

Suspended Floors

Data Sheet 6
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Introduction

Beam and block floor systems combine precast concrete beams and infill blocks to produce high performance yet economic ground and intermediate floors in housing and other building types.

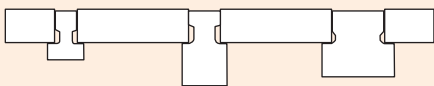
Design and Installation

Typically similar preparation and foundations to those used in traditional construction are used. An immediate dry platform is achieved and a variety of floor finishes can be introduced.

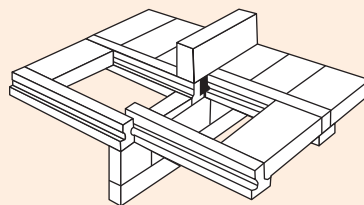
Block Types

Both lightweight and dense aggregate concrete blocks complying with British Standards can be used for beam and block floor construction. Standard size blocks may be used and are readily available from CBA members.

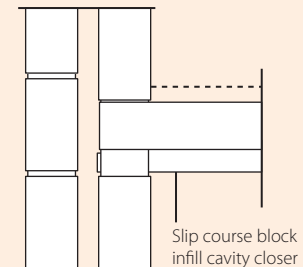
Block Types



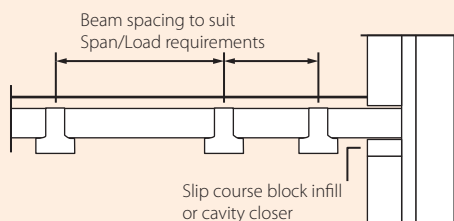
Typical beam sections



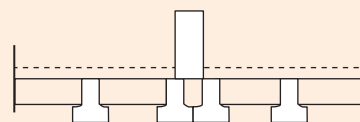
Staggering bearing on internal wall



External wall bearing



Internal edge detail



Multiple beams supporting partitions

Aggregate Concrete Blocks

Suspended Floors

Requirements

A minimum transverse load capacity of 3.5kN on a span of 420mm. Blocks with a compressive strength of less than 7.3N/mm² will require the transverse load capacity to be assessed. CBA members can also supply infill slip or cavity closer blocks to maintain coursing height if required.

Sound Resisting Intermediate Floors

Beam and block intermediate floors (not separating floors) to meet the requirements of Regulation E2 (Building Regulations for England & Wales) should be finished with a screed and blocks should be:

- 100mm dense aggregate blocks (minimum density 1800kg/m³)
- Any other block shown by laboratory test to achieve an R_w of at least 40dB

Ceilings should be plasterboard on timber battens.

Advantages

- **Simplicity** – exactly the same blocks may be used for both walls and floors
- **Cost Saving** – long spans are readily achieved without intermediate support
- **Performance** – requirements for thermal, acoustic and fire resistance are easily achieved
- **Reliability** – eliminates effects of ground heave or shrinkage
- **Versatility** – beam and block systems may be used for ground and intermediate floors
- **Working Platforms** – once installed, the floor may be used as a working platform

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