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DISCLAIMER
By using the FORTRUSS Product Manual, in part or in whole, the user accepts the following terms and conditions.

The FORTRUSS Product Manual shall be used for the sole purpose of estimating, design or construction of the FORTRUSS System used in residential, commercial or industrial structures.

The information represented herein is to be used as a reference guide only. The user shall check to ensure the information provided in this manual, including updates and amendments, meets local building codes and construction practices by consulting local building officials, construction and design professionals, including any additional requirements.

Beaver Plastics Ltd. reserves the right to make changes to the information provided herein without notice and assumes no liability in connection with the use of this manual including modification, copying or distribution.

The user shall check to ensure that any construction projects utilizing the FORTRUSS Product Manual includes the latest updates/amendments (related to the version of the FORTRUSS Product Manual being used at the time of the construction project). Contact your local Fortruss representative for updates/amendments to the FORTRUSS Product Manual.
3.1 – FORTRUSS COMPONENTS

3.1.1 - BEAM FORMS

STANDARD BEAM

DEEP BEAM & THICK BOTTOM DEEP BEAM
3.1.2 - FORTRUSS PANELS

**PANEL TYPE A**

Type A - Standard

**PANEL TYPE B**

Type B - Standard

**PANEL TYPE C**

Type C - Standard

**PANEL TYPE D**

Type D - Standard

**BLOCKOUT PANELS**

Standard Blockout

Deep Blockout
3.1.3 - TRIPLE CHAIR STIRRUP

*Patent Pending*

TRIPLE STIRRUP CHAIR
See next page for dimensions

Rebar

Beam Form

Triple Chair Stirrup
The Fortruss Triple Chair has been designed to be used with the Fortruss forming system. Sizes are available for each panel and beam combination. The Triple Chair is used to support bottom and top bar reinforcement and maintain proper reinforcement clearance and concrete cover. The top bar when in place also provides support for slab reinforcement.

Designs where shear reinforcement is required the Triple Chair provides this required reinforcement. Each size is made to self space to the code required spacing by butting the base legs together in the beam form. This spacing is max 1/2 the depth of the beam from the top of the slab to the center of the bottom bar. As the beam depths increase the base legs get longer to space the Triple Chairs further apart.

The Triple Chair also provides extended top bar hooks which provide the required mechanical lock between beam and slab when engineered as a composite slab. The spacing of the Triple Chair shall be determined by the project engineer when used for composite slab interlock.

The Triple chair is not to be used where form work is to be removed. The base legs rely on the stay in place form work of the Fortruss system to provide minimum protection from environmental exposure.

The bottom bar chairs meet the code requirements of a hook to contain the bottom bars when tension forces are transferred to the shear reinforcement. The top bar chair does not require a hook as forces in the beam cannot cause upward tension on this bar. However the top legs of the Triple Chair do have hooks to keep the legs from pulling free of the concrete when in tension.

Contact Fortruss for available Triple Chair sizes or additional information.

This product has been designed to meet or exceed requirements of the following codes;

AC1318-08
CSA A23.3-04
AS 3600
The following table lists the various depths achievable using Fortruss, along with corresponding floor sections.

<table>
<thead>
<tr>
<th>BEAM DEPTH, in</th>
<th>FLOOR DEPTH (minus slab thickness), in</th>
<th>BEAM FORM TYPE</th>
<th>FLOOR PANEL TYPE</th>
<th>SEE FIGURE NO.</th>
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<tr>
<td>8.5</td>
<td>11.5</td>
<td>Standard</td>
<td>A</td>
<td>1</td>
</tr>
<tr>
<td>9.875</td>
<td>12.875</td>
<td>Standard</td>
<td>B</td>
<td>2</td>
</tr>
<tr>
<td>12.25</td>
<td>15.25</td>
<td>Standard</td>
<td>C</td>
<td>3</td>
</tr>
<tr>
<td>12.5</td>
<td>17.5</td>
<td>Deep Thick Bottom</td>
<td>A</td>
<td>4</td>
</tr>
<tr>
<td>13.875</td>
<td>18.875</td>
<td>Deep Thick Bottom</td>
<td>B</td>
<td>5</td>
</tr>
<tr>
<td>14.5</td>
<td>17.5</td>
<td>Deep</td>
<td>A</td>
<td>6</td>
</tr>
<tr>
<td>15.875</td>
<td>18.875</td>
<td>Deep</td>
<td>B</td>
<td>7</td>
</tr>
<tr>
<td>16.25</td>
<td>21.25</td>
<td>Deep Thick Bottom</td>
<td>C</td>
<td>8</td>
</tr>
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<td>9</td>
</tr>
<tr>
<td>18.25</td>
<td>21.25</td>
<td>Deep</td>
<td>C</td>
<td>10</td>
</tr>
<tr>
<td>21</td>
<td>26</td>
<td>Deep Thick Bottom</td>
<td>D</td>
<td>11</td>
</tr>
<tr>
<td>23</td>
<td>26</td>
<td>Deep</td>
<td>D</td>
<td>12</td>
</tr>
</tbody>
</table>
Beam Form Type: STANDARD
Floor Panel Type: A

FIGURE 1

Beam Form Type: STANDARD
Floor Panel Type: B

FIGURE 2
Beam Form Type: STANDARD
Floor Panel Type: C

FIGURE 3

Beam Form Type: DEEP THICK BOTTOM
Floor Panel Type: A

FIGURE 4
Beam Form Type: DEEP THICK BOTTOM
Floor Panel Type: B

FIGURE 5

Beam Form Type: DEEP
Floor Panel Type: A

FIGURE 6
Beam Form Type: DEEP
Floor Panel Type: B

FIGURE 7

Beam Form Type: DEEP THICK BOTTOM
Floor Panel Type: C

FIGURE 8
Beam Form Type: STANDARD
Floor Panel Type: D

FIGURE 9

Beam Form Type: DEEP
Floor Panel Type: C

FIGURE 10
Beam Form Type: DEEP THICK BOTTOM
Floor Panel Type: D

FIGURE 11

Beam Form Type: DEEP
Floor Panel Type: D

FIGURE 12
3.3 - INSULATING CONCRETE FORM WALLS

SECTION THROUGH BEAM & FLOOR PANELS
(NON-BEARING END)

SECTION THROUGH BEAM (BEARING END)

SECTION THROUGH FLOOR PANEL (BEARING END)

NOTES:
1. ICF wall panels can be left in place at slab level or removed to make slab integral with wall.
2. Cut into ICF wall panels to accommodate beam depth and beam form. ICF wall panels can remain in place at slab level.
3. Keep webs intact whenever possible.
4. Reinforcement for ICF walls and Fortruss Floor system to follow engineer’s specifications.

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Fortruss. Performance forming with EPS

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3.3 - INSULATING CONCRETE FORM WALLS
CONTINUED

**SECTION THROUGH BEAM & FLOOR PANELS**
(NON-BEARING END)

**SECTION THROUGH BEAM (BEARING END)**

**SECTION THROUGH FLOOR PANEL (BEARING END)**

**NOTES:**
1. Keep webs intact whenever possible.
2. Cut into ICF wall panels to accommodate beam depth and beam form. ICF wall panels can remain in place at slab level.
3. Reinforcement for ICF walls and Fortruss Floor system to follow engineer’s specifications.
SECTION THROUGH BEAM & FLOOR PANELS (NON-BEARING END)

SECTION THROUGH BEAM (BEARING END)

SECTION THROUGH FLOOR PANEL (BEARING END)

NOTES:
1. Keep webs intact whenever possible.
2. Cut into ICF wall panels to accommodate beam depth and beam form. ICF wall panels can remain in place at slab level.
3. Reinforcement for ICF walls and Fortruss Floor system to follow engineer's specifications.
3.4 - CAST-IN-PLACE BEAMS

SECTION THROUGH BEAM & FLOOR PANELS
(NON-BEARING END)

SECTION THROUGH BEAM (BEARING END)

SECTION THROUGH FLOOR PANEL (BEARING END)

NOTES:
1. Reinforcement for ICF walls and Fortruss Floor system to follow engineer’s specifications.
**NOTES:**
1. Reinforcement for ICF walls and Fortruss Floor system to follow engineer's specifications.
3.4 - CAST-IN-PLACE BEAMS CONTINUED

**NOTES:**
1. Reinforcement for ICF walls and Fortruss Floor system to follow engineer's specifications.
NOTES:
1. Reinforcement for ICF walls and Fortruss Floor system to follow engineer's specifications.
3.5 - STEEL BEAM CONTINUED

**SECTION THROUGH BEAM (BEARING END)**

- Slab thickness
- Beam depth
- Structural steel beam w/ nelson stud
- Bottom of Beam Form (beyond)
- Bottom of Floor Panel (beyond)
- 3" or 5" (foam thickness at bottom of beam form)

**SECTION THROUGH FLOOR PANELS (BEARING END)**

- Slab reinforcement
- Slab thickness
- Beam depth
- Structural steel beam w/ nelson stud
- Bottom of Floor Panel
- Bottom of beam form (beyond)
- 3" or 5" (foam thickness at bottom of beam form)

**NOTES:**
1. Reinforcement for ICF walls and Fortruss Floor system to follow engineer’s specifications.
3.5 - STEEL BEAM CONTINUED

NOTES:
1. Reinforcement for ICF walls and Fortruss Floor system to follow engineer’s specifications.
NOTES:
1. Reinforcement for ICF walls and Fortruss Floor system to follow engineer's specifications.
3.10 - ICF INTERIOR WALL (NON-BEARING END)

FLOOR PANEL SUPPORTED ON ICF WALL

FLOOR PANEL BUTTING AGAINST ICF WALL

NOTES:
1. Reinforcement for ICF walls and Fortruss Floor system to follow engineer’s specifications.
3.11 - ICF INTERIOR WALL (BEARING END)

SECTION THROUGH BEAM (BEARING END)

- Beam stirrups, if req’d
- Slab reinforcement. Tie into wall
- Chamfer EPS foam in beam
- Extend metal jacket 1” into concrete wall, and bend bottom of metal jacket down into wall

SECTION THROUGH FLOOR PANEL (BEARING END)

- Slab reinforcement

NOTES:
1. Reinforcement for ICF walls and Fortruss Floor system to follow engineer’s specifications.