



**BISON PRECAST**

a Forterra brand

# TECHNICAL GUIDANCE NOTE

Loading of beam & block with blocks during construction - 20 November 2017

## REQUIREMENTS FOR LOADING OUT BEAM & BLOCK FLOORS WITH BLOCKWORK DURING CONSTRUCTION

The following data sheet is intended to provide general advice where packs of blockwork are required to be supported off beam & block floors during construction.

When placing packs of blockwork the following conditions shall be met:

- Only single packs (no multiple stacking)
- Packs to have an edge distance from the wall of 0.5m
- Packs to have 1.5m edge distance between them

The following table identifies the capacity of Forterra beam & block units to support packs of blockwork for two load cases and incorporates data for 72No. Block packs (10kN), 90No. Block packs (12.8kN).

- Load case one is when packs of blockwork are required to be stacked on one end only of the unit.
- Load case two is when packs of blockwork are required to be stacked on both ends of the unit.

The load capacity table is based on the self-weight of the floor system plus the pack/s of blockwork and incorporates a construction load of 1.5kN/m<sup>2</sup>. No allowance has been made for any finishes or any other loads.

Please refer to figure 1 for clarification of the two load cases and conditions relating to the positioning of the packs.

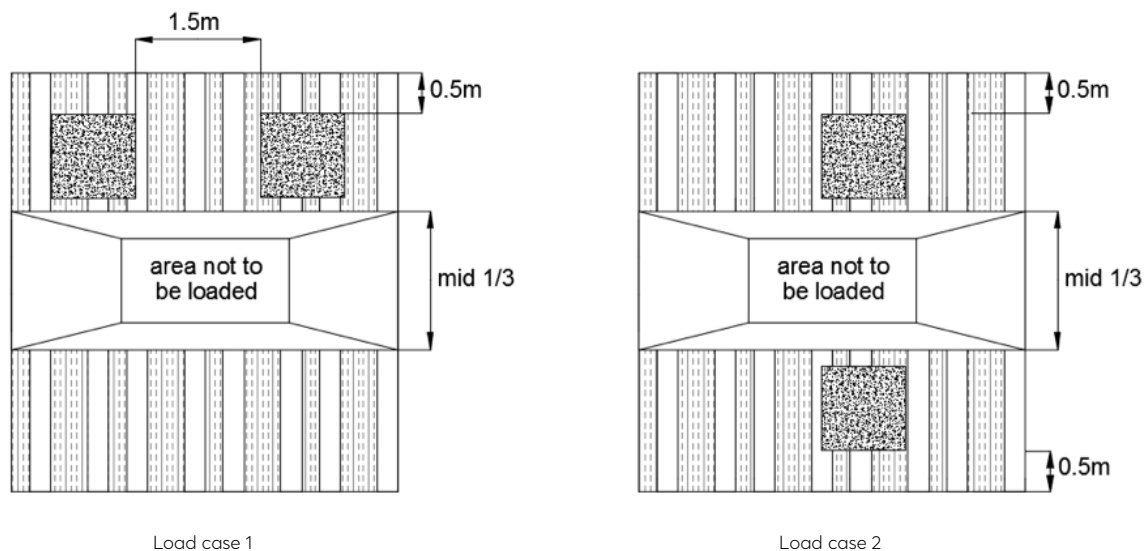


Figure 1 - Locations where packs of blockwork can be placed

If mortar tubs are to be used then these can replace a pack of blocks provided that the weight is equivalent or less.



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Table 1 – maximum spans for 72 pack size

| Load case 1 - 72 blocks - medium dense - 1500kg/m <sup>3</sup> |              |          |     |   |     |   |     |   |     |
|----------------------------------------------------------------|--------------|----------|-----|---|-----|---|-----|---|-----|
| Beam                                                           | Centres (mm) | Span (m) |     |   |     |   |     |   |     |
|                                                                |              | 3        | 3.5 | 4 | 4.5 | 5 | 5.5 | 6 | 6.5 |
| BT02                                                           | 525          | █        | █   |   |     |   |     |   |     |
| BT02                                                           | 413          | █        | █   | █ | █   |   |     |   |     |
| BT03                                                           | 300          | █        | █   | █ | █   | █ | █   |   |     |
| RD09                                                           | 615          | █        | █   | █ | █   | █ | █   | █ |     |
| RD09                                                           | 503          | █        | █   | █ | █   | █ | █   | █ | █   |
| RD09                                                           | 390          | █        | █   | █ | █   | █ | █   | █ | █   |
| T008                                                           | 535          | █        | █   | █ | █   | █ | █   | █ | 7.0 |
| T008                                                           | 422          | █        | █   | █ | █   | █ | █   | █ | 7.5 |
| T008                                                           | 310          | █        | █   | █ | █   | █ | █   | █ | 7.5 |

| Load case 2 - 72 blocks - medium dense - 1500kg/m <sup>3</sup> |              |          |     |   |     |   |     |   |     |
|----------------------------------------------------------------|--------------|----------|-----|---|-----|---|-----|---|-----|
| Beam                                                           | Centres (mm) | Span (m) |     |   |     |   |     |   |     |
|                                                                |              | 3        | 3.5 | 4 | 4.5 | 5 | 5.5 | 6 | 6.5 |
| BT02                                                           | 525          |          |     |   |     |   |     |   |     |
| BT02                                                           | 413          | █        |     |   |     |   |     |   |     |
| BT02                                                           | 300          | █        | █   | █ | █   |   |     |   |     |
| RD09                                                           | 615          | █        | █   | █ | █   |   |     |   |     |
| RD09                                                           | 503          | █        | █   | █ | █   | █ | █   |   |     |
| RD09                                                           | 390          | █        | █   | █ | █   | █ | █   | █ | █   |
| T008                                                           | 535          | █        | █   | █ | █   | █ | █   | █ | 7.5 |
| T008                                                           | 422          | █        | █   | █ | █   | █ | █   | █ | 7.5 |
| T008                                                           | 310          | █        | █   | █ | █   | █ | █   | █ | 7.5 |

Table 2 – maximum spans for 90 pack size

| Load case 1 - 90 blocks - medium dense - 1500kg/m <sup>3</sup> |              |          |     |   |     |   |     |   |     |
|----------------------------------------------------------------|--------------|----------|-----|---|-----|---|-----|---|-----|
| Beam                                                           | Centres (mm) | Span (m) |     |   |     |   |     |   |     |
|                                                                |              | 3        | 3.5 | 4 | 4.5 | 5 | 5.5 | 6 | 6.5 |
| BT02                                                           | 525          | █        |     |   |     |   |     |   |     |
| BT02                                                           | 413          | █        | █   | █ |     |   |     |   |     |
| BT02                                                           | 300          | █        | █   | █ | █   | █ |     |   |     |
| RD09                                                           | 615          | █        | █   | █ | █   |   |     |   |     |
| RD09                                                           | 503          | █        | █   | █ | █   | █ | █   |   |     |
| RD09                                                           | 390          | █        | █   | █ | █   | █ | █   | █ | █   |
| T008                                                           | 535          | █        | █   | █ | █   | █ | █   | █ | 7.0 |
| T008                                                           | 422          | █        | █   | █ | █   | █ | █   | █ | 7.5 |
| T008                                                           | 310          | █        | █   | █ | █   | █ | █   | █ | 7.5 |

| Load case 2 - 90 blocks - medium dense - 1500kg/m <sup>3</sup> |              |          |     |   |     |   |     |   |     |
|----------------------------------------------------------------|--------------|----------|-----|---|-----|---|-----|---|-----|
| Beam                                                           | Centres (mm) | Span (m) |     |   |     |   |     |   |     |
|                                                                |              | 3        | 3.5 | 4 | 4.5 | 5 | 5.5 | 6 | 6.5 |
| BT02                                                           | 525          |          |     |   |     |   |     |   |     |
| BT02                                                           | 413          |          |     |   |     |   |     |   |     |
| BT02                                                           | 300          | █        | █   | █ |     |   |     |   |     |
| RD09                                                           | 615          | █        | █   | █ |     |   |     |   |     |
| RD09                                                           | 503          | █        | █   | █ | █   | █ |     |   |     |
| RD09                                                           | 390          | █        | █   | █ | █   | █ | █   | █ | █   |
| T008                                                           | 535          | █        | █   | █ | █   | █ | █   | █ | 7.0 |
| T008                                                           | 422          | █        | █   | █ | █   | █ | █   | █ | 7.0 |
| T008                                                           | 310          | █        | █   | █ | █   | █ | █   | █ | 7.0 |