

Prestressed T-Beams (Beam & Block)

For use in the 'Beam & block' flooring system, where a combination of precast prestressed concrete beams and infill blocks are used to produce a high quality, economic ground and upper flooring solution, in residential and other building types.

THE BENEFITS OF T-BEAM FLOORS

Factory Produced

Beams are factory produced to the highest standards using strict quality controls.

Restricted Access Sites

Beam and block flooring is ideal for use on developments with restricted access.

Infill Blocks

Infill blocks may be standard building blocks complying with BS 6073: Part 1 which are widely available. Alternatively, purpose made infill blocks can be used. Blocks should be capable of sustaining a central point load of 3.5kN

Working Platform

Beam and block floors provide an immediate working platform for the following trades.

Holes for Services

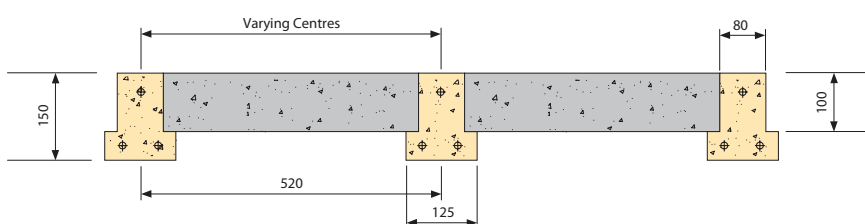
Holes can be formed by the omission of blocks and made good by others using in-situ concrete after the installation of services

Fire Resistance

All slabs have a 1 hour fire resistance. This can however be enhanced up to 4 hours.

Section profiles and depths

A typical example of our section profile is detailed below. Concrete Flooring Systems' t-beam are 150mm deep



Structural Performance

A general guide on performance characteristics can be seen in the table below

Centres (mm)	Self Weight (kN/m ²)	Applied Load (kN/m ²)/Limiting Clear Span (m)					
		1.5kN/m ²	3.0kN/m ²	4.0kN/m ²	5.0kN/m ²	7.5kN/m ²	10.0kN/m ²
520	2.3kN/m ²	4.20	3.65	3.40	3.20	2.75	2.50
295	2.6kN/m ²	5.48	3.65	3.40	3.20	2.75	2.50
350	2.4kN/m ²	5.05	4.45	4.15	3.90	3.40	3.10
125	3.6kN/m ²	6.90	6.90	6.60	6.25	5.60	5.05

Structural performance

Different beam spacings and block densities mean specific combinations are numerous. Generally spans of up to 6m are available depending on the loading conditions.

Design

Beam and block floors are designed in accordance with BS8110:(1997) The structural use of concrete.

Wide Spacings

Blocks can be installed at 440mm wide spacing for loadings over 1.5kN/m² and up to 5.0kN/m² imposed loads, but suitably designed finishes may be required to avoid overloading the blocks

Camber

Prestressed concrete beams will exhibit a degree of upward camber, the extent of which will depend on the span and the amount of prestress in the design