3.11 Inverted-Tee Beam Load Tables

### Normalweight Concrete

<table>
<thead>
<tr>
<th>Designation</th>
<th>$h$ in.</th>
<th>$h_1/h_2$ in.</th>
<th>$A$ in.$^2$</th>
<th>$I$ in.$^4$</th>
<th>$y_b$ in.</th>
<th>$S_b$ in.$^3$</th>
<th>$S_t$ in.$^3$</th>
<th>$Wt$ lb/ft</th>
</tr>
</thead>
<tbody>
<tr>
<td>28IT20</td>
<td>20</td>
<td>12/8</td>
<td>368</td>
<td>11,688</td>
<td>7.91</td>
<td>1478</td>
<td>967</td>
<td>383</td>
</tr>
<tr>
<td>28IT24</td>
<td>24</td>
<td>12/12</td>
<td>480</td>
<td>20,275</td>
<td>9.60</td>
<td>2112</td>
<td>1408</td>
<td>500</td>
</tr>
<tr>
<td>28IT28</td>
<td>28</td>
<td>16/12</td>
<td>528</td>
<td>32,076</td>
<td>11.09</td>
<td>2892</td>
<td>1897</td>
<td>550</td>
</tr>
<tr>
<td>28IT32</td>
<td>32</td>
<td>20/12</td>
<td>576</td>
<td>47,872</td>
<td>12.67</td>
<td>3778</td>
<td>2477</td>
<td>600</td>
</tr>
<tr>
<td>28IT36</td>
<td>36</td>
<td>24/12</td>
<td>624</td>
<td>68,101</td>
<td>14.31</td>
<td>4759</td>
<td>3140</td>
<td>650</td>
</tr>
<tr>
<td>28IT40</td>
<td>40</td>
<td>24/16</td>
<td>736</td>
<td>93,503</td>
<td>15.83</td>
<td>5907</td>
<td>3869</td>
<td>767</td>
</tr>
<tr>
<td>28IT44</td>
<td>44</td>
<td>28/16</td>
<td>784</td>
<td>124,437</td>
<td>17.43</td>
<td>7139</td>
<td>4683</td>
<td>817</td>
</tr>
<tr>
<td>28IT48</td>
<td>48</td>
<td>32/16</td>
<td>832</td>
<td>161,424</td>
<td>19.08</td>
<td>8460</td>
<td>5582</td>
<td>867</td>
</tr>
<tr>
<td>28IT52</td>
<td>52</td>
<td>36/16</td>
<td>880</td>
<td>204,884</td>
<td>20.76</td>
<td>9869</td>
<td>6558</td>
<td>917</td>
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<tr>
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<td>56</td>
<td>40/16</td>
<td>928</td>
<td>255,229</td>
<td>22.48</td>
<td>11,354</td>
<td>7614</td>
<td>967</td>
</tr>
<tr>
<td>28IT60</td>
<td>60</td>
<td>44/16</td>
<td>976</td>
<td>312,866</td>
<td>24.23</td>
<td>12,912</td>
<td>8747</td>
<td>1017</td>
</tr>
</tbody>
</table>

1. Check local area for availability of other sizes.
2. Safe loads shown include 50% superimposed dead load and 50% live load.
3. Safe loads can be significantly increased by use of structural composite topping.

### Table of Safe Superimposed Service Load, lb/ft, and Cambers, in.

<table>
<thead>
<tr>
<th>Designation</th>
<th>$h_1/h_2$</th>
<th>$y_s$ (end) in.</th>
<th>$f'_c$ = 5000 psi</th>
<th>$f'_{pu}$ = 270,000 psi</th>
</tr>
</thead>
<tbody>
<tr>
<td>28IT20</td>
<td>12/8</td>
<td>2.44</td>
<td>6510</td>
<td>967</td>
</tr>
<tr>
<td>28IT24</td>
<td>12/12</td>
<td>2.73</td>
<td>9610</td>
<td>967</td>
</tr>
<tr>
<td>28IT28</td>
<td>13</td>
<td>3.08</td>
<td>8350</td>
<td>967</td>
</tr>
<tr>
<td>28IT32</td>
<td>15</td>
<td>3.47</td>
<td>9040</td>
<td>967</td>
</tr>
<tr>
<td>28IT36</td>
<td>16</td>
<td>3.50</td>
<td>9830</td>
<td>967</td>
</tr>
<tr>
<td>28IT40</td>
<td>19</td>
<td>4.21</td>
<td>8630</td>
<td>967</td>
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<tr>
<td>28IT44</td>
<td>20</td>
<td>4.40</td>
<td>9180</td>
<td>967</td>
</tr>
<tr>
<td>28IT48</td>
<td>22</td>
<td>4.55</td>
<td>9710</td>
<td>967</td>
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<tr>
<td>28IT52</td>
<td>24</td>
<td>5.17</td>
<td>9980</td>
<td>967</td>
</tr>
<tr>
<td>28IT56</td>
<td>26</td>
<td>5.23</td>
<td>9300</td>
<td>967</td>
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<td>28IT60</td>
<td>28</td>
<td>5.57</td>
<td>9640</td>
<td>967</td>
</tr>
</tbody>
</table>

Key:
- 8S10 – Safe superimposed service load, lb/ft
- 0.2 – Estimated camber at erection, in.
- 0.1 – Estimated long-time camber, in.

- $f'_c$ = 5000 psi
- $f'_{pu}$ = 270,000 psi
- 1/2-in.-diameter, low-relaxation strand