

# S DECK

9/16" high x 2-1/2" pitch x 30" wide

## SECTION PROPERTIES $f_y = 80$ ksi

| GAGE | t<br>(in) | Wd<br>(psf) | As<br>(in <sup>2</sup> ) | Ip<br>(in <sup>4</sup> ) | In<br>(in <sup>4</sup> ) | Sp<br>(in <sup>3</sup> ) | Sn<br>(in <sup>3</sup> ) |
|------|-----------|-------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 28   | 0.0149    | 0.7         | 0.216                    | 0.011                    | 0.011                    | 0.036                    | 0.037                    |
| 26   | 0.0179    | 0.9         | 0.259                    | 0.013                    | 0.013                    | 0.045                    | 0.045                    |
| 24   | 0.0238    | 1.2         | 0.345                    | 0.017                    | 0.017                    | 0.060                    | 0.059                    |
| 22   | 0.0295    | 1.5         | 0.427                    | 0.021                    | 0.021                    | 0.074                    | 0.074                    |

## MAXIMUM ALLOWABLE UNIFORM TOTAL LOADS / DEFLECTION LIVE LOADS, (psf)

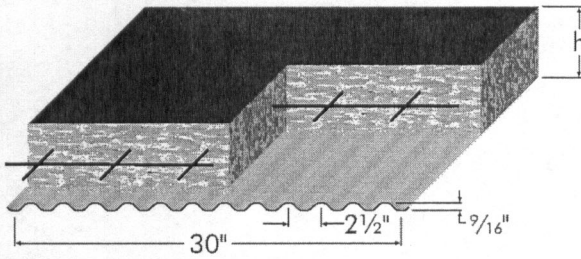
| GAGE   | SINGLE SPAN |       |        |       |       |        |       |       | DOUBLE SPAN |        |       |       |       |        |       |       | TRIPLE SPAN |        |       |       |       |        |       |       |
|--|-------------|-------|--------|-------|-------|--------|-------|-------|-------------|--------|-------|-------|-------|--------|-------|-------|-------------|--------|-------|-------|-------|--------|-------|-------|
|  | 28          |       | 26     |       | 24    |        | 22    |       | 28          |        | 26    |       | 24    |        | 22    |       | 28          |        | 26    |       | 24    |        | 22    |       |
| span   | LRFD        | ASD   | LRFD   | ASD   | LRFD  | ASD    | LRFD  | ASD   | LRFD        | ASD    | LRFD  | ASD   | LRFD  | ASD    | LRFD  | ASD   | LRFD        | ASD    | LRFD  | ASD   | LRFD  | ASD    |       |       |
| <b>2'-0"</b>   | 345         | 218   | 426    | 269   | 567   | 358    | 703   | 444   | 350         | 221    | 423   | 267   | 564   | 356    | 700   | 442   | 437         | 276    | 529   | 334   | 705   | 445    | 875   | 553   |
| L/240  | 89          |       | 106    |       | 141   |        | 175   |       | 213         |        | 256   |       | 341   |        | 422   |       | 167         |        | 200   |       | 266   |        | 330   |       |
| L/180  | 118         |       | 142    |       | 189   |        | 234   |       | 284         |        | 341   |       | 454   |        | 563   |       | 222         |        | 267   |       | 355   |        | 440   |       |
| <b>2'-6"</b>   | 221         | 140   | 273    | 172   | 363   | 229    | 450   | 284   | 224         | 141    | 271   | 171   | 361   | 228    | 448   | 283   | 280         | 177    | 338   | 214   | 451   | 285    | 560   | 354   |
| L/240  | 45          |       | 54     |       | 72    |        | 90    |       | 109         |        | 131   |       | 174   |        | 216   |       | 85          |        | 103   |       | 136   |        | 169   |       |
| L/180  | 60          |       | 73     |       | 97    |        | 120   |       | 146         |        | 175   |       | 232   |        | 288   |       | 114         |        | 137   |       | 182   |        | 225   |       |
| <b>3'-0"</b>   | 154         | 97    | 189    | 120   | 252   | 159    | 312   | 97    | 155         | 98     | 188   | 119   | 251   | 158    | 311   | 197   | 194         | 123    | 235   | 148   | 313   | 198    | 389   | 246   |
| L/240  | 26          |       | 32     |       | 42    |        | 52    |       | 63          |        | 76    |       | 101   |        | 125   |       | 49          |        | 59    |       | 79    |        | 98    |       |
| L/180  | 35          |       | 42     |       | 56    |        | 69    |       | 84          |        | 101   |       | 135   |        | 167   |       | 66          |        | 79    |       | 105   |        | 130   |       |
| <b>3'-6"</b>   | 113         | 71    | 139    | 88    | 185   | 117    | 229   | 145   | 114         | 72     | 138   | 87    | 184   | 116    | 229   | 144   | 143         | 90     | 173   | 109   | 230   | 145    | 286   | 180   |
| L/240  | 17          |       | 20     |       | 26    |        | 33    |       | 40          |        | 48    |       | 64    |        | 79    |       | 31          |        | 37    |       | 50    |        | 62    |       |
| L/180  | 22          |       | 26     |       | 35    |        | 44    |       | 53          |        | 64    |       | 85    |        | 105   |       | 42          |        | 50    |       | 66    |        | 82    |       |
| <b>4'-0"</b>   | 86          | 55    | 107    | 67    | 142   | 89     | 176   | 111   | 87          | 55     | 106   | 67    | 141   | 89     | 175   | 111   | 109         | 69     | 132   | 83    | 176   | 111    | 219   | 138   |
| L/240  | 11          |       | 13     |       | 18    |        | 22    |       | 27          |        | 32    |       | 43    |        | 53    |       | 21          |        | 25    |       | 33    |        | 41    |       |
| L/180  | 15          |       | 18     |       | 24    |        | 29    |       | 36          |        | 43    |       | 57    |        | 70    |       | 28          |        | 33    |       | 44    |        | 55    |       |
| <b>4'-6"</b>   | 68          | 43    | 84     | 53    | 112   | 71     | 139   | 88    | 69          | 44     | 84    | 53    | 111   | 70     | 138   | 87    | 86          | 55     | 104   | 66    | 139   | 88     | 173   | 109   |
| L/240  | 8           |       | 9      |       | 12    |        | 15    |       | 19          |        | 22    |       | 30    |        | 37    |       | 15          |        | 18    |       | 23    |        | 29    |       |
| L/180  | 10          |       | 12     |       | 17    |        | 21    |       | 25          |        | 30    |       | 40    |        | 49    |       | 20          |        | 23    |       | 31    |        | 39    |       |
| <b>5'-0"</b>   | 55          | 35    | 68     | 43    | 91    | 57     | 112   | 71    | 56          | 35     | 68    | 43    | 90    | 57     | 112   | 71    | 70          | 44     | 85    | 53    | 113   | 71     | 140   | 88    |
| L/240  | 6           |       | 7      |       | 9     |        | 11    |       | 14          |        | 16    |       | 22    |        | 27    |       | 11          |        | 13    |       | 17    |        | 21    |       |
| L/180  | 8           |       | 9      |       | 12    |        | 15    |       | 18          |        | 22    |       | 29    |        | 36    |       | 14          |        | 17    |       | 23    |        | 28    |       |
| <b>5'-6"</b>   | 46          | 29    | 56     | 36    | 75    | 47     | 93    | 59    | 46          | 29     | 56    | 35    | 75    | 47     | 93    | 58    | 58          | 37     | 70    | 44    | 93    | 59     | 116   | 73    |
| L/240  | 4           |       | 5      |       | 7     |        | 8     |       | 10          |        | 12    |       | 16    |        | 20    |       | 8           |        | 10    |       | 13    |        | 16    |       |
| L/180  | 6           |       | 7      |       | 9     |        | 11    |       | 14          |        | 16    |       | 22    |        | 27    |       | 11          |        | 13    |       | 17    |        | 21    |       |
| <b>6'-0"</b>   | 38          | 24    | 47     | 30    | 63    | 40     | 78    | 49    | 39          | 25     | 47    | 30    | 63    | 40     | 78    | 49    | 49          | 31     | 59    | 37    | 78    | 49     | 97    | 61    |
| L/240  | 3           |       | 4      |       | 5     |        | 6     |       | 8           |        | 9     |       | 13    |        | 16    |       | 6           |        | 7     |       | 10    |        | 12    |       |
| L/180  | 4           |       | 5      |       | 7     |        | 9     |       | 11          |        | 13    |       | 17    |        | 21    |       | 8           |        | 10    |       | 13    |        | 16    |       |
| <b>MAXIMUM CONSTRUCTION SPANS (center-to-center of supports)</b> |             |       |        |       |       |        |       |       |             |        |       |       |       |        |       |       |             |        |       |       |       |        |       |       |
| span   | 1'-5"       | 1'-7" | 1'-10" | 2'-1" | 1'-9" | 1'-11" | 2'-2" | 2'-5" | 1'-9"       | 1'-11" | 2'-2" | 2'-5" | 1'-9" | 1'-11" | 2'-2" | 2'-5" | 1'-9"       | 1'-11" | 2'-2" | 2'-5" | 1'-9" | 1'-11" | 2'-2" | 2'-5" |
| cantilever   | 6"          | 6"    | 7"     | 8"    | 6"    | 6"     | 7"    | 8"    | 6"          | 6"     | 7"    | 8"    | 6"    | 6"     | 7"    | 8"    | 6"          | 6"     | 7"    | 8"    | 6"    | 6"     | 7"    | 8"    |

| span         | LRFD | ASD | design method  |
|--------------|------|-----|--|
| <b>2'-0"</b> | 345  | 218 | maximum allowable uniform TOTAL (dead+live) load based on stress     |
| L/240        | 89   |     | maximum allowable uniform LIVE load based L/240 roof deck deflection |
| L/180        | 119  |     | maximum allowable uniform LIVE load based L/180 form deck deflection |
|              |      |     | span (center-to-center of supports) and deflection restriction       |

- t** Design thickness of deck
- Wd** Weight of deck (uncoated)
- As** Average area of steel of deck per foot width
- Ip** Moment of inertia of deck for positive bending
- In** Moment of inertia of deck for negative bending
- Sp** Section modulus of deck for positive bending
- Sn** Section modulus of deck for negative bending

- span** Maximum single or multiple span during construction
- cantilever** Maximum cantilever during construction
- fy** 60 ksi (for determining maximum loads)
- f span** 48 ksi (for determining maximum spans)

The section property table is based on AISI's Cold Formed Steel Design Manual, 1996 Edition. Venting is available up to 1-1/2% if specified. The loads and maximum construction spans are based on the Design Manual for Composite Decks, Form Decks, Roof Decks and Cellular Deck Floor Systems with Electrical Distribution, Pub No. 29. The above maximum spans are based on SDI roof deck loading criteria. Deck with light weight insulating fill will have significantly larger spans during construction. Contact CSI for additional information.



# S DECK

9/16" high x 2-1/2" pitch x 30" wide

## SECTION PROPERTIES

fy = 80 ksi

| GAGE | Ip (in^4) | In (in^4) | Sp (in^3) | Sn (in^3) |
|------|-----------|-----------|-----------|-----------|
| 28   | 0.011     | 0.011     | 0.036     | 0.037     |
| 26   | 0.013     | 0.013     | 0.045     | 0.045     |
| 24   | 0.017     | 0.017     | 0.060     | 0.059     |
| 22   | 0.021     | 0.021     | 0.074     | 0.074     |

## 145 PCF NORMAL WEIGHT CONCRETE

| h   | 2.5"     |          |          | 3"       |          |          | 3.5"     |          |          | 4"       |          |          | 4.5"     |          |          | 5"       |          |          |       |       |        |        |       |        |
|---|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-------|-------|--------|--------|-------|--------|
| Wc  | 26.8     |          |          | 32.9     |          |          | 38.9     |          |          | 44.9     |          |          | 51.0     |          |          | 57.0     |          |          |       |       |        |        |       |        |
| Ac  | 26.6     |          |          | 32.6     |          |          | 38.6     |          |          | 44.6     |          |          | 50.6     |          |          | 56.6     |          |          |       |       |        |        |       |        |
| WWF   | 6 x 6 *  | 6 x 6 *  | 6 x 6    | 6 x 6 *  | 6 x 6 *  | 6 x 6 *  | 6 x 6 *  | 6 x 6 *  | 4 x 4    | 6 x 6 *  | 6 x 6 *  | 4 x 4    | 6 x 6 *  | 4 x 4 *  | 4 x 4    | 6 x 6 *  | 4 x 4 *  | 4 x 4    |       |       |        |        |       |        |
| Awwf  | w1.4w1.4 | w2.1w2.1 | w2.9w2.9 | w1.4w1.4 | w2.1w2.1 | w2.9w2.9 | w2.1w2.1 | w2.9w2.9 | w2.9w2.9 | w2.1w2.1 | w2.9w2.9 | w2.9w2.9 | w2.9w2.9 | w2.9w2.9 | w4.0w4.0 | w2.9w2.9 | w2.9w2.9 | w4.0w4.0 |       |       |        |        |       |        |
| Dwwf  | 0.028    | 0.042    | 0.058    | 0.028    | 0.042    | 0.058    | 0.042    | 0.058    | 0.087    | 0.042    | 0.058    | 0.087    | 0.058    | 0.087    | 0.12     | 0.058    | 0.087    | 0.12     |       |       |        |        |       |        |
| L   | 0.135    | 0.162    | 0.192    | 0.135    | 0.162    | 0.192    | 0.162    | 0.192    | 0.192    | 0.162    | 0.192    | 0.192    | 0.192    | 0.192    | 0.225    | 0.192    | 0.192    | 0.225    |       |       |        |        |       |        |
| MAXIMUM ALLOWABLE UNIFORM LIVE LOADS, (psf) |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |       |       |        |        |       |        |
| 2'-0"                                       | 274      | 400      | 400      | 329      | 400      | 400      | 400      | 400      | 400      | 400      | 400      | 400      | 400      | 400      | 400      | 400      | 400      | 400      |       |       |        |        |       |        |
| 2'-6"                                       | 175      | 260      | 354      | 211      | 313      | 400      | 400      | 400      | 400      | 400      | 400      | 400      | 400      | 400      | 400      | 400      | 400      | 400      |       |       |        |        |       |        |
| 3'-0"                                       | 122      | 180      | 246      | 146      | 217      | 297      | 325      | 400      | 400      | 399      | 400      | 400      | 400      | 400      | 400      | 400      | 400      | 400      |       |       |        |        |       |        |
| 3'-6"                                       | 89       | 132      | 181      | 107      | 160      | 218      | 239      | 321      | 400      | 293      | 396      | 400      | 400      | 400      | 400      | 400      | 400      | 400      |       |       |        |        |       |        |
| 4'-0"                                       | 68       | 101      | 138      | 82       | 122      | 167      | 181      | 245      | 363      | 224      | 303      | 400      | 361      | 400      | 400      | 400      | 400      | 400      |       |       |        |        |       |        |
| 4'-6"                                       | 54       | 80       | 109      | 65       | 97       | 132      | 144      | 194      | 287      | 177      | 239      | 355      | 285      | 400      | 400      | 330      | 400      | 400      |       |       |        |        |       |        |
| 5'-0"                                       | 44       | 65       | 88       | 53       | 78       | 107      | 117      | 157      | 232      | 144      | 194      | 288      | 231      | 343      | 400      | 268      | 398      | 400      |       |       |        |        |       |        |
| 5'-6"                                       | 22       | 43       | 66       | 26       | 51       | 80       | 85       | 125      | 200      | 107      | 157      | 251      | 189      | 301      | 400      | 221      | 351      | 400      |       |       |        |        |       |        |
| 6'-0"                                       |          |          |          | 44       | 65       | 88       | 97       | 130      | 192      | 119      | 160      | 238      | 191      | 283      | 381      | 221      | 329      | 400      |       |       |        |        |       |        |
| 6'-6"                                       |          |          |          | 16       | 38       | 61       | 65       | 98       | 160      | 82       | 123      | 201      | 149      | 242      | 339      | 174      | 282      | 397      |       |       |        |        |       |        |
| 7'-0"                                       |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |       |       |        |        |       |        |
| 7'-6"                                       |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          | 119      | 177      | 239      |       |       |        |        |       |        |
| MAXIMUM UNSHORED CONSTRUCTION CLEAR SPANS   |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |       |       |        |        |       |        |
| GAGE  | 28       | 26       | 24       | 22       | 28       | 26       | 24       | 22       | 28       | 26       | 24       | 22       | 28       | 26       | 24       | 22       | 28       | 26       | 24    | 22    |        |        |       |        |
| 1span                                       | 2'-2"    | 2'-7"    | 3'-3"    | 3'-10"   | 2'-1"    | 2'-6"    | 3'-1"    | 3'-7"    | 2'-0"    | 2'-5"    | 2'-11"   | 3'-5"    | 2'-0"    | 2'-4"    | 2'-10"   | 3'-4"    | 1'-11"   | 2'-3"    | 2'-9" | 3'-2" | 1'-10" | 2'-2"  | 2'-8" | 3'-1"  |
| 2span                                       | 2'-10"   | 3'-4"    | 4'-3"    | 5'-0"    | 2'-9"    | 3'-3"    | 4'-1"    | 4'-9"    | 2'-8"    | 3'-1"    | 3'-11"   | 4'-7"    | 2'-7"    | 3'-0"    | 3'-9"    | 4'-5"    | 2'-6"    | 2'-11"   | 3'-8" | 4'-3" | 2'-5"  | 2'-10" | 3'-6" | 4'-1"  |
| 3span                                       | 2'-10"   | 3'-5"    | 4'-3"    | 4'-11"   | 2'-9"    | 3'-3"    | 4'-1"    | 4'-8"    | 2'-8"    | 3'-2"    | 3'-11"   | 4'-5"    | 2'-7"    | 3'-1"    | 3'-10"   | 4'-2"    | 2'-6"    | 3'-0"    | 3'-8" | 4'-0" | 2'-6"  | 2'-11" | 3'-7" | 3'-11" |
| cantilever                                  | 8"       | 9"       | 1'-0"    | 1'-3"    | 8"       | 9"       | 1'-0"    | 1'-3"    | 8"       | 9"       | 1'-0"    | 1'-3"    | 8"       | 9"       | 1'-0"    | 1'-2"    | 7"       | 9"       | 1'-0" | 1'-2" | 7"     | 9"     | 11"   | 1'-2"  |
| cy/100sf                                    | 0.68     |          |          |          | 0.84     |          |          |          | 0.99     |          |          |          | 1.15     |          |          |          | 1.30     |          |       |       | 1.46   |        |       |        |

|       |  |  |
|-------|--|--|
| 2'-0" | 274  | ← maximum allowable live load (psf) with galvanized deck |
| 274   | ← maximum allowable live load (psf) with uncoated deck |  |
| 251   | ← clear span   |  |

- Ip Moment of inertia of deck for positive bending
- In Moment of inertia of deck for negative bending
- Sp Section modulus of deck for positive bending
- Sn Section modulus of deck for negative bending

- h Total height of concrete slab
- Wc Weight of concrete (neglecting deflection)
- Ac Gross area of concrete available to resist shear
- WWF Spacing and size of Weld Wire Fabric
- \* Does not meet ACI requirements (.0018Ac min.)
- Awwf Nominal area of Weld Wire Fabric
- Dwwf Nominal diameter of Weld Wire Fabric
- L Span length; clear distance of deck between supports
- f'c 3000 psi

The section property table is based on AISI's Cold Formed Steel Design Manual, 1996 Edition. Venting is available up to 1-1/2% if specified. The live loads and unshored clear spans are based on SDI's Composite Deck Design Handbook, March 1997, the Design Manual for Composite Decks, Form Decks, Roof Decks and Cellular Deck Floor Systems with Electrical Distribution, Pub No. 29, and ACI 318-95

## 145 PCF NORMAL WEIGHT CONCRETE TABLE