CI/SfB Eq4

RONEZ
PART OF THE ISLANDS' FOUNDATIONS

Prestressed Concrete Lintels Product Information

Ronez Prestressed Concrete Lintels.

Ronez Prestressed Concrete Lintels are produced in a comprehensive range of shapes, sizes and lengths; combined with galvanised or stainless steel angle lintels, the standard range satisfies most loadbearing situations. If required, special units can be manufactured to order.

Authority / Materials

- Concrete lintels from Ronez Concrete are manufactured to comply with BS 81 10: Part 1: 1997.
- OPC is in accordance with BS 12: 1989, and aggregates used are in accordance with BS BB2: 1983.
- Reinforcement is 5mm indented steel wire to BS 5896: 1980, having a minimum tensile stress of 1670N/mm^2.

Technical Details

- All Ronez lintels must be installed in accordance with current Building Regulations and good working practice.
- Ronez lintels offer a minimum of half hour fire resistance in accordance with Table 4.3 of BS 81 10: Part 2. Higher ratings can be achieved by the addition of suitable site finishes.
- Ronez's quality-controlled dense concrete mix results in a low water absorption, therefore lintels can be used underground, provided that the ends of the units have a minimum 45mm cover to the reinforcing wires.

  Full design calculations can be provided for planning submissions.

Installation

All Ronez lintels are marked "TOP" and this surface should be laid uppermost. It is very important that lintels are installed at the correct orientation or their design performance may be compromised. If in doubt, or if the TOP mark cannot be seen, the lintel should be built-in so that the stressing wires visible on the end faces are in the lower section of the unit.

Lintels should be installed with a minimum end bearing of 150mm at each end, and should be levelled and fully bedded on bricklaying mortar.

Masonry may overhang the supporting lintel by a maximum of 25mm. Wall ties should be used in accordance with BS 5628 and current Building Regulations.

A flexible damp proof course (cavity tray) must be installed to all external wall lintels. This should extend a minimum of 100mm past the ends of the lintel and should finish flush with the front edge of the external lintel. Weepholes should be provided at 450mm centres. (See paragraph on insulation)

The gap between the window or door head and the soffit of the lintel should be sealed with a suitable flexible compound.

Shock loads from concrete floor units should be avoided. It is advisable to provide temporary support during the laying of floor units, a lintel depth of 145mm is recommended to allow for impact loads.

When storing lintels on site, they should be stacked flat on a firm level surface with "TOP" uppermost. Timber bearers must be positioned near the ends of the lintels and vertically in line.

Insulation

Provision should be made to limit the thermal bridging which occurs around windows, doors and other wall openings. This is necessary to avoid excessive heat loss and the possibility of localised condensation.

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Product Information

Load / Span Tables for concrete lintels

Lintel Size (mm)		Load / Span Table - Maximum Service UDL in kN/m* (No composite action with masonry over). CLEAR SPAN - mm											
Type	**W x D (mm)**	**900**	**1200**	**1500**	**1800**	**2100**	**2400**	**2700**	**3000**	**3300**	**3600**	**3900**	**4200**
T100	100 x 70	8.50	4.87	3.16	2.21	-	-	-	-	-	-	-	-
T70	70 x 100	11.77	6.80	4.42	3.10	2.30	-	-	-	-	-	-	-
F100	100 x 145	40.44	28.80	19.03	13.50	10.07	7.80	6.21	5.07	4.22	3.56	3.05	-
F140	140 x 145	54.93	39.00	25.75	18.26	13.62	10.55	8.41	6.86	5.370	4.82	4.12	3.57
F140/S	100/140 x 145	43.86	35.24	23.26	16.50	12.30	9.53	7.60	6.20	5.15	4.35	3.72	-

* Live Load not exceeding 50% of Total Load.

Summary of lintel properties

Lintel Size (mm)		Average Weight	MR	MuR	Vco*
Type	**W x D (mm)**	**(kg/m)**	**(kN-m)**	**(kN-m)**	**(kN)**
T100	100 x 70	16	0.965	1.394	12.76
T70	70 x 100	16	1.378	1.992	13.07
F100	100 x 145	34	6.09	9.144	27.30
F140	140 x 145	47	8.34	12.36	37.08
F140/S	100/140 x 145	41	7.717	11.56	32.90

*Assumes minimum 100mm bearings. Normal bearing 150mm.

Composite action of 100W x 70D Prestressed lintel with masonry over

A. Brickwork - minimum 20N/mm² bricks. Maximum Service UDL in kN/m*. Clear Span - mm.

No. of Courses	Overall Depth inc. Lintel	900	1200	1500	1800	2100	2400	2700	3000
2	220	8.50	4.87	3.16	2.21	1.39	-	-	-
3	295	12.42	7.35	4.85	3.44	2.56	1.99	-	-
4	370	20.29	12.20	8.06	6.71	4.26	3.30	2.63	-
5	446	20.29	15.22	12.07	8.56	6.38	4.94	3.94	3.21
6	520	20.29	15.22	12.18	10.15	8.70	6.92	5.50	4.50

B. Blockwork - 7N/mm². Maximum Service UDL in kN/m*. Clear Span - mm.

No. of Courses	Overall Depth inc. Lintel	900	1200	1500	1800	2100	2400	2700	3000
1	295	13.38	7.92	5.23	3.71	2.76	2.14	-	-
2	520	20.29	15.22	12.18	10.15	8.70	7.44	6.94	4.84

* Live Load not exceeding 50% of Total Load. Notice: Lintels to be propped at 1.2m centres until masonry has cured.

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