# DOUBLE TEE
## TYPE "A" LOAD TABLE

**8DT 14**

**Normal Weight Concrete** **No Topping** **8'-0" x 14" Double Tee**

**Table of safe superimposed live load (psf)**

| Strand Pattern | | Span, ft 18 | 20 | 22 | 24 | 26 | 28 | 30 | 32 | 34 | 36 | 38 | 40 | 42 | 44 | 46 | 48 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 28-S | | 99* | 74* | 55* | 41* | 30* | | | | | | | | | | | |
| 48-S | | | 105* | 81* | 63* | 49* | 37* | 28* | | | | | | | | | |
| 68-S | | | | | 95* | 76* | 61* | 49* | 39* | 31* | 24* | | | | | | |
| 68-D1 | | | | | | | | 94* | 79* | 66* | 55* | 46* | 38* | 32* | 26* | | |
| 88-D1 | | | | | | | | | | | | | 56* | 48* | 41* | 34* | 29 |
| **Dead Load** | $f_t$ | 118 | 146 | 177 | 210 | 247 | 286 | 329 | 374 | 422 | 474 | 528 | 585 | 645 | 708 | 774 | 843 |
| | $f_b$ | −361 | −445 | −539 | −642 | −753 | −873 | −1003 | −1141 | −1288 | −1444 | −1609 | −1783 | −1966 | −2158 | −2358 | −2568 |
| | a | 0.047 | 0.071 | 0.104 | 0.147 | 0.203 | 0.273 | 0.359 | 0.465 | 0.593 | 0.745 | 0.925 | 1.136 | 1.380 | 1.663 | 1.986 | 2.355 |
| **100 plf Live Load** | $f_t$ | 37 | 45 | 55 | 66 | 77 | 90 | 103 | 117 | 132 | 148 | 165 | 183 | 202 | 222 | 242 | 264 |
| | $f_b$ | −113 | −139 | −169 | −201 | −236 | −274 | −314 | −358 | −404 | −453 | −504 | −559 | −616 | −677 | −739 | −805 |
| | a | 0.012 | 0.019 | 0.027 | 0.039 | 0.053 | 0.072 | 0.094 | 0.122 | 0.156 | 0.196 | 0.243 | 0.298 | 0.362 | 0.436 | 0.521 | 0.618 |

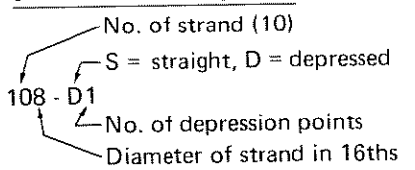
*Capacity governed by ultimate strength  Values below heavy line require release strengths higher than 3500 psi  $f'_c$ = 5000 psi  $f_{pu}$ = 270,000 psi

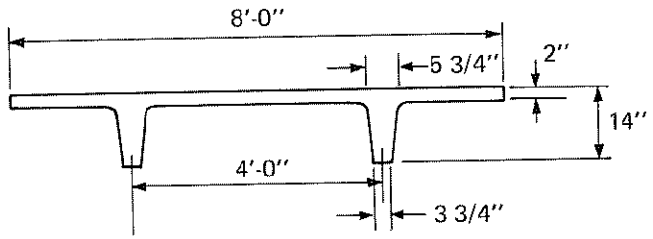
Notation

$f_t$ = top fiber stress, psi (after assumed 22% loss)
$f_b$ = bottom fiber stress, psi (after assumed 22% loss)
a = center deflection, in.
$0.001\,l^2\,\alpha$ = initial center camber, in. (after assumed 10% loss)
$l$ = span (ft)
$M_u$ = ult. moment capacity, in.-kips

| Strand Pattern | Eccentricity in. end | Eccentricity in. ctr | Prestress alone end $f_t$ | Prestress alone end $f_b$ | Prestress alone center $f_t$ | Prestress alone center $f_b$ | $\alpha$ | $M_u$ |
|---|---|---|---|---|---|---|---|---|
| 28-S | 8.51 | 8.51 | −146 | 1043 | −146 | 1043 | 0.493 | 876 |
| 48-S | 4.51 | 4.51 | −16 | 1244 | −16 | 1244 | 0.523 | 1130 |
| 68-S | 3.84 | 3.84 | 44 | 1655 | 44 | 1655 | 0.669 | 1507 |
| 68-D1 | 3.84 | 8.01 | 44 | 1655 | −387 | 2971 | 1.152 | 2343 |
| 88-D1 | 2.51 | 7.76 | 243 | 1646 | −482 | 3856 | 1.394 | 2925 |

Strand Pattern Designation




Section Properties

| | | |
|---|---|---|
| A | = | 306 in.$^2$ |
| I | = | 4508 in.$^4$ |
| $y_b$ | = | 10.51 in. |
| $y_t$ | = | 3.45 in. |
| $Z_b$ | = | 429 in.$^3$ |
| $Z_t$ | = | 1307 in.$^3$ |
| wt | = | 319 plf |
| | | 40 psf |

**Normal Weight Concrete**
**No Topping**
**8'-0" x 14" Double Tee**

**8DT 14**