28" GIRDERS

STANDARD STRAND PATTERNS FOR DRAPED STRANDS (0.5" DIA.)

<table>
<thead>
<tr>
<th>NO. STRANDS</th>
<th>( d_2 ) (Inches)</th>
<th>( P_{\text{init}} \times 10^2 ) (KIPS)</th>
<th>( f (\text{init.}) ) (KIPS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>-0.00</td>
<td>352</td>
<td>2549</td>
</tr>
<tr>
<td>10</td>
<td>-0.13</td>
<td>419</td>
<td>3854</td>
</tr>
<tr>
<td>12</td>
<td>-0.27</td>
<td>527</td>
<td>4164</td>
</tr>
<tr>
<td>14</td>
<td>-0.41</td>
<td>623</td>
<td>4895</td>
</tr>
<tr>
<td>16</td>
<td>-0.55</td>
<td>702</td>
<td>5627</td>
</tr>
</tbody>
</table>

\* MAY REQUIRE DEBONDING AT ENDS, WHICH IS TO BE AVOIDED.

STANDARD ARRANGEMENTS TO RAISE CENTER OF GRAVITY

TO AVOID DRAPING OF 0.5" DIA. STRANDS

(0.5" DIA. STRANDS MAY ALSO BE USED)

ARRANGEMENT AT 6 SPAN - FOR GIRDERS WITH DRAPED 0.5" DIA. STRANDS

PRE-TENSION

\( f (\text{init.}) = f_1 \times 270,000 \times f_2 \)

\( f_1 = 0.75 \times 270,000 \times 202,500 = 310,000 \text{ KIPS} \)

\( f_2 = -13.42 \times \frac{2}{y} \cdot \frac{y}{2} = -0.459 \text{ KIPS} / \text{IN.} \)

\( S = \frac{1}{2} \times (y - y_2) \)

\( A = 312 \text{ SQ. IN.} \)

\( y = 14.58 \text{ IN.} \)

\( y_2 = 13.42 \text{ IN.} \)

\( S = 1,968 \text{ IN.} \)

\( P_{\text{init.}} = 0.1531 \times 202,500 = 31.00 \text{ KIPS} \)

\( P_{\text{init.}} = 0.217 \times 202,500 = 43.94 \text{ KIPS} \)

\( \text{COMPRESSION IS} \)

\( \text{NATURAL} \)

\( \text{S} \)

\( \text{NO. STRANDS} \)

\( \text{PRE-TENSION} \)

\( \text{STANDARD STRAND PATTERNS FOR UNDRAPED STRANDS (0.6" DIA.)} \)

<table>
<thead>
<tr>
<th>NO. STRANDS</th>
<th>( d_2 ) (Inches)</th>
<th>( P_{\text{init}} \times 10^2 ) (KIPS)</th>
<th>( f (\text{init.}) ) (KIPS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>-0.00</td>
<td>246</td>
<td>2231</td>
</tr>
<tr>
<td>10</td>
<td>-0.13</td>
<td>310</td>
<td>2802</td>
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<tr>
<td>12</td>
<td>-0.20</td>
<td>372</td>
<td>3345</td>
</tr>
<tr>
<td>14</td>
<td>-0.34</td>
<td>434</td>
<td>3977</td>
</tr>
<tr>
<td>16</td>
<td>-0.50</td>
<td>500</td>
<td>4609</td>
</tr>
<tr>
<td>18</td>
<td>-0.64</td>
<td>568</td>
<td>5294</td>
</tr>
</tbody>
</table>

\* MAY REQUIRE DEBONDING AT ENDS, WHICH IS TO BE AVOIDED.

STANDARD ARRANGEMENTS TO RAISE CENTER OF GRAVITY

TO AVOID DRAPING OF 0.6" DIA. STRANDS

(0.5" DIA. STRANDS MAY ALSO BE USED)

ARRANGEMENT AT 6 SPAN - FOR GIRDERS WITH DRAPED 0.5" DIA. STRANDS

DESIGNER NOTES

ON THE STRAND PATTERN SHEET PLACE A BOX AROUND EACH STRAND PATTERN THAT APPLIES TO THE STRAND STRUCTURE AND LABEL THE SPAN IT IS USED IN.

28" PRESTRESSED GIRDERS DESIGN DATA

BUREAU OF STRUCTURES

APPROVED: Bill Oliva

DATE: 7-17

STANDARD 19.02