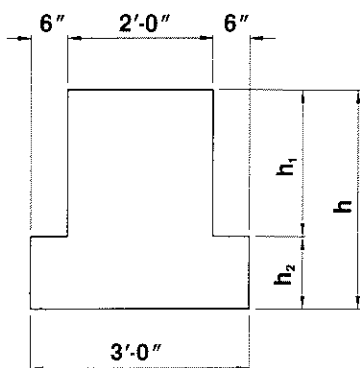


# INVERTED TEE BEAMS



$f'_c = 5,000$  psi  
 $f_{pu} = 270,000$  psi  
 ½ in. diameter  
 low-relaxation strand

Normal Weight Concrete

| Section Properties |            |   |                          |                          |                         |                                       |                                       |             |
|--------------------|------------|---|--------------------------|--------------------------|-------------------------|---------------------------------------|---------------------------------------|-------------|
| Designation        | h<br>(in.) | h <sub>1</sub> /h <sub>2</sub><br>(in.) | A<br>(in. <sup>2</sup> ) | I<br>(in. <sup>4</sup> ) | y <sub>b</sub><br>(in.) | Z <sub>b</sub><br>(in. <sup>3</sup> ) | Z <sub>t</sub><br>(in. <sup>3</sup> ) | wt<br>(plf) |
| 36IT20             | 20         | 12/8                                    | 576                      | 19,392                   | 9.00                    | 2,155                                 | 1,763                                 | 600         |
| 36IT24             | 24         | 12/12                                   | 720                      | 33,523                   | 10.80                   | 3,104                                 | 2,540                                 | 750         |
| 36IT28             | 28         | 16/12                                   | 816                      | 53,222                   | 12.59                   | 4,227                                 | 3,454                                 | 850         |
| 36IT32             | 32         | 20/12                                   | 912                      | 79,390                   | 14.42                   | 5,506                                 | 4,516                                 | 950         |
| 36IT36             | 36         | 24/12                                   | 1,008                    | 112,814                  | 16.29                   | 6,925                                 | 5,724                                 | 1,050       |
| 36IT40             | 40         | 24/16                                   | 1,152                    | 155,136                  | 18.00                   | 8,619                                 | 7,052                                 | 1,200       |
| 36IT44             | 44         | 28/16                                   | 1,248                    | 206,306                  | 19.85                   | 10,393                                | 8,543                                 | 1,300       |
| 36IT48             | 48         | 32/16                                   | 1,344                    | 267,410                  | 21.71                   | 12,317                                | 10,172                                | 1,400       |
| 36IT52             | 52         | 36/16                                   | 1,440                    | 339,226                  | 23.60                   | 14,374                                | 11,945                                | 1,500       |

1. Check local area for availability of other sizes.
2. Safe loads shown include 50% dead load and 50% live load. 800 psi top tension has been allowed, therefore additional top reinforcement is required.
3. Safe loads can be significantly increased by use of structural composite topping.

**Key**

- 8,882 — Safe superimposed service load, plf
- 0.6 — Estimated camber at erection, in.
- 0.2 — Estimated long-time camber, in.

**Table of safe superimposed service load (plf) and cambers**

| Designation | No. Strand | e     | Span, ft. |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |     |  |
|-------------|------------|-------|-----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-----|--|
|             |            |       | 20        | 22    | 24    | 26    | 28    | 30    | 32    | 34    | 36    | 38    | 40    | 42    | 44    | 46    | 48    | 50    |     |  |
| 36IT20      | 18         | 6.91  | 8,882     | 7,236 | 5,985 | 5,011 | 4,238 | 3,614 | 3,104 | 2,681 | 2,327 | 2,027 | 1,771 | 1,553 | 1,366 | 1,202 | 1,059 |       |     |  |
|             |            |       | 0.6       | 0.7   | 0.8   | 0.9   | 1.0   | 1.1   | 1.2   | 1.3   | 1.4   | 1.5   | 1.6   | 1.7   | 1.7   | 1.8   | 1.8   |       |     |  |
|             |            |       | 0.2       | 0.2   | 0.3   | 0.3   | 0.3   | 0.4   | 0.4   | 0.4   | 0.4   | 0.4   | 0.4   | 0.3   | 0.3   | 0.2   | 0.1   |       |     |  |
| 36IT24      | 22         | 7.97  |           | 8,676 | 7,282 | 6,175 | 5,283 | 4,552 | 3,947 | 3,439 | 3,010 | 2,644 | 2,333 | 2,064 | 1,829 | 1,623 | 1,441 |       |     |  |
|             |            |       |           | 0.6   | 0.7   | 0.8   | 0.9   | 1.0   | 1.1   | 1.2   | 1.3   | 1.4   | 1.5   | 1.5   | 1.6   | 1.6   | 1.6   |       |     |  |
|             |            |       |           | 0.2   | 0.3   | 0.3   | 0.3   | 0.3   | 0.3   | 0.3   | 0.3   | 0.3   | 0.3   | 0.3   | 0.3   | 0.3   | 0.3   | 0.2   | 0.1 |  |
| 36IT28      | 26         | 9.43  |           |       |       | 8,615 | 7,395 | 6,397 | 5,569 | 4,876 | 4,289 | 3,788 | 3,357 | 2,983 | 2,657 | 2,374 | 2,126 |       |     |  |
|             |            |       |           |       |       | 0.8   | 0.9   | 1.0   | 1.0   | 1.1   | 1.2   | 1.3   | 1.4   | 1.5   | 1.6   | 1.6   | 1.7   |       |     |  |
|             |            |       |           |       |       | 0.3   | 0.3   | 0.3   | 0.4   | 0.4   | 0.4   | 0.4   | 0.4   | 0.4   | 0.4   | 0.4   | 0.4   | 0.4   | 0.3 |  |
| 36IT32      | 30         | 10.92 |           |       |       |       | 9,874 | 8,563 | 7,477 | 6,567 | 5,796 | 5,139 | 4,572 | 4,082 | 3,654 | 3,278 | 2,947 |       |     |  |
|             |            |       |           |       |       |       | 0.8   | 0.9   | 1.0   | 1.1   | 1.1   | 1.2   | 1.3   | 1.4   | 1.5   | 1.6   | 1.6   |       |     |  |
|             |            |       |           |       |       |       | 0.3   | 0.3   | 0.4   | 0.4   | 0.4   | 0.4   | 0.4   | 0.4   | 0.4   | 0.5   | 0.5   | 0.4   |     |  |
| 36IT36      | 32         | 12.79 |           |       |       |       |       |       | 9,640 | 8,485 | 7,508 | 6,674 | 5,955 | 5,333 | 4,790 | 4,314 | 3,893 |       |     |  |
|             |            |       |           |       |       |       |       |       |       | 0.9   | 1.0   | 1.0   | 1.1   | 1.2   | 1.3   | 1.4   | 1.5   | 1.5   |     |  |
|             |            |       |           |       |       |       |       |       |       | 0.3   | 0.3   | 0.4   | 0.4   | 0.4   | 0.4   | 0.4   | 0.4   | 0.4   | 0.4 |  |
| 36IT40      | 38         | 13.45 |           |       |       |       |       |       |       |       | 9,322 | 8,296 | 7,413 | 6,648 | 5,980 | 5,394 | 4,877 |       |     |  |
|             |            |       |           |       |       |       |       |       |       |       |       | 1.0   | 1.0   | 1.1   | 1.2   | 1.3   | 1.4   | 1.4   |     |  |
|             |            |       |           |       |       |       |       |       |       |       |       | 0.4   | 0.4   | 0.4   | 0.4   | 0.4   | 0.4   | 0.4   | 0.4 |  |
| 36IT44      | 40         | 15.31 |           |       |       |       |       |       |       |       |       |       | 9,146 | 8,218 | 7,408 | 6,698 | 6,071 |       |     |  |
|             |            |       |           |       |       |       |       |       |       |       |       |       |       | 1.0   | 1.1   | 1.2   | 1.3   | 1.3   |     |  |
|             |            |       |           |       |       |       |       |       |       |       |       |       |       | 0.4   | 0.4   | 0.4   | 0.4   | 0.4   | 0.4 |  |
| 36IT48      | 44         | 16.79 |           |       |       |       |       |       |       |       |       |       |       | 9,955 | 8,989 | 8,141 | 7,393 |       |     |  |
|             |            |       |           |       |       |       |       |       |       |       |       |       |       |       | 1.1   | 1.1   | 1.2   | 1.3   |     |  |
|             |            |       |           |       |       |       |       |       |       |       |       |       |       |       | 0.4   | 0.4   | 0.4   | 0.4   | 0.4 |  |
| 36IT52      | 48         | 18.28 |           |       |       |       |       |       |       |       |       |       |       |       |       |       | 9,724 | 8,844 |     |  |
|             |            |       |           |       |       |       |       |       |       |       |       |       |       |       |       |       |       | 1.2   | 1.2 |  |
|             |            |       |           |       |       |       |       |       |       |       |       |       |       |       |       |       |       | 0.4   | 0.4 |  |