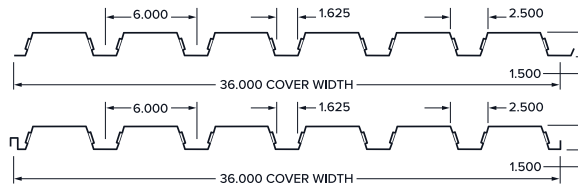


# 1.5" Composite Deck (1.5CD, 1.5CDI)

## LIGHTWEIGHT CONCRETE

### PROPERTIES

| Gage | Thickness (in) | Cover (in) | Weight (psf) |
|------|----------------|------------|--------------|
| 22   | 0.0295         | 36         | 1.63         |
| 20   | 0.0358         |            | 1.98         |
| 18   | 0.0474         |            | 2.62         |
| 16   | 0.0598         |            | 3.30         |



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### ASD

### SECTION PROPERTIES

### DESIGN STRENGTHS (No Concrete Fill)

| Gage | F <sub>y</sub> (ksi) | A <sub>s</sub> (in <sup>2</sup> /ft) | I <sub>D</sub> 1 Span (in <sup>4</sup> /ft) | I <sub>D</sub> 2+ Span (in <sup>4</sup> /ft) | I <sub>p</sub> (in <sup>4</sup> /ft) | I <sub>n</sub> (in <sup>4</sup> /ft) | S <sub>p</sub> (in <sup>3</sup> /ft) | S <sub>n</sub> (in <sup>3</sup> /ft) | Mn,p/Ω (in-lb/ft) | Mn,n/Ω (in-lb/ft) | Vn/Ω (lb/ft) | *Rbe/Ω (lb/ft) | *Rbi/Ω (lb/ft) |
|------|----------------------|--------------------------------------|---------------------------------------------|----------------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|-------------------|-------------------|--------------|----------------|----------------|
| 22   | 40                   | 0.480                                | 0.163                                       | 0.175                                        | 0.157                                | 0.175                                | 0.176                                | 0.183                                | 4215              | 4391              | 2009         | 654            | 1181           |
| 20   | 40                   | 0.582                                | 0.205                                       | 0.213                                        | 0.201                                | 0.213                                | 0.224                                | 0.235                                | 5375              | 5624              | 2428         | 932            | 1696           |
| 18   | 40                   | 0.770                                | 0.280                                       | 0.281                                        | 0.279                                | 0.281                                | 0.304                                | 0.315                                | 7291              | 7553              | 3192         | 1557           | 2858           |
| 16   | 40                   | 0.971                                | 0.355                                       | 0.355                                        | 0.355                                | 0.355                                | 0.390                                | 0.395                                | 9332              | 9454              | 3996         | 2381           | 4396           |

### CONSTRUCTION CLEAR SPANS

| Total Slab Depth (in) | Gage | Concrete Weight (psf) | Maximum Construction Clear Span (ft - in) |         |         |            | Concrete Volume (ft <sup>3</sup> /ft <sup>2</sup> ) |
|-----------------------|------|-----------------------|-------------------------------------------|---------|---------|------------|-----------------------------------------------------|
|                       |      |                       | Single                                    | Double  | Triple  | Cantilever |                                                     |
| 3 1/2                 | 22   | 23                    | 6 - 2                                     | 7 - 3   | 7 - 4   | 2 - 0      | 0.213                                               |
|                       | 20   |                       | 7 - 4                                     | 8 - 5   | 8 - 9   | 2 - 6      |                                                     |
|                       | 18   |                       | 9 - 0                                     | 9 - 9   | 10 - 1  | 3 - 3      |                                                     |
|                       | 16   |                       | 10 - 6                                    | 10 - 10 | 11 - 3  | 3 - 9      |                                                     |
| 4                     | 22   | 28                    | 5 - 10                                    | 6 - 11  | 7 - 0   | 2 - 0      | 0.255                                               |
|                       | 20   |                       | 7 - 0                                     | 8 - 3   | 8 - 4   | 2 - 5      |                                                     |
|                       | 18   |                       | 8 - 7                                     | 9 - 9   | 10 - 1  | 3 - 2      |                                                     |
|                       | 16   |                       | 9 - 11                                    | 10 - 10 | 11 - 3  | 3 - 9      |                                                     |
| 4 1/2                 | 22   | 33                    | 5 - 8                                     | 6 - 8   | 6 - 9   | 1 - 11     | 0.297                                               |
|                       | 20   |                       | 6 - 8                                     | 7 - 10  | 7 - 11  | 2 - 5      |                                                     |
|                       | 18   |                       | 8 - 2                                     | 9 - 6   | 9 - 9   | 3 - 0      |                                                     |
|                       | 16   |                       | 9 - 6                                     | 10 - 7  | 10 - 11 | 3 - 7      |                                                     |
| 5                     | 22   | 37                    | 5 - 5                                     | 6 - 5   | 6 - 6   | 1 - 11     | 0.338                                               |
|                       | 20   |                       | 6 - 5                                     | 7 - 7   | 7 - 8   | 2 - 4      |                                                     |
|                       | 18   |                       | 7 - 10                                    | 9 - 2   | 9 - 4   | 3 - 0      |                                                     |
|                       | 16   |                       | 9 - 1                                     | 10 - 2  | 10 - 6  | 3 - 6      |                                                     |
| 5 1/2                 | 22   | 42                    | 5 - 3                                     | 6 - 2   | 6 - 3   | 1 - 10     | 0.380                                               |
|                       | 20   |                       | 6 - 2                                     | 7 - 3   | 7 - 4   | 2 - 3      |                                                     |
|                       | 18   |                       | 7 - 7                                     | 8 - 10  | 8 - 11  | 2 - 11     |                                                     |
|                       | 16   |                       | 8 - 9                                     | 9 - 10  | 10 - 2  | 3 - 4      |                                                     |
| 6                     | 22   | 46                    | 5 - 1                                     | 6 - 0   | 6 - 1   | 1 - 10     | 0.422                                               |
|                       | 20   |                       | 6 - 0                                     | 7 - 0   | 7 - 1   | 2 - 3      |                                                     |
|                       | 18   |                       | 7 - 4                                     | 8 - 6   | 8 - 8   | 2 - 10     |                                                     |
|                       | 16   |                       | 8 - 6                                     | 9 - 6   | 9 - 10  | 3 - 3      |                                                     |

#### Notes:

- Section properties are calculated in accordance with the AISI S100-16.
- Web crippling design strengths\* and maximum construction spans are based on 1 1/2" for end bearing and 3" for interior bearing. Check web crippling if minimums are not met.
- Maximum construction spans are based on ANSI/SDI C-2017 Standard for Composite Steel Floor Deck and the following construction loading:
  - Deck self-weight and concrete weight plus worst-case of either a 150 lb concentrated load or a 20 psf uniform load; or
  - Deck self-weight plus a 50 psf uniform construction load, whichever controls.
- Concrete weights do not include weight of deck.
- Deck profile has been accounted for in determining concrete volumes. Deck and support deflections have not been included in concrete volumes or weights.
- Cantilever clear spans assume adjacent clear span is at least 3 times longer than the cantilever clear span and no greater than spans shown. Bearing width at perimeter support assumed to be 3" minimum. Contact New Millennium otherwise.

### SLAB DESIGN - ALLOWABLE SUPERIMPOSED UNIFORM LOADS AND MINIMUM SDI SLAB REINFORCEMENT

| Total Slab<br>Depth<br>(in) | Gage | Allowable Superimposed Uniform Load (psf) |       |       |       |       |       |       |        |        |                    | Recommended<br>Welded Wire<br>Fabric | Wire<br>Area<br>(in <sup>2</sup> /ft) |
|-----------------------------|------|-------------------------------------------|-------|-------|-------|-------|-------|-------|--------|--------|--------------------|--------------------------------------|---------------------------------------|
|                             |      | Clear Span (ft - in)                      |       |       |       |       |       |       |        |        |                    |                                      |                                       |
|                             |      | 6 - 0                                     | 6 - 6 | 7 - 0 | 7 - 6 | 8 - 0 | 8 - 6 | 9 - 0 | 10 - 0 | 11 - 0 |                    |                                      |                                       |
| 3 1/2                       | 22   | 284                                       | 238   | 202   | 173   | 149   | 129   | 112   | 86     | 67     | 6x6 -<br>W1.4xW1.4 | 0.028                                |                                       |
|                             | 20   | 339                                       | 285   | 242   | 208   | 179   | 156   | 134   | 98     | 73     |                    |                                      |                                       |
|                             | 18   | 400                                       | 366   | 312   | 262   | 216   | 180   | 152   | 111    | 83     |                    |                                      |                                       |
|                             | 16   | 400                                       | 400   | 359   | 292   | 240   | 200   | 169   | 123    | 92     |                    |                                      |                                       |
|                             | 22   | 359                                       | 302   | 256   | 219   | 189   | 164   | 143   | 110    | 86     | 6x6 -<br>W1.4xW1.4 | 0.028                                |                                       |
|                             | 20   | 400                                       | 361   | 308   | 264   | 228   | 199   | 174   | 135    | 107    |                    |                                      |                                       |
|                             | 18   | 400                                       | 400   | 397   | 342   | 297   | 259   | 225   | 164    | 123    |                    |                                      |                                       |
| 16                          | 400  | 400                                       | 400   | 400   | 355   | 296   | 249   | 182   | 137    |        |                    |                                      |                                       |
| 4 1/2                       | 22   | 400                                       | 368   | 313   | 268   | 232   | 201   | 176   | 136    | 106    | 6x6 -<br>W1.4xW1.4 | 0.028                                |                                       |
|                             | 20   | 400                                       | 400   | 376   | 323   | 280   | 244   | 214   | 167    | 132    |                    |                                      |                                       |
|                             | 18   | 400                                       | 400   | 400   | 400   | 365   | 319   | 281   | 221    | 174    |                    |                                      |                                       |
|                             | 16   | 400                                       | 400   | 400   | 400   | 400   | 395   | 348   | 257    | 193    |                    |                                      |                                       |
| 5                           | 22   | 400                                       | 400   | 372   | 319   | 276   | 240   | 210   | 162    | 127    | 6x6 -<br>W2.0xW2.0 | 0.040                                |                                       |
|                             | 20   | 400                                       | 400   | 400   | 385   | 334   | 291   | 255   | 199    | 158    |                    |                                      |                                       |
|                             | 18   | 400                                       | 400   | 400   | 400   | 400   | 382   | 336   | 265    | 212    |                    |                                      |                                       |
|                             | 16   | 400                                       | 400   | 400   | 400   | 400   | 400   | 400   | 331    | 263    |                    |                                      |                                       |
| 5 1/2                       | 22   | 400                                       | 400   | 400   | 371   | 321   | 279   | 244   | 190    | 149    | 6x6 -<br>W2.0xW2.0 | 0.040                                |                                       |
|                             | 20   | 400                                       | 400   | 400   | 400   | 389   | 339   | 298   | 233    | 185    |                    |                                      |                                       |
|                             | 18   | 400                                       | 400   | 400   | 400   | 400   | 400   | 393   | 310    | 248    |                    |                                      |                                       |
|                             | 16   | 400                                       | 400   | 400   | 400   | 400   | 400   | 400   | 388    | 313    |                    |                                      |                                       |
| 6                           | 22   | 400                                       | 400   | 400   | 400   | 367   | 319   | 280   | 217    | 171    | 4x4 -<br>W1.4xW1.4 | 0.042                                |                                       |
|                             | 20   | 400                                       | 400   | 400   | 400   | 400   | 389   | 341   | 267    | 213    |                    |                                      |                                       |
|                             | 18   | 400                                       | 400   | 400   | 400   | 400   | 400   | 400   | 356    | 286    |                    |                                      |                                       |
|                             | 16   | 400                                       | 400   | 400   | 400   | 400   | 400   | 400   | 400    | 360    |                    |                                      |                                       |

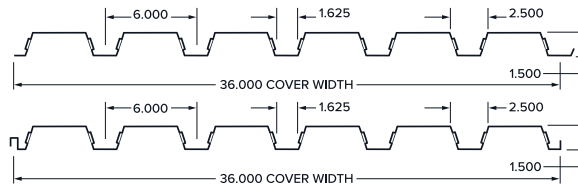
- Notes:**
- Welded wire fabric shown in the table above is the SDI minimum required for temperature and shrinkage (0.00075 x concrete area above top of deck).
  - Allowable Superimposed Uniform Loads shown in table above are based on the following criteria:
    - Unfactored service level loads, determined using SDI design method per ANSI/SDI C-2017 Standard for Composite Steel Floor Deck-Slabs.
    - Single span conditions without negative bending reinforcing over supports.
    - The presence of shear studs have not been considered, design strength may be increased if shear studs are used.
    - Slab deflection is limited to minimum of Clear Span/360 or 1" under service level superimposed loading.

# 1.5" Composite Deck (1.5CD, 1.5CDI)

## NORMAL-WEIGHT CONCRETE

### PROPERTIES

| Gage | Thickness (in) | Cover (in) | Weight (psf) |
|------|----------------|------------|--------------|
| 22   | 0.0295         | 36         | 1.63         |
| 20   | 0.0358         |            | 1.98         |
| 18   | 0.0474         |            | 2.62         |
| 16   | 0.0598         |            | 3.30         |



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### ASD

### SECTION PROPERTIES

### DESIGN STRENGTHS (No Concrete Fill)

| Gage | F <sub>y</sub> (ksi) | A <sub>s</sub> (in <sup>2</sup> /ft) | I <sub>D</sub> 1 Span (in <sup>4</sup> /ft) | I <sub>D</sub> 2+ Span (in <sup>4</sup> /ft) | I <sub>p</sub> (in <sup>4</sup> /ft) | I <sub>n</sub> (in <sup>4</sup> /ft) | S <sub>p</sub> (in <sup>3</sup> /ft) | S <sub>n</sub> (in <sup>3</sup> /ft) | Mn,p/Ω (in-lb/ft) | Mn,n/Ω (in-lb/ft) | Vn/Ω (lb/ft) | *Rbe/Ω (lb/ft) | *Rbi/Ω (lb/ft) |
|------|----------------------|--------------------------------------|---------------------------------------------|----------------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|-------------------|-------------------|--------------|----------------|----------------|
| 22   | 40                   | 0.480                                | 0.163                                       | 0.175                                        | 0.157                                | 0.175                                | 0.176                                | 0.183                                | 4215              | 4391              | 2009         | 654            | 1181           |
| 20   | 40                   | 0.582                                | 0.205                                       | 0.213                                        | 0.201                                | 0.213                                | 0.224                                | 0.235                                | 5375              | 5624              | 2428         | 932            | 1696           |
| 18   | 40                   | 0.770                                | 0.280                                       | 0.281                                        | 0.279                                | 0.281                                | 0.304                                | 0.315                                | 7291              | 7553              | 3192         | 1557           | 2858           |
| 16   | 40                   | 0.971                                | 0.355                                       | 0.355                                        | 0.355                                | 0.355                                | 0.390                                | 0.395                                | 9332              | 9454              | 3996         | 2381           | 4396           |

### CONSTRUCTION CLEAR SPANS

| Total Slab Depth (in) | Gage | Concrete Weight (psf) | Maximum Construction Clear Span (ft - in) |        |        |            | Concrete Volume (ft <sup>3</sup> /ft <sup>2</sup> ) |
|-----------------------|------|-----------------------|-------------------------------------------|--------|--------|------------|-----------------------------------------------------|
|                       |      |                       | Single                                    | Double | Triple | Cantilever |                                                     |
| 3 1/2                 | 22   | 31                    | 5 - 9                                     | 6 - 9  | 6 - 10 | 2 - 0      | 0.213                                               |
|                       | 20   |                       | 6 - 9                                     | 8 - 0  | 8 - 1  | 2 - 5      |                                                     |
|                       | 18   |                       | 8 - 4                                     | 9 - 8  | 9 - 11 | 3 - 1      |                                                     |
|                       | 16   |                       | 9 - 8                                     | 10 - 9 | 11 - 1 | 3 - 8      |                                                     |
| 4                     | 22   | 37                    | 5 - 5                                     | 6 - 5  | 6 - 6  | 1 - 11     | 0.255                                               |
|                       | 20   |                       | 6 - 5                                     | 7 - 7  | 7 - 8  | 2 - 4      |                                                     |
|                       | 18   |                       | 7 - 11                                    | 9 - 2  | 9 - 4  | 3 - 0      |                                                     |
|                       | 16   |                       | 9 - 1                                     | 10 - 2 | 10 - 6 | 3 - 6      |                                                     |
| 4 1/2                 | 22   | 43                    | 5 - 3                                     | 6 - 2  | 6 - 3  | 1 - 10     | 0.297                                               |
|                       | 20   |                       | 6 - 2                                     | 7 - 3  | 7 - 4  | 2 - 3      |                                                     |
|                       | 18   |                       | 7 - 6                                     | 8 - 9  | 8 - 10 | 2 - 10     |                                                     |
|                       | 16   |                       | 8 - 8                                     | 9 - 8  | 10 - 1 | 3 - 4      |                                                     |
| 5                     | 22   | 49                    | 5 - 0                                     | 5 - 11 | 5 - 11 | 1 - 10     | 0.338                                               |
|                       | 20   |                       | 5 - 11                                    | 6 - 11 | 7 - 0  | 2 - 3      |                                                     |
|                       | 18   |                       | 7 - 2                                     | 8 - 4  | 8 - 6  | 2 - 9      |                                                     |
|                       | 16   |                       | 8 - 4                                     | 9 - 3  | 9 - 7  | 3 - 2      |                                                     |
| 5 1/2                 | 22   | 55                    | 4 - 10                                    | 5 - 8  | 5 - 9  | 1 - 9      | 0.380                                               |
|                       | 20   |                       | 5 - 8                                     | 6 - 8  | 6 - 9  | 2 - 2      |                                                     |
|                       | 18   |                       | 6 - 11                                    | 8 - 0  | 8 - 2  | 2 - 8      |                                                     |
|                       | 16   |                       | 8 - 0                                     | 8 - 11 | 9 - 3  | 3 - 1      |                                                     |
| 6                     | 22   | 61                    | 4 - 8                                     | 5 - 6  | 5 - 7  | 1 - 9      | 0.422                                               |
|                       | 20   |                       | 5 - 6                                     | 6 - 5  | 6 - 6  | 2 - 1      |                                                     |
|                       | 18   |                       | 6 - 8                                     | 7 - 9  | 7 - 10 | 2 - 7      |                                                     |
|                       | 16   |                       | 7 - 9                                     | 8 - 7  | 8 - 11 | 2 - 11     |                                                     |

### Notes:

- Section properties are calculated in accordance with the AISI S100-16.
- Web crippling design strengths\* and maximum construction spans are based on 1 1/2" for end bearing and 3" for interior bearing. Check web crippling if minimums are not met.
- Maximum construction spans are based on ANSI/SDI C-2017 Standard for Composite Steel Floor Deck and the following construction loading:
  - Deck self-weight and concrete weight plus worst-case of either a 150 lb concentrated load or a 20 psf uniform load; or
  - Deck self-weight plus a 50 psf uniform construction load, whichever controls.
- Concrete weights do not include weight of deck.
- Deck profile has been accounted for in determining concrete volumes. Deck and support deflections have not been included in concrete volumes or weights.
- Cantilever clear spans assume adjacent clear span is at least 3 times longer than the cantilever clear span and no greater than spans shown. Bearing width at perimeter support assumed to be 3" minimum. Contact New Millennium otherwise.

### SLAB DESIGN - ALLOWABLE SUPERIMPOSED UNIFORM LOADS AND MINIMUM SDI SLAB REINFORCEMENT

| Normal-Weight Concrete<br>( $\gamma_c = 145$ pcf, $f'_c = 3000$ psi, $n = 9$ ) | Total Slab    | Gage | Allowable Superimposed Uniform Load (psf) |       |       |       |       |       |       |        |                    | Recommended<br>Welded Wire<br>Fabric | Wire<br>Area<br>(in <sup>2</sup> /ft) |
|--------------------------------------------------------------------------------|---------------|------|-------------------------------------------|-------|-------|-------|-------|-------|-------|--------|--------------------|--------------------------------------|---------------------------------------|
|                                                                                | Depth<br>(in) |      | Clear Span (ft - in)                      |       |       |       |       |       |       |        |                    |                                      |                                       |
|                                                                                |               |      | 6 - 0                                     | 6 - 6 | 7 - 0 | 7 - 6 | 8 - 0 | 8 - 6 | 9 - 0 | 10 - 0 | 11 - 0             |                                      |                                       |
| 3 1/2                                                                          | 22            | 294  | 246                                       | 207   | 176   | 151   | 130   | 113   | 85    | 65     | 6x6 -<br>W1.4xW1.4 | 0.028                                |                                       |
|                                                                                | 20            | 354  | 297                                       | 251   | 215   | 185   | 160   | 139   | 106   | 82     |                    |                                      |                                       |
|                                                                                | 18            | 400  | 386                                       | 328   | 281   | 243   | 212   | 185   | 139   | 105    |                    |                                      |                                       |
|                                                                                | 16            | 400  | 400                                       | 400   | 349   | 301   | 251   | 212   | 154   | 116    |                    |                                      |                                       |
| 4                                                                              | 22            | 370  | 310                                       | 262   | 223   | 191   | 165   | 143   | 109   | 83     | 6x6 -<br>W1.4xW1.4 | 0.028                                |                                       |
|                                                                                | 20            | 400  | 375                                       | 318   | 272   | 234   | 203   | 177   | 136   | 105    |                    |                                      |                                       |
|                                                                                | 18            | 400  | 400                                       | 400   | 357   | 309   | 269   | 236   | 183   | 145    |                    |                                      |                                       |
|                                                                                | 16            | 400  | 400                                       | 400   | 400   | 385   | 336   | 295   | 229   | 172    |                    |                                      |                                       |
| 4 1/2                                                                          | 22            | 400  | 377                                       | 319   | 272   | 234   | 202   | 175   | 133   | 103    | 6x6 -<br>W1.4xW1.4 | 0.028                                |                                       |
|                                                                                | 20            | 400  | 400                                       | 387   | 331   | 286   | 248   | 216   | 167   | 130    |                    |                                      |                                       |
|                                                                                | 18            | 400  | 400                                       | 400   | 400   | 378   | 330   | 289   | 225   | 178    |                    |                                      |                                       |
|                                                                                | 16            | 400  | 400                                       | 400   | 400   | 400   | 400   | 363   | 285   | 228    |                    |                                      |                                       |
| 5                                                                              | 22            | 400  | 400                                       | 378   | 322   | 277   | 240   | 208   | 159   | 123    | 6x6 -<br>W2.0xW2.0 | 0.040                                |                                       |
|                                                                                | 20            | 400  | 400                                       | 400   | 393   | 339   | 295   | 258   | 199   | 156    |                    |                                      |                                       |
|                                                                                | 18            | 400  | 400                                       | 400   | 400   | 400   | 392   | 344   | 269   | 213    |                    |                                      |                                       |
|                                                                                | 16            | 400  | 400                                       | 400   | 400   | 400   | 400   | 400   | 341   | 273    |                    |                                      |                                       |
| 5 1/2                                                                          | 22            | 400  | 400                                       | 400   | 374   | 322   | 279   | 242   | 186   | 144    | 6x6 -<br>W2.0xW2.0 | 0.040                                |                                       |
|                                                                                | 20            | 400  | 400                                       | 400   | 400   | 394   | 343   | 300   | 232   | 182    |                    |                                      |                                       |
|                                                                                | 18            | 400  | 400                                       | 400   | 400   | 400   | 400   | 400   | 314   | 249    |                    |                                      |                                       |
|                                                                                | 16            | 400  | 400                                       | 400   | 400   | 400   | 400   | 400   | 398   | 319    |                    |                                      |                                       |
| 6                                                                              | 22            | 400  | 400                                       | 400   | 400   | 367   | 318   | 277   | 212   | 165    | 4x4 -<br>W1.4xW1.4 | 0.042                                |                                       |
|                                                                                | 20            | 400  | 400                                       | 400   | 400   | 400   | 392   | 342   | 265   | 208    |                    |                                      |                                       |
|                                                                                | 18            | 400  | 400                                       | 400   | 400   | 400   | 400   | 400   | 360   | 286    |                    |                                      |                                       |
|                                                                                | 16            | 400  | 400                                       | 400   | 400   | 400   | 400   | 400   | 400   | 366    |                    |                                      |                                       |

- Notes:**
- Welded wire fabric shown in the table above is the SDI minimum required for temperature and shrinkage (0.00075 x concrete area above top of deck).
  - Allowable Superimposed Uniform Loads shown in table above are based on the following criteria:
    - Unfactored service level loads, determined using SDI design method per ANSI/SDI C-2017 Standard for Composite Steel Floor Deck-Slabs.
    - Single span conditions without negative bending reinforcing over supports.
    - The presence of shear studs have not been considered, design strength may be increased if shear studs are used.
    - Slab deflection is limited to minimum of Clear Span/360 or 1" under service level superimposed loading.



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# 1.5" Composite Deck Reversed (1.5CDR)

## LIGHTWEIGHT CONCRETE

### PROPERTIES

| Gage | Thickness (in) | Cover (in) | Weight (psf) |
|------|----------------|------------|--------------|
| 22   | 0.0295         | 36         | 1.63         |
| 20   | 0.0358         |            | 1.98         |
| 18   | 0.0474         |            | 2.62         |
| 16   | 0.0598         |            | 3.30         |



ICC-ES APPROVED  
REFER TO ESR-3818

### ASD

### SECTION PROPERTIES

### DESIGN STRENGTHS (No Concrete Fill)

| Gage | F <sub>y</sub> (ksi) | A <sub>s</sub> (in <sup>2</sup> /ft) | I <sub>D</sub> 1 Span (in <sup>4</sup> /ft) | I <sub>D</sub> 2+ Span (in <sup>4</sup> /ft) | I <sub>p</sub> (in <sup>4</sup> /ft) | I <sub>n</sub> (in <sup>4</sup> /ft) | S <sub>p</sub> (in <sup>3</sup> /ft) | S <sub>n</sub> (in <sup>3</sup> /ft) | M <sub>n,p</sub> /Ω (in-lb/ft) | M <sub>n,n</sub> /Ω (in-lb/ft) | V <sub>n</sub> /Ω (lb/ft) | *R <sub>be</sub> /Ω (lb/ft) | *R <sub>bi</sub> /Ω (lb/ft) |
|------|----------------------|--------------------------------------|---------------------------------------------|----------------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------|--------------------------------|---------------------------|-----------------------------|-----------------------------|
| 22   | 40                   | 0.480                                | 0.175                                       | 0.175                                        | 0.175                                | 0.157                                | 0.183                                | 0.176                                | 4391                           | 4215                           | 2009                      | 654                         | 1181                        |
| 20   | 40                   | 0.582                                | 0.213                                       | 0.213                                        | 0.213                                | 0.201                                | 0.235                                | 0.224                                | 5624                           | 5375                           | 2428                      | 932                         | 1696                        |
| 18   | 40                   | 0.770                                | 0.281                                       | 0.281                                        | 0.281                                | 0.279                                | 0.315                                | 0.304                                | 7553                           | 7291                           | 3192                      | 1557                        | 2858                        |
| 16   | 40                   | 0.971                                | 0.355                                       | 0.355                                        | 0.355                                | 0.355                                | 0.395                                | 0.390                                | 9454                           | 9332                           | 3996                      | 2381                        | 4396                        |

### CONSTRUCTION CLEAR SPANS

| Total Slab Depth (in) | Gage | Concrete Weight (psf) | Maximum Construction Clear Span (ft - in) |        |         |            | Concrete Volume (ft <sup>3</sup> /ft <sup>2</sup> ) |
|-----------------------|------|-----------------------|-------------------------------------------|--------|---------|------------|-----------------------------------------------------|
|                       |      |                       | Single                                    | Double | Triple  | Cantilever |                                                     |
| 3 1/2                 | 22   | 27                    | 6 - 1                                     | 7 - 2  | 7 - 3   | 1 - 11     | 0.250                                               |
|                       | 20   |                       | 7 - 3                                     | 8 - 3  | 8 - 7   | 2 - 4      |                                                     |
|                       | 18   |                       | 8 - 10                                    | 9 - 7  | 9 - 11  | 3 - 1      |                                                     |
|                       | 16   |                       | 10 - 0                                    | 10 - 9 | 11 - 2  | 3 - 8      |                                                     |
| 4                     | 22   | 32                    | 5 - 10                                    | 6 - 11 | 7 - 0   | 1 - 11     | 0.291                                               |
|                       | 20   |                       | 6 - 11                                    | 8 - 1  | 8 - 3   | 2 - 4      |                                                     |
|                       | 18   |                       | 8 - 5                                     | 9 - 5  | 9 - 9   | 3 - 0      |                                                     |
|                       | 16   |                       | 9 - 6                                     | 10 - 7 | 10 - 11 | 3 - 7      |                                                     |
| 4 1/2                 | 22   | 37                    | 5 - 7                                     | 6 - 8  | 6 - 8   | 1 - 10     | 0.333                                               |
|                       | 20   |                       | 6 - 8                                     | 7 - 9  | 7 - 11  | 2 - 3      |                                                     |
|                       | 18   |                       | 8 - 1                                     | 9 - 0  | 9 - 4   | 2 - 11     |                                                     |
|                       | 16   |                       | 9 - 2                                     | 10 - 2 | 10 - 6  | 3 - 6      |                                                     |
| 5                     | 22   | 41                    | 5 - 5                                     | 6 - 5  | 6 - 6   | 1 - 10     | 0.375                                               |
|                       | 20   |                       | 6 - 5                                     | 7 - 6  | 7 - 8   | 2 - 3      |                                                     |
|                       | 18   |                       | 7 - 9                                     | 8 - 8  | 9 - 0   | 2 - 10     |                                                     |
|                       | 16   |                       | 8 - 10                                    | 9 - 9  | 10 - 1  | 3 - 4      |                                                     |
| 5 1/2                 | 22   | 46                    | 5 - 3                                     | 6 - 2  | 6 - 3   | 1 - 9      | 0.416                                               |
|                       | 20   |                       | 6 - 3                                     | 7 - 3  | 7 - 4   | 2 - 2      |                                                     |
|                       | 18   |                       | 7 - 6                                     | 8 - 5  | 8 - 8   | 2 - 9      |                                                     |
|                       | 16   |                       | 8 - 6                                     | 9 - 5  | 9 - 9   | 3 - 3      |                                                     |
| 6                     | 22   | 50                    | 5 - 1                                     | 6 - 0  | 6 - 1   | 1 - 9      | 0.458                                               |
|                       | 20   |                       | 6 - 0                                     | 7 - 0  | 7 - 2   | 2 - 2      |                                                     |
|                       | 18   |                       | 7 - 3                                     | 8 - 1  | 8 - 5   | 2 - 8      |                                                     |
|                       | 16   |                       | 8 - 3                                     | 9 - 2  | 9 - 6   | 3 - 2      |                                                     |

#### Notes:

- Section properties are calculated in accordance with the AISI S100-16.
- Web crippling design strengths\* and maximum construction spans are based on 1 1/2" for end bearing and 3" for interior bearing. Check web crippling if minimums are not met.
- Maximum construction spans are based on ANSI/SDI C-2017 Standard for Composite Steel Floor Deck and the following construction loading:
  - Deck self-weight and concrete weight plus worst-case of either a 150 lb concentrated load or a 20 psf uniform load; or
  - Deck self-weight plus a 50 psf uniform construction load, whichever controls.
- Concrete weights do not include weight of deck.
- Deck profile has been accounted for in determining concrete volumes. Deck and support deflections have not been included in concrete volumes or weights.
- Cantilever clear spans assume adjacent clear span is at least 3 times longer than the cantilever clear span and no greater than spans shown. Bearing width at perimeter support assumed to be 3" minimum. Contact New Millennium otherwise.

### SLAB DESIGN - ALLOWABLE SUPERIMPOSED UNIFORM LOADS AND MINIMUM SDI SLAB REINFORCEMENT

| Total Slab<br>Depth<br>(in) | Gage | Allowable Superimposed Uniform Load (psf) |       |       |       |       |       |       |        |        | Recommended<br>Welded Wire<br>Fabric | Wire<br>Area<br>(in <sup>2</sup> /ft) |
|-----------------------------|------|-------------------------------------------|-------|-------|-------|-------|-------|-------|--------|--------|--------------------------------------|---------------------------------------|
|                             |      | Clear Span (ft - in)                      |       |       |       |       |       |       |        |        |                                      |                                       |
|                             |      | 6 - 0                                     | 6 - 6 | 7 - 0 | 7 - 6 | 8 - 0 | 8 - 6 | 9 - 0 | 10 - 0 | 11 - 0 |                                      |                                       |
| 3 1/2                       | 22   | 374                                       | 314   | 267   | 229   | 198   | 172   | 150   | 116    | 87     | 6x6 -<br>W1.4xW1.4                   | 0.028                                 |
|                             | 20   | 400                                       | 378   | 322   | 277   | 239   | 204   | 172   | 125    | 94     |                                      |                                       |
|                             | 18   | 400                                       | 400   | 400   | 335   | 276   | 230   | 194   | 141    | 106    |                                      |                                       |
|                             | 16   | 400                                       | 400   | 400   | 371   | 305   | 255   | 215   | 156    | 118    |                                      |                                       |
| 4                           | 22   | 400                                       | 382   | 325   | 279   | 241   | 209   | 183   | 142    | 112    | 6x6 -<br>W1.4xW1.4                   | 0.028                                 |
|                             | 20   | 400                                       | 400   | 392   | 337   | 292   | 255   | 224   | 175    | 137    |                                      |                                       |
|                             | 18   | 400                                       | 400   | 400   | 400   | 383   | 333   | 281   | 204    | 154    |                                      |                                       |
|                             | 16   | 400                                       | 400   | 400   | 400   | 400   | 368   | 310   | 226    | 170    |                                      |                                       |
| 4 1/2                       | 22   | 400                                       | 400   | 385   | 330   | 285   | 248   | 218   | 169    | 133    | 6x6 -<br>W1.4xW1.4                   | 0.028                                 |
|                             | 20   | 400                                       | 400   | 400   | 400   | 347   | 303   | 266   | 208    | 165    |                                      |                                       |
|                             | 18   | 400                                       | 400   | 400   | 400   | 400   | 398   | 351   | 277    | 213    |                                      |                                       |
|                             | 16   | 400                                       | 400   | 400   | 400   | 400   | 400   | 400   | 313    | 235    |                                      |                                       |
| 5                           | 22   | 400                                       | 400   | 400   | 383   | 331   | 288   | 253   | 197    | 155    | 6x6 -<br>W2.0xW2.0                   | 0.040                                 |
|                             | 20   | 400                                       | 400   | 400   | 400   | 400   | 351   | 309   | 242    | 192    |                                      |                                       |
|                             | 18   | 400                                       | 400   | 400   | 400   | 400   | 400   | 400   | 323    | 259    |                                      |                                       |
|                             | 16   | 400                                       | 400   | 400   | 400   | 400   | 400   | 400   | 400    | 314    |                                      |                                       |
| 5 1/2                       | 22   | 400                                       | 400   | 400   | 400   | 378   | 329   | 288   | 225    | 177    | 6x6 -<br>W2.0xW2.0                   | 0.040                                 |
|                             | 20   | 400                                       | 400   | 400   | 400   | 400   | 400   | 353   | 277    | 220    |                                      |                                       |
|                             | 18   | 400                                       | 400   | 400   | 400   | 400   | 400   | 400   | 369    | 297    |                                      |                                       |
|                             | 16   | 400                                       | 400   | 400   | 400   | 400   | 400   | 400   | 400    | 376    |                                      |                                       |
| 6                           | 22   | 400                                       | 400   | 400   | 400   | 400   | 370   | 325   | 253    | 200    | 4x4 -<br>W1.4xW1.4                   | 0.042                                 |
|                             | 20   | 400                                       | 400   | 400   | 400   | 400   | 400   | 397   | 312    | 249    |                                      |                                       |
|                             | 18   | 400                                       | 400   | 400   | 400   | 400   | 400   | 400   | 400    | 335    |                                      |                                       |
|                             | 16   | 400                                       | 400   | 400   | 400   | 400   | 400   | 400   | 400    | 400    |                                      |                                       |

- Notes:**
- Welded wire fabric shown in the table above is the SDI minimum required for temperature and shrinkage (0.00075 x concrete area above top of deck).
  - Allowable Superimposed Uniform Loads shown in table above are based on the following criteria:
    - Unfactored service level loads, determined using SDI design method per ANSI/SDI C-2017 Standard for Composite Steel Floor Deck-Slabs.
    - Single span conditions without negative bending reinforcing over supports.
    - The presence of shear studs have not been considered, design strength may be increased if shear studs are used.
    - Slab deflection is limited to minimum of Clear Span/360 or 1" under service level superimposed loading.

# 1.5" Composite Deck Reversed (1.5CDR)

## NORMAL-WEIGHT CONCRETE

### PROPERTIES

| Gage | Thickness (in) | Cover (in) | Weight (psf) |
|------|----------------|------------|--------------|
| 22   | 0.0295         | 36         | 1.63         |
| 20   | 0.0358         |            | 1.98         |
| 18   | 0.0474         |            | 2.62         |
| 16   | 0.0598         |            | 3.30         |



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### ASD SECTION PROPERTIES

| Gage | F <sub>y</sub> (ksi) | A <sub>s</sub> (in <sup>2</sup> /ft) | I <sub>D</sub> 1 Span (in <sup>4</sup> /ft) | I <sub>D</sub> 2+ Span (in <sup>4</sup> /ft) | I <sub>p</sub> (in <sup>4</sup> /ft) | I <sub>n</sub> (in <sup>4</sup> /ft) | S <sub>p</sub> (in <sup>3</sup> /ft) | S <sub>n</sub> (in <sup>3</sup> /ft) | Mn,p/Ω (in-lb/ft) | Mn,n/Ω (in-lb/ft) | Vn/Ω (lb/ft) | *Rbe/Ω (lb/ft) | *Rbi/Ω (lb/ft) |
|------|----------------------|--------------------------------------|---------------------------------------------|----------------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|-------------------|-------------------|--------------|----------------|----------------|
| 22   | 40                   | 0.480                                | 0.175                                       | 0.175                                        | 0.175                                | 0.157                                | 0.183                                | 0.176                                | 4391              | 4215              | 2009         | 654            | 1181           |
| 20   | 40                   | 0.582                                | 0.213                                       | 0.213                                        | 0.213                                | 0.201                                | 0.235                                | 0.224                                | 5624              | 5375              | 2428         | 932            | 1696           |
| 18   | 40                   | 0.770                                | 0.281                                       | 0.281                                        | 0.281                                | 0.279                                | 0.315                                | 0.304                                | 7553              | 7291              | 3192         | 1557           | 2858           |
| 16   | 40                   | 0.971                                | 0.355                                       | 0.355                                        | 0.355                                | 0.355                                | 0.395                                | 0.390                                | 9454              | 9332              | 3996         | 2381           | 4396           |

### CONSTRUCTION CLEAR SPANS

| Total Slab Depth (in) | Gage | Concrete Weight (psf) | Maximum Construction Clear Span (ft - in) |        |        |            | Concrete Volume (ft <sup>3</sup> /ft <sup>2</sup> ) |
|-----------------------|------|-----------------------|-------------------------------------------|--------|--------|------------|-----------------------------------------------------|
|                       |      |                       | Single                                    | Double | Triple | Cantilever |                                                     |
| 3 1/2                 | 22   | 36                    | 5 - 8                                     | 6 - 8  | 6 - 9  | 1 - 10     | 0.250                                               |
|                       | 20   |                       | 6 - 8                                     | 7 - 10 | 7 - 11 | 2 - 3      |                                                     |
|                       | 18   |                       | 8 - 1                                     | 9 - 1  | 9 - 4  | 2 - 11     |                                                     |
|                       | 16   |                       | 9 - 2                                     | 10 - 2 | 10 - 7 | 3 - 6      |                                                     |
| 4                     | 22   | 42                    | 5 - 5                                     | 6 - 4  | 6 - 5  | 1 - 10     | 0.291                                               |
|                       | 20   |                       | 6 - 5                                     | 7 - 5  | 7 - 7  | 2 - 2      |                                                     |
|                       | 18   |                       | 7 - 9                                     | 8 - 7  | 8 - 11 | 2 - 10     |                                                     |
|                       | 16   |                       | 8 - 9                                     | 9 - 8  | 10 - 1 | 3 - 4      |                                                     |
| 4 1/2                 | 22   | 48                    | 5 - 2                                     | 6 - 1  | 6 - 2  | 1 - 9      | 0.333                                               |
|                       | 20   |                       | 6 - 1                                     | 7 - 1  | 7 - 3  | 2 - 2      |                                                     |
|                       | 18   |                       | 7 - 5                                     | 8 - 3  | 8 - 6  | 2 - 9      |                                                     |
|                       | 16   |                       | 8 - 5                                     | 9 - 3  | 9 - 7  | 3 - 2      |                                                     |
| 5                     | 22   | 54                    | 5 - 0                                     | 5 - 10 | 5 - 11 | 1 - 9      | 0.375                                               |
|                       | 20   |                       | 5 - 11                                    | 6 - 10 | 6 - 11 | 2 - 1      |                                                     |
|                       | 18   |                       | 7 - 1                                     | 7 - 11 | 8 - 2  | 2 - 8      |                                                     |
|                       | 16   |                       | 8 - 1                                     | 8 - 11 | 9 - 3  | 3 - 1      |                                                     |
| 5 1/2                 | 22   | 60                    | 4 - 10                                    | 5 - 8  | 5 - 9  | 1 - 8      | 0.416                                               |
|                       | 20   |                       | 5 - 8                                     | 6 - 7  | 6 - 8  | 2 - 1      |                                                     |
|                       | 18   |                       | 6 - 10                                    | 7 - 7  | 7 - 11 | 2 - 7      |                                                     |
|                       | 16   |                       | 7 - 10                                    | 8 - 7  | 8 - 11 | 2 - 11     |                                                     |
| 6                     | 22   | 66                    | 4 - 8                                     | 5 - 6  | 5 - 6  | 1 - 8      | 0.458                                               |
|                       | 20   |                       | 5 - 6                                     | 6 - 4  | 6 - 6  | 2 - 0      |                                                     |
|                       | 18   |                       | 6 - 7                                     | 7 - 4  | 7 - 7  | 2 - 6      |                                                     |
|                       | 16   |                       | 7 - 7                                     | 8 - 3  | 8 - 7  | 2 - 10     |                                                     |

#### Notes:

- Section properties are calculated in accordance with the AISI S100-16.
- Web crippling design strengths\* and maximum construction spans are based on 1 1/2" for end bearing and 3" for interior bearing. Check web crippling if minimums are not met.
- Maximum construction spans are based on ANSI/SDI C-2017 Standard for Composite Steel Floor Deck and the following construction loading:
  - Deck self-weight and concrete weight plus worst-case of either a 150 lb concentrated load or a 20 psf uniform load; or
  - Deck self-weight plus a 50 psf uniform construction load, whichever controls.
- Concrete weights do not include weight of deck.
- Deck profile has been accounted for in determining concrete volumes. Deck and support deflections have not been included in concrete volumes or weights.
- Cantilever clear spans assume adjacent clear span is at least 3 times longer than the cantilever clear span and no greater than spans shown. Bearing width at perimeter support assumed to be 3" minimum. Contact New Millennium otherwise.

### SLAB DESIGN - ALLOWABLE SUPERIMPOSED UNIFORM LOADS AND MINIMUM SDI SLAB REINFORCEMENT

| Normal-Weight Concrete<br>( $\gamma_c = 145$ pcf, $f'_c = 3000$ psi, $n = 9$ ) | Total Slab<br>Depth<br>(in) | Gage | Allowable Superimposed Uniform Load (psf) |       |       |       |       |       |       |        |                    | Recommended<br>Welded Wire<br>Fabric | Wire<br>Area<br>(in <sup>2</sup> /ft) |
|--------------------------------------------------------------------------------|-----------------------------|------|-------------------------------------------|-------|-------|-------|-------|-------|-------|--------|--------------------|--------------------------------------|---------------------------------------|
|                                                                                |                             |      | Clear Span (ft - in)                      |       |       |       |       |       |       |        |                    |                                      |                                       |
|                                                                                |                             |      | 6 - 0                                     | 6 - 6 | 7 - 0 | 7 - 6 | 8 - 0 | 8 - 6 | 9 - 0 | 10 - 0 | 11 - 0             |                                      |                                       |
| 3 1/2                                                                          | 22                          | 383  | 321                                       | 271   | 231   | 199   | 172   | 149   | 114   | 87     | 6x6 -<br>W1.4xW1.4 | 0.028                                |                                       |
|                                                                                | 20                          | 400  | 388                                       | 330   | 282   | 243   | 211   | 184   | 142   | 111    |                    |                                      |                                       |
|                                                                                | 18                          | 400  | 400                                       | 400   | 373   | 323   | 281   | 246   | 179   | 135    |                    |                                      |                                       |
| 4                                                                              | 16                          | 400  | 400                                       | 400   | 400   | 386   | 322   | 271   | 198   | 148    | 6x6 -<br>W1.4xW1.4 | 0.028                                |                                       |
|                                                                                | 22                          | 400  | 389                                       | 329   | 281   | 242   | 209   | 182   | 139   | 107    |                    |                                      |                                       |
|                                                                                | 20                          | 400  | 400                                       | 400   | 343   | 296   | 257   | 225   | 174   | 136    |                    |                                      |                                       |
| 4 1/2                                                                          | 18                          | 400  | 400                                       | 400   | 400   | 393   | 343   | 301   | 235   | 187    | 6x6 -<br>W1.4xW1.4 | 0.028                                |                                       |
|                                                                                | 16                          | 400  | 400                                       | 400   | 400   | 400   | 400   | 380   | 286   | 215    |                    |                                      |                                       |
|                                                                                | 22                          | 400  | 400                                       | 389   | 332   | 286   | 248   | 215   | 165   | 128    |                    |                                      |                                       |
| 5                                                                              | 20                          | 400  | 400                                       | 400   | 400   | 351   | 305   | 266   | 206   | 162    | 6x6 -<br>W1.4xW1.4 | 0.028                                |                                       |
|                                                                                | 18                          | 400  | 400                                       | 400   | 400   | 400   | 400   | 357   | 280   | 222    |                    |                                      |                                       |
|                                                                                | 16                          | 400  | 400                                       | 400   | 400   | 400   | 400   | 400   | 355   | 285    |                    |                                      |                                       |
| 5 1/2                                                                          | 22                          | 400  | 400                                       | 400   | 384   | 331   | 287   | 250   | 192   | 149    | 6x6 -<br>W2.0xW2.0 | 0.040                                |                                       |
|                                                                                | 20                          | 400  | 400                                       | 400   | 400   | 400   | 353   | 309   | 240   | 188    |                    |                                      |                                       |
|                                                                                | 18                          | 400  | 400                                       | 400   | 400   | 400   | 400   | 400   | 325   | 259    |                    |                                      |                                       |
| 6                                                                              | 16                          | 400  | 400                                       | 400   | 400   | 400   | 400   | 400   | 400   | 332    | 6x6 -<br>W2.0xW2.0 | 0.040                                |                                       |
|                                                                                | 22                          | 400  | 400                                       | 400   | 400   | 377   | 327   | 285   | 219   | 170    |                    |                                      |                                       |
|                                                                                | 20                          | 400  | 400                                       | 400   | 400   | 400   | 400   | 352   | 274   | 215    |                    |                                      |                                       |
| 6 1/2                                                                          | 18                          | 400  | 400                                       | 400   | 400   | 400   | 400   | 400   | 371   | 296    | 4x4 -<br>W1.4xW1.4 | 0.042                                |                                       |
|                                                                                | 16                          | 400  | 400                                       | 400   | 400   | 400   | 400   | 400   | 400   | 380    |                    |                                      |                                       |
|                                                                                | 22                          | 400  | 400                                       | 400   | 400   | 400   | 367   | 320   | 246   | 192    |                    |                                      |                                       |
| 7                                                                              | 20                          | 400  | 400                                       | 400   | 400   | 400   | 400   | 396   | 308   | 243    | 4x4 -<br>W1.4xW1.4 | 0.042                                |                                       |
|                                                                                | 18                          | 400  | 400                                       | 400   | 400   | 400   | 400   | 400   | 400   | 334    |                    |                                      |                                       |
|                                                                                | 16                          | 400  | 400                                       | 400   | 400   | 400   | 400   | 400   | 400   | 400    |                    |                                      |                                       |

- Notes:**
- Welded wire fabric shown in the table above is the SDI minimum required for temperature and shrinkage (0.00075 x concrete area above top of deck).
  - Allowable Superimposed Uniform Loads shown in table above are based on the following criteria:
    - Unfactored service level loads, determined using SDI design method per ANSI/SDI C-2017 Standard for Composite Steel Floor Deck-Slabs.
    - Single span conditions without negative bending reinforcing over supports.
    - The presence of shear studs have not been considered, design strength may be increased if shear studs are used.
    - Slab deflection is limited to minimum of Clear Span/360 or 1" under service level superimposed loading.



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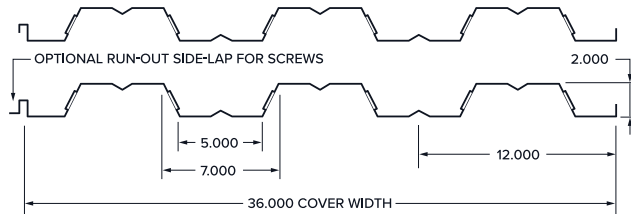
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# 2" Composite Deck (2.0CD)

## LIGHTWEIGHT CONCRETE

### PROPERTIES

| Gage | Thickness (in) | Cover (in) | Weight (psf) |
|------|----------------|------------|--------------|
| 22   | 0.0295         | 36         | 1.57         |
| 20   | 0.0358         |            | 1.90         |
| 18   | 0.0474         |            | 2.52         |
| 16   | 0.0598         |            | 3.17         |



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### ASD

### SECTION PROPERTIES

### DESIGN STRENGTHS (No Concrete Fill)

| Gage | F <sub>y</sub> (ksi) | A <sub>s</sub> (in <sup>2</sup> /ft) | I <sub>D</sub> 1 Span (in <sup>4</sup> /ft) | I <sub>D</sub> 2+ Span (in <sup>4</sup> /ft) | I <sub>p</sub> (in <sup>4</sup> /ft) | I <sub>n</sub> (in <sup>4</sup> /ft) | S <sub>p</sub> (in <sup>3</sup> /ft) | S <sub>n</sub> (in <sup>3</sup> /ft) | M <sub>n,p</sub> /Ω (in-lb/ft) | M <sub>n,n</sub> /Ω (in-lb/ft) | V <sub>n</sub> /Ω (lb/ft) | *R <sub>be</sub> /Ω (lb/ft) | *R <sub>bi</sub> /Ω (lb/ft) |
|------|----------------------|--------------------------------------|---------------------------------------------|----------------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------|--------------------------------|---------------------------|-----------------------------|-----------------------------|
| 22   | 40                   | 0.461                                | 0.341                                       | 0.341                                        | 0.337                                | 0.328                                | 0.257                                | 0.261                                | 6153                           | 6263                           | 1474                      | 321                         | 617                         |
| 20   | 40                   | 0.559                                | 0.419                                       | 0.419                                        | 0.418                                | 0.410                                | 0.342                                | 0.346                                | 8189                           | 8285                           | 1963                      | 459                         | 882                         |
| 18   | 40                   | 0.740                                | 0.555                                       | 0.555                                        | 0.554                                | 0.554                                | 0.506                                | 0.510                                | 12108                          | 12205                          | 2590                      | 769                         | 1477                        |
| 16   | 40                   | 0.932                                | 0.701                                       | 0.701                                        | 0.699                                | 0.700                                | 0.650                                | 0.651                                | 15572                          | 15583                          | 3255                      | 1176                        | 2260                        |

### CONSTRUCTION CLEAR SPANS

| Total Slab Depth (in) | Gage | Concrete Weight (psf) | Maximum Construction Clear Span (ft - in) |         |         |            | Concrete Volume (ft <sup>3</sup> /ft <sup>2</sup> ) |
|-----------------------|------|-----------------------|-------------------------------------------|---------|---------|------------|-----------------------------------------------------|
|                       |      |                       | Single                                    | Double  | Triple  | Cantilever |                                                     |
| 4                     | 22   | 27                    | 7 - 9                                     | 8 - 11  | 9 - 3   | 2 - 8      | 0.248                                               |
|                       | 20   |                       | 9 - 5                                     | 10 - 3  | 10 - 7  | 3 - 5      |                                                     |
|                       | 18   |                       | 11 - 7                                    | 12 - 5  | 12 - 10 | 4 - 3      |                                                     |
|                       | 16   |                       | 12 - 3                                    | 13 - 11 | 14 - 4  | 4 - 9      |                                                     |
| 4 1/2                 | 22   | 32                    | 7 - 5                                     | 8 - 9   | 8 - 10  | 2 - 7      | 0.289                                               |
|                       | 20   |                       | 9 - 0                                     | 10 - 1  | 10 - 5  | 3 - 4      |                                                     |
|                       | 18   |                       | 11 - 2                                    | 12 - 2  | 12 - 7  | 4 - 2      |                                                     |
|                       | 16   |                       | 11 - 10                                   | 13 - 8  | 13 - 10 | 4 - 7      |                                                     |
| 5                     | 22   | 36                    | 7 - 2                                     | 8 - 4   | 8 - 6   | 2 - 7      | 0.331                                               |
|                       | 20   |                       | 8 - 7                                     | 9 - 8   | 10 - 0  | 3 - 3      |                                                     |
|                       | 18   |                       | 10 - 9                                    | 11 - 8  | 12 - 1  | 4 - 0      |                                                     |
|                       | 16   |                       | 11 - 5                                    | 13 - 2  | 13 - 5  | 4 - 5      |                                                     |
| 5 1/2                 | 22   | 41                    | 6 - 10                                    | 7 - 10  | 8 - 2   | 2 - 6      | 0.373                                               |
|                       | 20   |                       | 8 - 3                                     | 9 - 3   | 9 - 7   | 3 - 1      |                                                     |
|                       | 18   |                       | 10 - 4                                    | 11 - 3  | 11 - 8  | 3 - 10     |                                                     |
|                       | 16   |                       | 11 - 1                                    | 12 - 8  | 13 - 1  | 4 - 4      |                                                     |
| 6                     | 22   | 46                    | 6 - 8                                     | 7 - 4   | 7 - 10  | 2 - 5      | 0.414                                               |
|                       | 20   |                       | 8 - 0                                     | 9 - 0   | 9 - 3   | 3 - 0      |                                                     |
|                       | 18   |                       | 10 - 0                                    | 10 - 10 | 11 - 3  | 3 - 9      |                                                     |
|                       | 16   |                       | 10 - 9                                    | 12 - 3  | 12 - 8  | 4 - 2      |                                                     |
| 6 1/2                 | 22   | 50                    | 6 - 5                                     | 6 - 10  | 7 - 7   | 2 - 5      | 0.456                                               |
|                       | 20   |                       | 7 - 9                                     | 8 - 8   | 8 - 11  | 2 - 11     |                                                     |
|                       | 18   |                       | 9 - 8                                     | 10 - 6  | 10 - 10 | 3 - 7      |                                                     |
|                       | 16   |                       | 10 - 5                                    | 11 - 10 | 12 - 3  | 4 - 1      |                                                     |

### Notes:

- Section properties are calculated in accordance with the AISI S100-16.
- Web crippling design strengths\* and maximum construction spans are based on 2" for end bearing and 4" for interior bearing. Check web crippling if minimums are not met.
- Maximum construction spans are based on ANSI/SDI C-2017 Standard for Composite Steel Floor Deck and the following construction loading:
  - Deck self-weight and concrete weight plus worst-case of either a 150 lb. concentrated load or a 20 psf uniform load; or
  - Deck self-weight plus a 50 psf uniform construction load, whichever controls.
- Concrete weights do not include weight of deck.
- Deck profile has been accounted for in determining concrete volumes. Deck and support deflections have not been included in concrete volumes or weights.
- Cantilever clear spans assume adjacent clear span is at least 3 times longer than the cantilever clear span and no greater than spans published above. Bearing width at perimeter support assumed to be 4" minimum. Contact New Millennium otherwise.

### SLAB DESIGN - ALLOWABLE SUPERIMPOSED UNIFORM LOADS AND MINIMUM SDI SLAB REINFORCEMENT

| Total Slab<br>Depth<br>(in) | Gage | Allowable Superimposed Uniform Load (psf) |       |       |       |        |        |        |        |        |                    | Recommended<br>Welded Wire<br>Fabric | Wire<br>Area<br>(in <sup>2</sup> /ft) |
|-----------------------------|------|-------------------------------------------|-------|-------|-------|--------|--------|--------|--------|--------|--------------------|--------------------------------------|---------------------------------------|
|                             |      | Clear Span (ft - in)                      |       |       |       |        |        |        |        |        |                    |                                      |                                       |
|                             |      | 7 - 0                                     | 8 - 0 | 8 - 6 | 9 - 0 | 10 - 0 | 11 - 0 | 12 - 0 | 13 - 0 | 14 - 0 |                    |                                      |                                       |
| 4                           | 22   | 237                                       | 175   | 151   | 132   | 101    | 79     | 62     | 48     | 38     | 6x6 -<br>W1.4xW1.4 | 0.028                                |                                       |
|                             | 20   | 286                                       | 212   | 184   | 161   | 125    | 98     | 78     | 62     | 50     |                    |                                      |                                       |
|                             | 18   | 372                                       | 277   | 242   | 213   | 167    | 127    | 97     | 77     | 61     |                    |                                      |                                       |
|                             | 16   | 400                                       | 309   | 271   | 238   | 187    | 140    | 108    | 85     | 68     |                    |                                      |                                       |
| 4 1/2                       | 22   | 287                                       | 212   | 184   | 161   | 124    | 97     | 76     | 60     | 47     | 6x6 -<br>W1.4xW1.4 | 0.028                                |                                       |
|                             | 20   | 347                                       | 257   | 224   | 196   | 153    | 120    | 96     | 77     | 61     |                    |                                      |                                       |
|                             | 18   | 400                                       | 337   | 295   | 259   | 203    | 162    | 131    | 106    | 85     |                    |                                      |                                       |
|                             | 16   | 400                                       | 376   | 329   | 290   | 228    | 183    | 148    | 118    | 94     |                    |                                      |                                       |
| 5                           | 22   | 340                                       | 252   | 219   | 191   | 147    | 115    | 91     | 72     | 57     | 6x6 -<br>W1.4xW1.4 | 0.028                                |                                       |
|                             | 20   | 400                                       | 306   | 266   | 233   | 182    | 144    | 115    | 92     | 74     |                    |                                      |                                       |
|                             | 18   | 400                                       | 400   | 351   | 308   | 242    | 194    | 156    | 128    | 105    |                    |                                      |                                       |
|                             | 16   | 400                                       | 400   | 392   | 346   | 272    | 218    | 177    | 145    | 120    |                    |                                      |                                       |
| 5 1/2                       | 22   | 396                                       | 293   | 255   | 222   | 172    | 135    | 107    | 84     | 67     | 6x6 -<br>W2.0xW2.0 | 0.040                                |                                       |
|                             | 20   | 400                                       | 356   | 310   | 272   | 212    | 168    | 134    | 108    | 87     |                    |                                      |                                       |
|                             | 18   | 400                                       | 400   | 400   | 360   | 283    | 227    | 183    | 150    | 123    |                    |                                      |                                       |
|                             | 16   | 400                                       | 400   | 400   | 400   | 319    | 256    | 208    | 171    | 141    |                    |                                      |                                       |
| 6                           | 22   | 400                                       | 335   | 291   | 255   | 198    | 155    | 123    | 98     | 78     | 6x6 -<br>W2.0xW2.0 | 0.040                                |                                       |
|                             | 20   | 400                                       | 400   | 356   | 312   | 244    | 193    | 155    | 125    | 101    |                    |                                      |                                       |
|                             | 18   | 400                                       | 400   | 400   | 400   | 325    | 261    | 211    | 173    | 143    |                    |                                      |                                       |
|                             | 16   | 400                                       | 400   | 400   | 400   | 367    | 295    | 240    | 197    | 163    |                    |                                      |                                       |
| 6 1/2                       | 22   | 400                                       | 378   | 329   | 288   | 223    | 176    | 139    | 111    | 89     | 6x6 -<br>W2.0xW2.0 | 0.040                                |                                       |
|                             | 20   | 400                                       | 400   | 400   | 353   | 276    | 219    | 176    | 142    | 115    |                    |                                      |                                       |
|                             | 18   | 400                                       | 400   | 400   | 400   | 369    | 296    | 240    | 197    | 162    |                    |                                      |                                       |
|                             | 16   | 400                                       | 400   | 400   | 400   | 400    | 335    | 273    | 225    | 186    |                    |                                      |                                       |

- Notes:**
- Welded wire fabric shown in the table above is the SDI minimum required for temperature and shrinkage (0.00075 x concrete area above top of deck).
  - Allowable Superimposed Uniform Loads shown in table above are based on the following criteria:
    - Unfactored service level loads, determined using SDI design method per ANSI/SDI C-2017 Standard for Composite Steel Floor Deck-Slabs.
    - Single span conditions without negative bending reinforcing over supports.
    - The presence of shear studs have not been considered, design strength may be increased if shear studs are used.
    - Slab deflection is limited to minimum of Clear Span/360 or 1" under service level superimposed loading.



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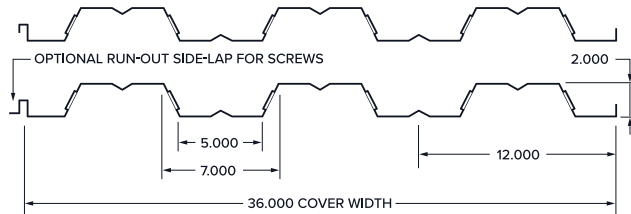
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# 2" Composite Deck (2.0CD)

## NORMAL-WEIGHT CONCRETE

### PROPERTIES

| Gage | Thickness (in) | Cover (in) | Weight (psf) |
|------|----------------|------------|--------------|
| 22   | 0.0295         | 36         | 1.57         |
| 20   | 0.0358         |            | 1.90         |
| 18   | 0.0474         |            | 2.52         |
| 16   | 0.0598         |            | 3.17         |



ICC-ES APPROVED  
REFER TO ESR-3818

### ASD

### SECTION PROPERTIES

### DESIGN STRENGTHS (No Concrete Fill)

| Gage | F <sub>y</sub> (ksi) | A <sub>s</sub> (in <sup>2</sup> /ft) | I <sub>D</sub> 1 Span (in <sup>4</sup> /ft) | I <sub>D</sub> 2+ Span (in <sup>4</sup> /ft) | I <sub>p</sub> (in <sup>4</sup> /ft) | I <sub>n</sub> (in <sup>4</sup> /ft) | S <sub>p</sub> (in <sup>3</sup> /ft) | S <sub>n</sub> (in <sup>3</sup> /ft) | M <sub>n,p</sub> /Ω (in-lb/ft) | M <sub>n,n</sub> /Ω (in-lb/ft) | V <sub>n</sub> /Ω (lb/ft) | *R <sub>be</sub> /Ω (lb/ft) | *R <sub>bi</sub> /Ω (lb/ft) |
|------|----------------------|--------------------------------------|---------------------------------------------|----------------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------|--------------------------------|---------------------------|-----------------------------|-----------------------------|
| 22   | 40                   | 0.461                                | 0.341                                       | 0.341                                        | 0.337                                | 0.328                                | 0.257                                | 0.261                                | 6153                           | 6263                           | 1474                      | 321                         | 617                         |
| 20   | 40                   | 0.559                                | 0.419                                       | 0.419                                        | 0.418                                | 0.410                                | 0.342                                | 0.346                                | 8189                           | 8285                           | 1963                      | 459                         | 882                         |
| 18   | 40                   | 0.740                                | 0.555                                       | 0.555                                        | 0.554                                | 0.554                                | 0.506                                | 0.510                                | 12108                          | 12205                          | 2590                      | 769                         | 1477                        |
| 16   | 40                   | 0.932                                | 0.701                                       | 0.701                                        | 0.699                                | 0.700                                | 0.650                                | 0.651                                | 15572                          | 15583                          | 3255                      | 1176                        | 2260                        |

### CONSTRUCTION CLEAR SPANS

| Total Slab Depth (in) | Gage | Concrete Weight (psf) | Maximum Construction Clear Span (ft - in) |        |         |            | Concrete Volume (ft <sup>3</sup> /ft <sup>2</sup> ) |
|-----------------------|------|-----------------------|-------------------------------------------|--------|---------|------------|-----------------------------------------------------|
|                       |      |                       | Single                                    | Double | Triple  | Cantilever |                                                     |
| 4                     | 22   | 36                    | 7 - 2                                     | 8 - 5  | 8 - 6   | 2 - 7      | 0.248                                               |
|                       | 20   |                       | 8 - 8                                     | 9 - 8  | 10 - 0  | 3 - 3      |                                                     |
|                       | 18   |                       | 10 - 9                                    | 11 - 9 | 12 - 2  | 4 - 0      |                                                     |
|                       | 16   |                       | 11 - 6                                    | 13 - 2 | 13 - 6  | 4 - 6      |                                                     |
| 4 1/2                 | 22   | 42                    | 6 - 10                                    | 7 - 9  | 8 - 1   | 2 - 6      | 0.289                                               |
|                       | 20   |                       | 8 - 3                                     | 9 - 3  | 9 - 7   | 3 - 1      |                                                     |
|                       | 18   |                       | 10 - 3                                    | 11 - 2 | 11 - 7  | 3 - 10     |                                                     |
|                       | 16   |                       | 11 - 0                                    | 12 - 7 | 13 - 0  | 4 - 4      |                                                     |
| 5                     | 22   | 48                    | 6 - 6                                     | 7 - 1  | 7 - 9   | 2 - 5      | 0.331                                               |
|                       | 20   |                       | 7 - 10                                    | 8 - 9  | 9 - 1   | 3 - 0      |                                                     |
|                       | 18   |                       | 9 - 10                                    | 10 - 8 | 11 - 0  | 3 - 8      |                                                     |
|                       | 16   |                       | 10 - 7                                    | 12 - 0 | 12 - 5  | 4 - 1      |                                                     |
| 5 1/2                 | 22   | 54                    | 6 - 1                                     | 6 - 6  | 7 - 4   | 2 - 4      | 0.373                                               |
|                       | 20   |                       | 7 - 6                                     | 8 - 5  | 8 - 9   | 2 - 11     |                                                     |
|                       | 18   |                       | 9 - 6                                     | 10 - 3 | 10 - 7  | 3 - 6      |                                                     |
|                       | 16   |                       | 10 - 2                                    | 11 - 6 | 11 - 11 | 3 - 11     |                                                     |
| 6                     | 22   | 60                    | 5 - 6                                     | 6 - 0  | 6 - 10  | 2 - 3      | 0.414                                               |
|                       | 20   |                       | 7 - 3                                     | 8 - 1  | 8 - 5   | 2 - 9      |                                                     |
|                       | 18   |                       | 9 - 2                                     | 9 - 10 | 10 - 2  | 3 - 4      |                                                     |
|                       | 16   |                       | 9 - 10                                    | 11 - 1 | 11 - 6  | 3 - 10     |                                                     |
| 6 1/2                 | 22   | 66                    | 5 - 0                                     | 5 - 6  | 6 - 3   | 2 - 1      | 0.456                                               |
|                       | 20   |                       | 7 - 0                                     | 7 - 10 | 8 - 1   | 2 - 8      |                                                     |
|                       | 18   |                       | 8 - 10                                    | 9 - 6  | 9 - 10  | 3 - 3      |                                                     |
|                       | 16   |                       | 9 - 7                                     | 10 - 8 | 11 - 1  | 3 - 8      |                                                     |

### Notes:

- Section properties are calculated in accordance with the AISI S100-16.
- Web crippling design strengths\* and maximum construction spans are based on 2" for end bearing and 4" for interior bearing. Check web crippling if minimums are not met.
- Maximum construction spans are based on ANSI/SDI C-2017 Standard for Composite Steel Floor Deck and the following construction loading:
  - Deck self-weight and concrete weight plus worst-case of either a 150 lb. concentrated load or a 20 psf uniform load; or
  - Deck self-weight plus a 50 psf uniform construction load, whichever controls.
- Concrete weights do not include weight of deck.
- Deck profile has been accounted for in determining concrete volumes. Deck and support deflections have not been included in concrete volumes or weights.
- Cantilever clear spans assume adjacent clear span is at least 3 times longer than the cantilever clear span and no greater than spans published above. Bearing width at perimeter support assumed to be 4" minimum. Contact New Millennium otherwise.

### SLAB DESIGN - ALLOWABLE SUPERIMPOSED UNIFORM LOADS AND MINIMUM SDI SLAB REINFORCEMENT

| Normal Weight Concrete (yc = 145 pcf, f'c = 3000 psi, n = 9) | Total Slab Depth (in) | Gage | Allowable Superimposed Uniform Load (psf) |       |       |       |        |        |        |        |                 |       | Recommended Welded Wire Fabric | Wire Area (in <sup>2</sup> /ft) |
|--------------------------------------------------------------|-----------------------|------|-------------------------------------------|-------|-------|-------|--------|--------|--------|--------|-----------------|-------|--------------------------------|---------------------------------|
|                                                              |                       |      | Clear Span (ft - in)                      |       |       |       |        |        |        |        |                 |       |                                |                                 |
|                                                              |                       |      | 7 - 0                                     | 8 - 0 | 8 - 6 | 9 - 0 | 10 - 0 | 11 - 0 | 12 - 0 | 13 - 0 | 14 - 0          |       |                                |                                 |
| 4                                                            | 22                    | 241  | 176                                       | 151   | 131   | 99    | 75     | 57     | 43     | 32     | 6x6 - W1.4xW1.4 | 0.028 |                                |                                 |
|                                                              | 20                    | 293  | 215                                       | 187   | 162   | 124   | 96     | 75     | 58     | 45     |                 |       |                                |                                 |
|                                                              | 18                    | 385  | 286                                       | 249   | 218   | 169   | 133    | 106    | 84     | 68     |                 |       |                                |                                 |
|                                                              | 16                    | 400  | 322                                       | 280   | 246   | 192   | 152    | 121    | 98     | 79     |                 |       |                                |                                 |
| 4 1/2                                                        | 22                    | 291  | 213                                       | 184   | 159   | 121   | 92     | 70     | 54     | 40     | 6x6 - W1.4xW1.4 | 0.028 |                                |                                 |
|                                                              | 20                    | 355  | 261                                       | 226   | 197   | 151   | 118    | 92     | 72     | 56     |                 |       |                                |                                 |
|                                                              | 18                    | 400  | 347                                       | 302   | 265   | 206   | 163    | 130    | 104    | 83     |                 |       |                                |                                 |
|                                                              | 16                    | 400  | 391                                       | 341   | 299   | 234   | 185    | 149    | 120    | 97     |                 |       |                                |                                 |
| 5                                                            | 22                    | 345  | 252                                       | 218   | 189   | 144   | 110    | 85     | 65     | 49     | 6x6 - W1.4xW1.4 | 0.028 |                                |                                 |
|                                                              | 20                    | 400  | 310                                       | 269   | 234   | 180   | 140    | 110    | 86     | 68     |                 |       |                                |                                 |
|                                                              | 18                    | 400  | 400                                       | 359   | 315   | 245   | 194    | 155    | 124    | 100    |                 |       |                                |                                 |
|                                                              | 16                    | 400  | 400                                       | 400   | 356   | 278   | 221    | 178    | 144    | 117    |                 |       |                                |                                 |
| 5 1/2                                                        | 22                    | 400  | 293                                       | 253   | 220   | 167   | 129    | 99     | 76     | 58     | 6x6 - W2.0xW2.0 | 0.040 |                                |                                 |
|                                                              | 20                    | 400  | 360                                       | 312   | 272   | 210   | 164    | 129    | 101    | 80     |                 |       |                                |                                 |
|                                                              | 18                    | 400  | 400                                       | 400   | 366   | 286   | 227    | 181    | 146    | 118    |                 |       |                                |                                 |
|                                                              | 16                    | 400  | 400                                       | 400   | 400   | 325   | 259    | 208    | 169    | 138    |                 |       |                                |                                 |
| 6                                                            | 22                    | 400  | 335                                       | 289   | 251   | 192   | 148    | 115    | 88     | 68     | 6x6 - W2.0xW2.0 | 0.040 |                                |                                 |
|                                                              | 20                    | 400  | 400                                       | 357   | 312   | 241   | 188    | 148    | 117    | 93     |                 |       |                                |                                 |
|                                                              | 18                    | 400  | 400                                       | 400   | 400   | 328   | 260    | 209    | 168    | 137    |                 |       |                                |                                 |
|                                                              | 16                    | 400  | 400                                       | 400   | 400   | 373   | 298    | 240    | 195    | 159    |                 |       |                                |                                 |
| 6 1/2                                                        | 22                    | 400  | 377                                       | 326   | 284   | 217   | 168    | 130    | 101    | 78     | 6x6 - W2.0xW2.0 | 0.040 |                                |                                 |
|                                                              | 20                    | 400  | 400                                       | 400   | 352   | 272   | 213    | 168    | 133    | 106    |                 |       |                                |                                 |
|                                                              | 18                    | 400  | 400                                       | 400   | 400   | 371   | 295    | 237    | 191    | 156    |                 |       |                                |                                 |
|                                                              | 16                    | 400  | 400                                       | 400   | 400   | 400   | 337    | 272    | 222    | 182    |                 |       |                                |                                 |

- Notes:**
- Welded wire fabric shown in the table above is the SDI minimum required for temperature and shrinkage (0.00075 x concrete area above top of deck).
  - Allowable Superimposed Uniform Loads shown in table above are based on the following criteria:
    - Unfactored service level loads, determined using SDI design method per ANSI/SDI C-2017 Standard for Composite Steel Floor Deck-Slabs.
    - Single span conditions without negative bending reinforcing over supports.
    - The presence of shear studs have not been considered, design strength may be increased if shear studs are used.
    - Slab deflection is limited to minimum of Clear Span/360 or 1" under service level superimposed loading.



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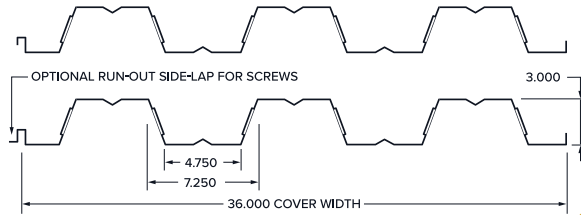


# 3" Composite Deck (3.0CD)

## LIGHTWEIGHT CONCRETE

### PROPERTIES

| Gage | Thickness (in) | Cover (in) | Weight (psf) |
|------|----------------|------------|--------------|
| 22   | 0.0295         | 36         | 1.71         |
| 20   | 0.0358         |            | 2.07         |
| 18   | 0.0474         |            | 2.74         |
| 16   | 0.0598         |            | 3.45         |



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REFER TO ESR-3818

### ASD

### SECTION PROPERTIES

| Gage | F <sub>y</sub> (ksi) | A <sub>s</sub> (in <sup>2</sup> /ft) | I <sub>o</sub> 1 Span (in <sup>4</sup> /ft) | I <sub>o</sub> 2+ Span (in <sup>4</sup> /ft) | I <sub>p</sub> (in <sup>4</sup> /ft) | I <sub>n</sub> (in <sup>4</sup> /ft) | S <sub>p</sub> (in <sup>3</sup> /ft) | S <sub>n</sub> (in <sup>3</sup> /ft) | Mn,p/Ω (in-lb/ft) | Mn,n/Ω (in-lb/ft) | Vn/Ω (lb/ft) | *Rbe/Ω (lb/ft) | *Rbi/Ω (lb/ft) |
|------|----------------------|--------------------------------------|---------------------------------------------|----------------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|-------------------|-------------------|--------------|----------------|----------------|
| 22   | 40                   | 0.502                                | 0.770                                       | 0.770                                        | 0.764                                | 0.750                                | 0.407                                | 0.424                                | 9749              | 10151             | 1416         | 336            | 677            |
| 20   | 40                   | 0.609                                | 0.946                                       | 0.946                                        | 0.945                                | 0.934                                | 0.537                                | 0.556                                | 12871             | 13319             | 2227         | 482            | 967            |
| 18   | 40                   | 0.805                                | 1.253                                       | 1.253                                        | 1.252                                | 1.253                                | 0.794                                | 0.802                                | 19016             | 19213             | 3895         | 811            | 1615           |
| 16   | 40                   | 1.015                                | 1.580                                       | 1.580                                        | 1.579                                | 1.579                                | 1.012                                | 1.013                                | 24245             | 24264             | 4901         | 1245           | 2466           |

DESIGN STRENGTHS (No Concrete Fill)

### CONSTRUCTION CLEAR SPANS

| Total Slab Depth (in) | Gage | Concrete Weight (psf) | Maximum Construction Clear Span (ft - in) |        |         |            | Concrete Volume (ft <sup>3</sup> /ft <sup>2</sup> ) |
|-----------------------|------|-----------------------|-------------------------------------------|--------|---------|------------|-----------------------------------------------------|
|                       |      |                       | Single                                    | Double | Triple  | Cantilever |                                                     |
| 5                     | 22   | 32                    | 10 - 1                                    | 10 - 0 | 11 - 5  | 3 - 9      | 0.292                                               |
|                       | 20   |                       | 12 - 0                                    | 12 - 8 | 13 - 2  | 4 - 4      |                                                     |
|                       | 18   |                       | 13 - 8                                    | 15 - 3 | 15 - 9  | 5 - 3      |                                                     |
|                       | 16   |                       | 14 - 5                                    | 17 - 0 | 16 - 11 | 5 - 8      |                                                     |
| 5 1/2                 | 22   | 37                    | 9 - 8                                     | 9 - 3  | 10 - 6  | 3 - 6      | 0.333                                               |
|                       | 20   |                       | 11 - 6                                    | 12 - 2 | 12 - 7  | 4 - 2      |                                                     |
|                       | 18   |                       | 13 - 3                                    | 14 - 8 | 15 - 2  | 5 - 0      |                                                     |
|                       | 16   |                       | 14 - 0                                    | 16 - 4 | 16 - 5  | 5 - 5      |                                                     |
| 6                     | 22   | 41                    | 8 - 7                                     | 8 - 7  | 9 - 9   | 3 - 3      | 0.375                                               |
|                       | 20   |                       | 11 - 0                                    | 11 - 9 | 12 - 2  | 4 - 0      |                                                     |
|                       | 18   |                       | 12 - 11                                   | 14 - 1 | 14 - 7  | 4 - 10     |                                                     |
|                       | 16   |                       | 13 - 7                                    | 15 - 9 | 16 - 0  | 5 - 4      |                                                     |
| 6 1/2                 | 22   | 46                    | 7 - 9                                     | 8 - 0  | 9 - 1   | 3 - 0      | 0.417                                               |
|                       | 20   |                       | 10 - 7                                    | 11 - 4 | 11 - 8  | 3 - 10     |                                                     |
|                       | 18   |                       | 12 - 7                                    | 13 - 7 | 14 - 1  | 4 - 8      |                                                     |
|                       | 16   |                       | 13 - 3                                    | 15 - 3 | 15 - 7  | 5 - 2      |                                                     |
| 7                     | 22   | 50                    | 7 - 1                                     | 7 - 6  | 8 - 6   | 2 - 10     | 0.458                                               |
|                       | 20   |                       | 10 - 2                                    | 10 - 8 | 11 - 4  | 3 - 9      |                                                     |
|                       | 18   |                       | 12 - 4                                    | 13 - 2 | 13 - 8  | 4 - 6      |                                                     |
|                       | 16   |                       | 13 - 0                                    | 14 - 9 | 15 - 3  | 5 - 1      |                                                     |
| 7 1/2                 | 22   | 55                    | 6 - 6                                     | 7 - 0  | 8 - 0   | 2 - 8      | 0.500                                               |
|                       | 20   |                       | 9 - 10                                    | 10 - 0 | 11 - 0  | 3 - 8      |                                                     |
|                       | 18   |                       | 12 - 1                                    | 12 - 9 | 13 - 2  | 4 - 4      |                                                     |
|                       | 16   |                       | 12 - 9                                    | 14 - 4 | 14 - 10 | 4 - 11     |                                                     |

#### Notes:

- Section properties are calculated in accordance with the AISI S100-16.
- Web crippling design strengths\* and maximum construction spans are based on 2 1/2" for end bearing and 5" for interior bearing. Check web crippling if minimums are not met.
- Maximum construction spans are based on ANSI/SDI C-2017 Standard for Composite Steel Floor Deck and the following construction loading:
  - Deck self-weight and concrete weight plus worst-case of either a 150 lb. concentrated load or a 20 psf uniform load; or
  - Deck self-weight plus a 50 psf uniform construction load, whichever controls.
- Concrete weights do not include weight of deck.
- Deck profile has been accounted for in determining concrete volumes. Deck and support deflections have not been included in concrete volumes or weights.
- Cantilever clear spans assume adjacent clear span is at least 3 times longer than the cantilever clear span and no greater than spans published above. Bearing width at perimeter support assumed to be 5" minimum. Contact New Millennium otherwise.

### SLAB DESIGN - ALLOWABLE SUPERIMPOSED UNIFORM LOADS AND MINIMUM SDI SLAB REINFORCEMENT

| Total Slab<br>Depth<br>(in) | Gage | Allowable Superimposed Uniform Load (psf) |       |        |        |        |        |        |        |        |                    | Recommended<br>Welded Wire<br>Fabric | Wire<br>Area<br>(in <sup>2</sup> /ft) |
|-----------------------------|------|-------------------------------------------|-------|--------|--------|--------|--------|--------|--------|--------|--------------------|--------------------------------------|---------------------------------------|
|                             |      | Clear Span (ft - in)                      |       |        |        |        |        |        |        |        |                    |                                      |                                       |
|                             |      | 8 - 0                                     | 9 - 0 | 10 - 0 | 11 - 0 | 12 - 0 | 13 - 0 | 14 - 0 | 15 - 0 | 16 - 0 |                    |                                      |                                       |
| 5                           | 22   | 228                                       | 173   | 133    | 104    | 82     | 65     | 52     | 41     | 32     | 6x6 -<br>W1.4xW1.4 | 0.028                                |                                       |
|                             | 20   | 276                                       | 211   | 164    | 130    | 104    | 83     | 67     | 54     | 43     |                    |                                      |                                       |
|                             | 18   | 362                                       | 278   | 219    | 175    | 141    | 115    | 95     | 78     | 64     |                    |                                      |                                       |
|                             | 16   | 400                                       | 347   | 274    | 221    | 180    | 148    | 121    | 98     | 81     |                    |                                      |                                       |
| 5 1/2                       | 22   | 266                                       | 202   | 156    | 123    | 97     | 77     | 61     | 48     | 38     | 6x6 -<br>W1.4xW1.4 | 0.028                                |                                       |
|                             | 20   | 322                                       | 247   | 192    | 152    | 122    | 98     | 79     | 64     | 52     |                    |                                      |                                       |
|                             | 18   | 400                                       | 325   | 256    | 205    | 166    | 135    | 111    | 92     | 76     |                    |                                      |                                       |
|                             | 16   | 400                                       | 400   | 321    | 258    | 210    | 173    | 144    | 120    | 101    |                    |                                      |                                       |
| 6                           | 22   | 307                                       | 233   | 181    | 142    | 112    | 89     | 71     | 57     | 44     | 6x6 -<br>W1.4xW1.4 | 0.028                                |                                       |
|                             | 20   | 372                                       | 285   | 222    | 176    | 141    | 114    | 92     | 75     | 61     |                    |                                      |                                       |
|                             | 18   | 400                                       | 376   | 296    | 237    | 192    | 157    | 129    | 107    | 89     |                    |                                      |                                       |
|                             | 16   | 400                                       | 400   | 371    | 299    | 244    | 201    | 167    | 140    | 118    |                    |                                      |                                       |
| 6 1/2                       | 22   | 349                                       | 266   | 207    | 162    | 129    | 103    | 82     | 65     | 52     | 6x6 -<br>W2.0xW2.0 | 0.040                                |                                       |
|                             | 20   | 400                                       | 325   | 254    | 202    | 162    | 131    | 106    | 86     | 70     |                    |                                      |                                       |
|                             | 18   | 400                                       | 400   | 338    | 271    | 220    | 180    | 149    | 123    | 102    |                    |                                      |                                       |
|                             | 16   | 400                                       | 400   | 400    | 341    | 279    | 230    | 192    | 161    | 135    |                    |                                      |                                       |
| 7                           | 22   | 394                                       | 300   | 233    | 184    | 146    | 117    | 93     | 75     | 59     | 6x6 -<br>W2.0xW2.0 | 0.040                                |                                       |
|                             | 20   | 400                                       | 366   | 287    | 228    | 183    | 148    | 121    | 98     | 80     |                    |                                      |                                       |
|                             | 18   | 400                                       | 400   | 382    | 306    | 249    | 204    | 169    | 140    | 117    |                    |                                      |                                       |
|                             | 16   | 400                                       | 400   | 400    | 386    | 316    | 261    | 218    | 183    | 154    |                    |                                      |                                       |
| 7 1/2                       | 22   | 400                                       | 335   | 261    | 205    | 164    | 131    | 105    | 84     | 67     | 4x4 -<br>W1.4xW1.4 | 0.042                                |                                       |
|                             | 20   | 400                                       | 400   | 321    | 255    | 205    | 166    | 136    | 111    | 90     |                    |                                      |                                       |
|                             | 18   | 400                                       | 400   | 400    | 343    | 279    | 229    | 190    | 158    | 132    |                    |                                      |                                       |
|                             | 16   | 400                                       | 400   | 400    | 400    | 354    | 293    | 245    | 206    | 174    |                    |                                      |                                       |

- Notes:**
- Welded wire fabric shown in the table above is the SDI minimum required for temperature and shrinkage (0.00075 x concrete area above top of deck).
  - Allowable Superimposed Uniform Loads shown in table above are based on the following criteria:
    - Unfactored service level loads, determined using SDI design method per ANSI/SDI C-2017 Standard for Composite Steel Floor Deck-Slabs.
    - Single span conditions without negative bending reinforcing over supports.
    - The presence of shear studs have not been considered, design strength may be increased if shear studs are used.
    - Slab deflection is limited to minimum of Clear Span/360 or 1" under service level superimposed loading.



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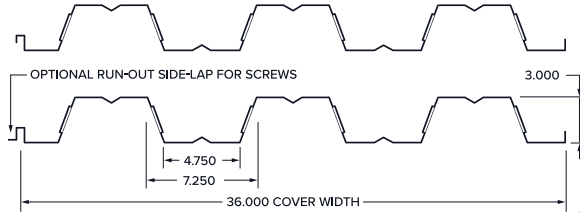
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# 3" Composite Deck (3.0CD)

## NORMAL-WEIGHT CONCRETE

### PROPERTIES

| Gage | Thickness (in) | Cover (in) | Weight (psf) |
|------|----------------|------------|--------------|
| 22   | 0.0295         | 36         | 1.71         |
| 20   | 0.0358         |            | 2.07         |
| 18   | 0.0474         |            | 2.74         |
| 16   | 0.0598         |            | 3.45         |



ICC-ES APPROVED  
REFER TO ESR-3818

### ASD

### SECTION PROPERTIES

| Gage | F <sub>y</sub> (ksi) | A <sub>s</sub> (in <sup>2</sup> /ft) | I <sub>o</sub> 1 Span (in <sup>4</sup> /ft) | I <sub>o</sub> 2+ Span (in <sup>4</sup> /ft) | I <sub>p</sub> (in <sup>4</sup> /ft) | I <sub>n</sub> (in <sup>4</sup> /ft) | S <sub>p</sub> (in <sup>3</sup> /ft) | S <sub>n</sub> (in <sup>3</sup> /ft) | Mn,p/Ω (in-lb/ft) | Mn,n/Ω (in-lb/ft) | Vn/Ω (lb/ft) | *Rbe/Ω (lb/ft) | *Rbi/Ω (lb/ft) |
|------|----------------------|--------------------------------------|---------------------------------------------|----------------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|-------------------|-------------------|--------------|----------------|----------------|
| 22   | 40                   | 0.502                                | 0.770                                       | 0.770                                        | 0.764                                | 0.750                                | 0.407                                | 0.424                                | 9749              | 10151             | 1416         | 336            | 677            |
| 20   | 40                   | 0.609                                | 0.946                                       | 0.946                                        | 0.945                                | 0.934                                | 0.537                                | 0.556                                | 12871             | 13319             | 2227         | 482            | 967            |
| 18   | 40                   | 0.805                                | 1.253                                       | 1.253                                        | 1.252                                | 1.253                                | 0.794                                | 0.802                                | 19016             | 19213             | 3895         | 811            | 1615           |
| 16   | 40                   | 1.015                                | 1.580                                       | 1.580                                        | 1.579                                | 1.579                                | 1.012                                | 1.013                                | 24245             | 24264             | 4901         | 1245           | 2466           |

### DESIGN STRENGTHS (No Concrete Fill)

### CONSTRUCTION CLEAR SPANS

| Total Slab Depth (in) | Gage | Concrete Weight (psf) | Maximum Construction Clear Span (ft - in) |         |         |            | Concrete Volume (ft <sup>3</sup> /ft <sup>2</sup> ) |
|-----------------------|------|-----------------------|-------------------------------------------|---------|---------|------------|-----------------------------------------------------|
|                       |      |                       | Single                                    | Double  | Triple  | Cantilever |                                                     |
| 5                     | 22   | 42                    | 8 - 5                                     | 8 - 5   | 9 - 7   | 3 - 2      | 0.292                                               |
|                       | 20   |                       | 10 - 11                                   | 11 - 7  | 12 - 0  | 4 - 0      |                                                     |
|                       | 18   |                       | 12 - 10                                   | 14 - 0  | 14 - 6  | 4 - 10     |                                                     |
|                       | 16   |                       | 13 - 6                                    | 15 - 8  | 15 - 10 | 5 - 3      |                                                     |
| 5 1/2                 | 22   | 48                    | 7 - 5                                     | 7 - 8   | 8 - 9   | 2 - 11     | 0.333                                               |
|                       | 20   |                       | 10 - 4                                    | 10 - 11 | 11 - 6  | 3 - 10     |                                                     |
|                       | 18   |                       | 12 - 5                                    | 13 - 4  | 13 - 10 | 4 - 7      |                                                     |
|                       | 16   |                       | 13 - 1                                    | 15 - 0  | 15 - 5  | 5 - 1      |                                                     |
| 6                     | 22   | 54                    | 6 - 7                                     | 7 - 1   | 8 - 1   | 2 - 8      | 0.375                                               |
|                       | 20   |                       | 9 - 11                                    | 10 - 1  | 11 - 0  | 3 - 8      |                                                     |
|                       | 18   |                       | 12 - 1                                    | 12 - 10 | 13 - 3  | 4 - 5      |                                                     |
|                       | 16   |                       | 12 - 9                                    | 14 - 4  | 14 - 10 | 4 - 11     |                                                     |
| 6 1/2                 | 22   | 60                    | 5 - 11                                    | 6 - 7   | 7 - 5   | 2 - 5      | 0.417                                               |
|                       | 20   |                       | 9 - 6                                     | 9 - 4   | 10 - 7  | 3 - 6      |                                                     |
|                       | 18   |                       | 11 - 9                                    | 12 - 4  | 12 - 9  | 4 - 3      |                                                     |
|                       | 16   |                       | 12 - 5                                    | 13 - 10 | 14 - 4  | 4 - 9      |                                                     |
| 7                     | 22   | 66                    | 5 - 5                                     | 6 - 1   | 6 - 9   | 2 - 3      | 0.458                                               |
|                       | 20   |                       | 9 - 2                                     | 8 - 8   | 9 - 11  | 3 - 3      |                                                     |
|                       | 18   |                       | 11 - 6                                    | 11 - 11 | 12 - 4  | 4 - 1      |                                                     |
|                       | 16   |                       | 12 - 2                                    | 13 - 4  | 13 - 10 | 4 - 7      |                                                     |
| 7 1/2                 | 22   | 72                    | 5 - 0                                     | 5 - 8   | 6 - 3   | 2 - 1      | 0.500                                               |
|                       | 20   |                       | 8 - 10                                    | 8 - 2   | 9 - 3   | 3 - 1      |                                                     |
|                       | 18   |                       | 11 - 1                                    | 11 - 6  | 11 - 11 | 3 - 11     |                                                     |
|                       | 16   |                       | 11 - 11                                   | 12 - 11 | 13 - 5  | 4 - 5      |                                                     |

### Notes:

- Section properties are calculated in accordance with the AISI S100-16.
- Web crippling design strengths\* and maximum construction spans are based on 2 1/2" for end bearing and 5" for interior bearing. Check web crippling if minimums are not met.
- Maximum construction spans are based on ANSI/SDI C-2017 Standard for Composite Steel Floor Deck and the following construction loading:
  - Deck self-weight and concrete weight plus worst-case of either a 150 lb. concentrated load or a 20 psf uniform load; or
  - Deck self-weight plus a 50 psf uniform construction load, whichever controls.
- Concrete weights do not include weight of deck.
- Deck profile has been accounted for in determining concrete volumes. Deck and support deflections have not been included in concrete volumes or weights.
- Cantilever clear spans assume adjacent clear span is at least 3 times longer than the cantilever clear span and no greater than spans published above. Bearing width at perimeter support assumed to be 5" minimum. Contact New Millennium otherwise.

### SLAB DESIGN - ALLOWABLE SUPERIMPOSED UNIFORM LOADS AND MINIMUM SDI SLAB REINFORCEMENT

| Normal Weight Concrete (γ <sub>c</sub> = 145 pcf, f' <sub>c</sub> = 3000 psi, n = 9) | Total Slab Depth (in) | Gage | Allowable Superimposed Uniform Load (psf) |       |        |        |        |        |        |        |                 |       | Recommended Welded Wire Fabric | Wire Area (in <sup>2</sup> /ft) |
|--------------------------------------------------------------------------------------|-----------------------|------|-------------------------------------------|-------|--------|--------|--------|--------|--------|--------|-----------------|-------|--------------------------------|---------------------------------|
|                                                                                      |                       |      | Clear Span (ft - in)                      |       |        |        |        |        |        |        |                 |       |                                |                                 |
|                                                                                      |                       |      | 8 - 0                                     | 9 - 0 | 10 - 0 | 11 - 0 | 12 - 0 | 13 - 0 | 14 - 0 | 15 - 0 | 16 - 0          |       |                                |                                 |
| 5                                                                                    | 22                    | 229  | 171                                       | 130   | 100    | 77     | 59     | 45     | 34     | 24     | 6x6 - W1.4xW1.4 | 0.028 |                                |                                 |
|                                                                                      | 20                    | 280  | 212                                       | 163   | 127    | 100    | 79     | 62     | 48     | 37     |                 |       |                                |                                 |
|                                                                                      | 18                    | 372  | 284                                       | 222   | 175    | 140    | 113    | 91     | 73     | 59     |                 |       |                                |                                 |
|                                                                                      | 16                    | 400  | 358                                       | 281   | 225    | 181    | 148    | 121    | 100    | 82     |                 |       |                                |                                 |
| 5 1/2                                                                                | 22                    | 267  | 201                                       | 153   | 118    | 91     | 70     | 54     | 40     | 29     | 6x6 - W1.4xW1.4 | 0.028 |                                |                                 |
|                                                                                      | 20                    | 327  | 248                                       | 191   | 149    | 117    | 93     | 73     | 57     | 44     |                 |       |                                |                                 |
|                                                                                      | 18                    | 400  | 332                                       | 259   | 206    | 165    | 133    | 107    | 87     | 70     |                 |       |                                |                                 |
|                                                                                      | 16                    | 400  | 400                                       | 329   | 263    | 213    | 174    | 143    | 118    | 97     |                 |       |                                |                                 |
| 6                                                                                    | 22                    | 308  | 232                                       | 177   | 136    | 106    | 82     | 63     | 47     | 35     | 6x6 - W1.4xW1.4 | 0.028 |                                |                                 |
|                                                                                      | 20                    | 377  | 286                                       | 221   | 173    | 136    | 108    | 85     | 67     | 52     |                 |       |                                |                                 |
|                                                                                      | 18                    | 400  | 383                                       | 300   | 238    | 191    | 154    | 125    | 101    | 82     |                 |       |                                |                                 |
|                                                                                      | 16                    | 400  | 400                                       | 380   | 304    | 246    | 201    | 166    | 137    | 113    |                 |       |                                |                                 |
| 6 1/2                                                                                | 22                    | 350  | 264                                       | 202   | 156    | 121    | 94     | 73     | 55     | 41     | 6x6 - W2.0xW2.0 | 0.040 |                                |                                 |
|                                                                                      | 20                    | 400  | 326                                       | 252   | 198    | 156    | 124    | 98     | 77     | 60     |                 |       |                                |                                 |
|                                                                                      | 18                    | 400  | 400                                       | 342   | 272    | 218    | 177    | 144    | 117    | 95     |                 |       |                                |                                 |
|                                                                                      | 16                    | 400  | 400                                       | 400   | 348    | 282    | 231    | 190    | 157    | 131    |                 |       |                                |                                 |
| 7                                                                                    | 22                    | 394  | 297                                       | 228   | 176    | 137    | 107    | 83     | 63     | 47     | 6x6 - W2.0xW2.0 | 0.040 |                                |                                 |
|                                                                                      | 20                    | 400  | 368                                       | 285   | 223    | 177    | 140    | 112    | 88     | 69     |                 |       |                                |                                 |
|                                                                                      | 18                    | 400  | 400                                       | 386   | 307    | 247    | 200    | 163    | 133    | 109    |                 |       |                                |                                 |
|                                                                                      | 16                    | 400  | 400                                       | 400   | 393    | 319    | 261    | 216    | 179    | 149    |                 |       |                                |                                 |
| 7 1/2                                                                                | 22                    | 400  | 332                                       | 254   | 197    | 154    | 120    | 93     | 72     | 54     | 4x4 - W1.4xW1.4 | 0.042 |                                |                                 |
|                                                                                      | 20                    | 400  | 400                                       | 318   | 250    | 198    | 158    | 126    | 100    | 79     |                 |       |                                |                                 |
|                                                                                      | 18                    | 400  | 400                                       | 400   | 343    | 276    | 224    | 183    | 150    | 122    |                 |       |                                |                                 |
|                                                                                      | 16                    | 400  | 400                                       | 400   | 400    | 357    | 293    | 242    | 201    | 167    |                 |       |                                |                                 |

- Notes:
- Welded wire fabric shown in the table above is the SDI minimum required for temperature and shrinkage (0.00075 x concrete area above top of deck).
  - Allowable Superimposed Uniform Loads shown in table above are based on the following criteria:
    - Unfactored service level loads, determined using SDI design method per ANSI/SDI C-2017 Standard for Composite Steel Floor Deck-Slabs.
    - Single span conditions without negative bending reinforcing over supports.
    - The presence of shear studs have not been considered, design strength may be increased if shear studs are used.
    - Slab deflection is limited to minimum of Clear Span/360 or 1" under service level superimposed loading.



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