumed)

	CLEAR SPAN							
	1m	1.2m	1.4m	1.6m	1.8m			
100mm wide lintel (1 No. strand)	2.65	1.91	1.43	1.1	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			



LOAD/SPAN TABLES FOR PRESTRESSED LINTELS, 90mm Deep (Loads in Kn/m)
 (Prestressing Strand is 9.3mm Diameter, Pult = 93.5 Kn, Stressing Load = 65.45kn)
 (Load Factor = 1.5 assumed)

	CLEAR SPAN						
	1m	1.2m	1.4m	1.6m	1.8m	2m	2.2m
90mm wide lintel (1 No. Strand)	4.52	3.27	2.46	1.91	1.51	1.22	0.99
140mm wide lintel (1 No. Strand)	6.5	4.7	3.53	2.73	2.16	1.73	1.41



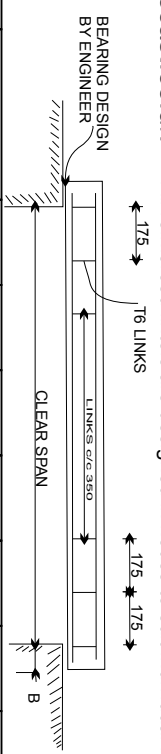


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LOAD SPAN TABLES FOR REINFORCED LINTELS (Cover to Main Reinforcement = 40mm)

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These designs are indicative of what is available.
All reinforced lintels are designed in house to suit individual requirements.



BOTTOM REBAR(mm)	B(mm) MINIMUM
10	200
12	200
16	250
20	300
25	350

LINTEL TYPE	1.5m		2m		2.5m		3m		3.5m		4m		4.5m	
	Load(kN/m)	Rebar	Load(kN/m)	Rebar	Load(kN/m)	Rebar	Load(kN/m)	Rebar	Load(kN/m)	Rebar	Load(kN/m)	Rebar	Load(kN/m)	Rebar
T6 215x100	8.9	T10	12.9	T12	7.5	T12	11.8	T16	10.6	T20	6.8	T20	8.5	T25
		Bottom Rebar		Bottom Rebar		Bottom Rebar		Bottom Rebar		Bottom Rebar		Bottom Rebar		Bottom Rebar
		Top Rebar		Top Rebar		Top Rebar		Top Rebar		Top Rebar		Top Rebar		Top Rebar
T6 215x150	18.1	T10	25.0	T12	14.6	T12	22.5	T16	14.8	19.5	T20	12.3	15.0	8.5
		Bottom Rebar		Bottom Rebar		Bottom Rebar		Bottom Rebar		Bottom Rebar		Bottom Rebar		Bottom Rebar
		Top Rebar		Top Rebar		Top Rebar		Top Rebar		Top Rebar		Top Rebar		Top Rebar
T6 215x215	18.1	T10	25.8	T12	15.0	T12	24.1	15.8	21.6	13.9	17.4	9.3	11.8	7.4
		Bottom Rebar		Bottom Rebar		Bottom Rebar		Bottom Rebar		Bottom Rebar		Bottom Rebar		Bottom Rebar
		Top Rebar		Top Rebar		Top Rebar		Top Rebar		Top Rebar		Top Rebar		Top Rebar
T6 215x300	26.6	T10	38.6	T12	22.5	T12	35.5	23.3	31.8	19.1	23.4	12.6	15.5	9.6
		Bottom Rebar		Bottom Rebar		Bottom Rebar		Bottom Rebar		Bottom Rebar		Bottom Rebar		Bottom Rebar
		Top Rebar		Top Rebar		Top Rebar		Top Rebar		Top Rebar		Top Rebar		Top Rebar
T6 190x90	7.8	T10	10.7	T12	6.2	T12	9.5	6.2	7.4	4.1	5.0	2.7	3.3	1.9
		Bottom Rebar		Bottom Rebar		Bottom Rebar		Bottom Rebar		Bottom Rebar		Bottom Rebar		Bottom Rebar
		Top Rebar		Top Rebar		Top Rebar		Top Rebar		Top Rebar		Top Rebar		Top Rebar
T6 190x140	15.2	T10	20.4	T12	11.9	T12	18.1	11.9	13.4	7.4	9.0	5.0	5.9	3.5
		Bottom Rebar		Bottom Rebar		Bottom Rebar		Bottom Rebar		Bottom Rebar		Bottom Rebar		Bottom Rebar
		Top Rebar		Top Rebar		Top Rebar		Top Rebar		Top Rebar		Top Rebar		Top Rebar
T6 190x190	15.0	T10	21.2	T12	12.3	T12	19.5	12.8	14.9	8.3	10.2	5.5	6.6	4.0
		Bottom Rebar		Bottom Rebar		Bottom Rebar		Bottom Rebar		Bottom Rebar		Bottom Rebar		Bottom Rebar
		Top Rebar		Top Rebar		Top Rebar		Top Rebar		Top Rebar		Top Rebar		Top Rebar



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