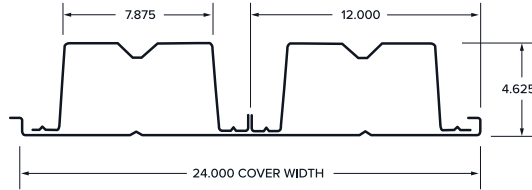


# 4.5" Deep-Dek® Cellular (4.5DC)

## PROPERTIES

| Gage<br>(Hat/Pan) | Thickness<br>(in) | Cover<br>(in) | Weight<br>(psf) |
|-------------------|-------------------|---------------|-----------------|
| 20/20             | 0.0358/0.0358     | 24            | 4.47            |
| 20/18             | 0.0358/0.0474     |               | 5.05            |
| 18/20             | 0.0474/0.0358     |               | 5.35            |
| 18/18             | 0.0474/0.0474     |               | 5.92            |



ICC-ES APPROVED  
REFER TO ESR-2657

## ASD

## SECTION PROPERTIES

## DESIGN STRENGTHS

| Gage  | F <sub>y</sub><br>(ksi) | I <sub>D</sub> 1 Span<br>(in <sup>4</sup> /ft) | I <sub>D</sub> 2+ Span<br>(in <sup>4</sup> /ft) | I <sub>p</sub><br>(in <sup>4</sup> /ft) | I <sub>n</sub><br>(in <sup>4</sup> /ft) | S <sub>p</sub><br>(in <sup>3</sup> /ft) | S <sub>n</sub><br>(in <sup>3</sup> /ft) | M <sub>n,p</sub> /Ω<br>(in-lb/ft) | M <sub>n,n</sub> /Ω<br>(in-lb/ft) | V <sub>n</sub> /Ω<br>(lb/ft) | *R <sub>be</sub> /Ω<br>(lb/ft) | *R <sub>bi</sub> /Ω<br>(lb/ft) |
|-------|-------------------------|------------------------------------------------|-------------------------------------------------|-----------------------------------------|-----------------------------------------|-----------------------------------------|-----------------------------------------|-----------------------------------|-----------------------------------|------------------------------|--------------------------------|--------------------------------|
| 20/20 | 40                      | 4.343                                          | 4.343                                           | 4.083                                   | 4.058                                   | 1.051                                   | 1.545                                   | 25166                             | 37007                             | 1871                         | 588                            | 1164                           |
| 20/18 | 40                      | 4.634                                          | 4.839                                           | 4.322                                   | 4.628                                   | 1.054                                   | 1.603                                   | 25237                             | 38391                             | 1871                         | 588                            | 1164                           |
| 18/20 | 40                      | 5.750                                          | 5.750                                           | 5.638                                   | 4.995                                   | 1.728                                   | 2.008                                   | 41388                             | 48085                             | 4224                         | 990                            | 1925                           |
| 18/18 | 40                      | 6.210                                          | 6.210                                           | 6.085                                   | 5.626                                   | 1.727                                   | 2.076                                   | 41361                             | 49716                             | 4224                         | 990                            | 1925                           |

- Notes:**
- Section properties are calculated in accordance with the AISI S100-16.
  - Web crippling design strengths\* are based on minimum bearing lengths of 4" for end bearing and 6" for interior bearing.

## ALLOWABLE UNIFORM LOADS AND MAXIMUM CONSTRUCTION SPANS

| Span Condition | Gage  | Allowable Uniform Total Load (psf) / Load that Produces L/240 Deflection (psf) |           |           |           |           |          |          |          |         |         | SDI Max. Constr. Span (ctr / ctr) |
|----------------|-------|--------------------------------------------------------------------------------|-----------|-----------|-----------|-----------|----------|----------|----------|---------|---------|-----------------------------------|
|                |       | Center to Center Span (ft - in)                                                |           |           |           |           |          |          |          |         |         |                                   |
|                |       | 11 - 0                                                                         | 12 - 0    | 13 - 0    | 14 - 0    | 15 - 0    | 16 - 0   | 18 - 0   | 20 - 0   | 22 - 0  | 24 - 0  |                                   |
| Single         | 20/20 | 107 / 214                                                                      | 98 / 165  | 90 / 130  | 84 / 104  | 75 / 84   | 66 / 70  | 52 / 49  | 42 / 36  | 35 / 27 | 29 / 21 | 31 - 1                            |
|                | 20/18 | 107 / 228                                                                      | 98 / 176  | 90 / 138  | 84 / 111  | 75 / 90   | 66 / 74  | 52 / 52  | 42 / 38  | 35 / 29 | 29 / 22 | 30 - 4                            |
|                | 18/20 | 180 / 283                                                                      | 165 / 218 | 152 / 172 | 141 / 137 | 123 / 112 | 108 / 92 | 85 / 65  | 69 / 47  | 57 / 35 | 48 / 27 | 40 - 0                            |
|                | 18/18 | 180 / 306                                                                      | 165 / 236 | 152 / 185 | 141 / 148 | 123 / 121 | 108 / 99 | 85 / 70  | 69 / 51  | 57 / 38 | 48 / 29 | 40 - 0                            |
| Double         | 20/20 | 85 / 516                                                                       | 78 / 397  | 72 / 312  | 67 / 250  | 62 / 203  | 58 / 168 | 52 / 118 | 47 / 86  | -       | -       | 37 - 1                            |
|                | 20/18 | 85 / 575                                                                       | 78 / 443  | 72 / 348  | 67 / 279  | 62 / 227  | 58 / 187 | 52 / 131 | 47 / 96  | -       | -       | 36 - 2                            |
|                | 18/20 | 140 / 683                                                                      | 128 / 526 | 118 / 414 | 110 / 331 | 103 / 269 | 96 / 222 | 86 / 156 | 77 / 114 | -       | -       | 40 - 0                            |
|                | 18/18 | 140 / 737                                                                      | 128 / 568 | 118 / 447 | 110 / 358 | 103 / 291 | 96 / 240 | 86 / 168 | 77 / 123 | -       | -       | 40 - 0                            |
| Triple         | 20/20 | 96 / 404                                                                       | 88 / 311  | 81 / 245  | 76 / 196  | 71 / 159  | -        | -        | -        | -       | -       | 37 - 7                            |
|                | 20/18 | 96 / 450                                                                       | 88 / 346  | 81 / 272  | 76 / 218  | 71 / 177  | -        | -        | -        | -       | -       | 36 - 7                            |
|                | 18/20 | 159 / 534                                                                      | 146 / 412 | 135 / 324 | 125 / 259 | 117 / 211 | -        | -        | -        | -       | -       | 40 - 0                            |
|                | 18/18 | 159 / 577                                                                      | 146 / 445 | 135 / 350 | 125 / 280 | 117 / 228 | -        | -        | -        | -       | -       | 40 - 0                            |

- Notes:**
- Allowable Uniform Loads and maximum construction spans shown are based on the following criteria:
    - ANSI/SDI RD-2017 Standard for Steel Roof Deck
    - Minimum bearing lengths of 4" for end bearing and 6" for interior bearing. Check web crippling if minimums are not met.
  - Maximum construction spans shown include a check for deck self-weight plus a nominal 200 lbs. concentrated load supported by a one foot section of deck per SDI criteria which exceeds the IBC requirement of a 300 lbs. roof maintenance load distributed over an area of 2 1/2 feet by 2 1/2 feet per Section 1607.4 and Table 1607.1.
  - "Load that Produces L/240 Deflection" values shown in RED exceed the "Allowable Uniform Total Load". These loads may be used to determine the deck capacity under deflection limits more stringent than L/240. In no case shall the "Allowable Uniform Total Load" be exceeded.
  - See website at [www.newmill.com](http://www.newmill.com) for Factory Mutual approved deck types and maximum FM construction spans.

## MAXIMUM CANTILEVER SPANS

| Gage  | F <sub>y</sub><br>(ksi) | Back-Span Condition |        |        |
|-------|-------------------------|---------------------|--------|--------|
|       |                         | Single              | Double | Triple |
| 20/20 | 40                      | 7 - 10              | 5 - 11 | 4 - 4  |
| 20/18 | 40                      | 9 - 1               | 5 - 11 | 4 - 4  |
| 18/20 | 40                      | 9 - 11              | 5 - 11 | 4 - 4  |
| 18/18 | 40                      | 9 - 11              | 5 - 11 | 4 - 4  |

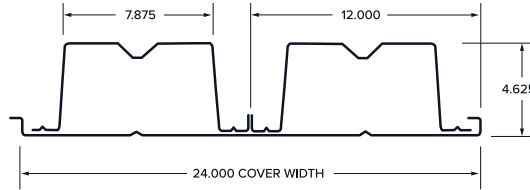
### Notes:

- Maximum cantilever spans shown are based on the following criteria:
  - ANSI/SDI RD-2017 Standard for Steel Roof Deck
  - Adjacent span assumed to be at least 3 times longer than the cantilever and no greater than the maximum design or construction spans shown in table above
  - Bearing width at perimeter support assumed to be 6" minimum
  - Design total uniform load of 45 psf in conjunction with a 100 lb. concentrated load.

# 4.5" Deep-Dek® Cellular (4.5DC)

## PROPERTIES

| Gage<br>(Hat/Pan) | Thickness<br>(in) | Cover<br>(in) | Weight<br>(psf) |
|-------------------|-------------------|---------------|-----------------|
| 18/16             | 0.0474/0.0598     | 24            | 6.54            |
| 16/18             | 0.0598/0.0474     |               | 6.86            |
| 16/16             | 0.0598/0.0598     |               | 7.47            |
| 14/16             | 0.0747/0.0598     |               | 8.59            |



ICC-ES APPROVED  
REFER TO ESR-2657

## ASD

## SECTION PROPERTIES

## DESIGN STRENGTHS

| Gage  | F <sub>y</sub><br>(ksi) | I <sub>D</sub> 1 Span<br>(in <sup>4</sup> /ft) | I <sub>D</sub> 2+ Span<br>(in <sup>4</sup> /ft) | I <sub>p</sub><br>(in <sup>4</sup> /ft) | I <sub>n</sub><br>(in <sup>4</sup> /ft) | S <sub>p</sub><br>(in <sup>3</sup> /ft) | S <sub>n</sub><br>(in <sup>3</sup> /ft) | M <sub>n,p</sub> /Ω<br>(in-lb/ft) | M <sub>n,n</sub> /Ω<br>(in-lb/ft) | V <sub>n</sub> /Ω<br>(lb/ft) | *R <sub>be</sub> /Ω<br>(lb/ft) | *R <sub>bi</sub> /Ω<br>(lb/ft) |
|-------|-------------------------|------------------------------------------------|-------------------------------------------------|-----------------------------------------|-----------------------------------------|-----------------------------------------|-----------------------------------------|-----------------------------------|-----------------------------------|------------------------------|--------------------------------|--------------------------------|
| 18/16 | 40                      | 6.629                                          | 6.629                                           | 6.491                                   | 6.277                                   | 1.726                                   | 2.141                                   | 41330                             | 51271                             | 4224                         | 990                            | 1925                           |
| 16/18 | 40                      | 7.655                                          | 7.655                                           | 7.655                                   | 6.647                                   | 2.449                                   | 2.574                                   | 58649                             | 61648                             | 6723                         | 1518                           | 2917                           |
| 16/16 | 40                      | 8.180                                          | 8.180                                           | 8.180                                   | 7.378                                   | 2.493                                   | 2.651                                   | 59718                             | 63494                             | 6723                         | 1518                           | 2917                           |
| 14/16 | 40                      | 9.619                                          | 9.619                                           | 9.619                                   | 8.638                                   | 3.353                                   | 3.254                                   | 80304                             | 77933                             | 9675                         | 2279                           | 4341                           |

- Notes:**
- Section properties are calculated in accordance with the AISI S100-16.
  - Web crippling design strengths\* are based on minimum bearing lengths of 4" for end bearing and 6" for interior bearing.

## ALLOWABLE UNIFORM LOADS AND MAXIMUM CONSTRUCTION SPANS

| Span<br>Condition | Gage  | Allowable Uniform Total Load (psf) / Load that Produces L/240 Deflection (psf) |           |           |           |           |           |           |          |         |         | SDI Max.<br>Constr.<br>Span<br>(ctr / ctr) |
|-------------------|-------|--------------------------------------------------------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|----------|---------|---------|--------------------------------------------|
|                   |       | Center to Center Span (ft - in)                                                |           |           |           |           |           |           |          |         |         |                                            |
|                   |       | 13 - 0                                                                         | 14 - 0    | 15 - 0    | 16 - 0    | 17 - 0    | 18 - 0    | 20 - 0    | 22 - 0   | 24 - 0  | 26 - 0  |                                            |
| Single            | 18/16 | 152 / 198                                                                      | 141 / 158 | 122 / 129 | 108 / 106 | 95 / 88   | 85 / 75   | 69 / 54   | 57 / 41  | 48 / 31 | 41 / 25 | 40 - 0                                     |
|                   | 16/18 | 231 / 228                                                                      | 199 / 183 | 174 / 149 | 153 / 123 | 135 / 102 | 121 / 86  | 98 / 63   | 81 / 47  | 68 / 36 | 58 / 29 | 40 - 0                                     |
|                   | 16/16 | 233 / 244                                                                      | 203 / 195 | 177 / 159 | 156 / 131 | 138 / 109 | 123 / 92  | 100 / 67  | 82 / 50  | 69 / 39 | 59 / 31 | 40 - 0                                     |
|                   | 14/16 | 317 / 287                                                                      | 273 / 230 | 238 / 187 | 209 / 154 | 185 / 128 | 165 / 108 | 134 / 79  | 111 / 59 | 93 / 46 | 79 / 36 | 40 - 0                                     |
| Double            | 18/16 | 118 / 477                                                                      | 110 / 382 | 103 / 310 | 96 / 256  | 91 / 213  | 86 / 180  | 77 / 131  | -        | -       | -       | 40 - 0                                     |
|                   | 16/18 | 179 / 551                                                                      | 167 / 441 | 156 / 359 | 146 / 295 | 137 / 246 | 124 / 207 | 101 / 151 | -        | -       | -       | 40 - 0                                     |
|                   | 16/16 | 179 / 589                                                                      | 167 / 471 | 156 / 383 | 146 / 316 | 137 / 263 | 128 / 222 | 104 / 162 | -        | -       | -       | 40 - 0                                     |
|                   | 14/16 | 267 / 692                                                                      | 248 / 554 | 225 / 451 | 199 / 371 | 176 / 309 | 158 / 261 | 128 / 190 | -        | -       | -       | 40 - 0                                     |
| Triple            | 18/16 | 135 / 373                                                                      | 125 / 299 | 117 / 243 | -         | -         | -         | -         | -        | -       | -       | 40 - 0                                     |
|                   | 16/18 | 204 / 431                                                                      | 189 / 345 | 177 / 281 | -         | -         | -         | -         | -        | -       | -       | 40 - 0                                     |
|                   | 16/16 | 204 / 461                                                                      | 189 / 369 | 177 / 300 | -         | -         | -         | -         | -        | -       | -       | 40 - 0                                     |
|                   | 14/16 | 304 / 542                                                                      | 282 / 434 | 263 / 353 | -         | -         | -         | -         | -        | -       | -       | 40 - 0                                     |

- Notes:**
- Allowable Uniform Loads and maximum construction spans shown are based on the following criteria:
    - ANSI/SDI RD-2017 Standard for Steel Roof Deck
    - Minimum bearing lengths of 4" for end bearing and 6" for interior bearing. Check web crippling if minimums are not met.
  - Maximum construction spans shown include a check for deck self-weight plus a nominal 200 lbs. concentrated load supported by a one foot section of deck per SDI criteria which exceeds the IBC requirement of a 300 lbs. roof maintenance load distributed over an area of 2 1/2 feet by 2 1/2 feet per Section 1607.4 and Table 1607.1.
  - "Load that Produces L/240 Deflection" values shown in RED exceed the "Allowable Uniform Total Load". These loads may be used to determine the deck capacity under deflection limits more stringent than L/240. In no case shall the "Allowable Uniform Total Load" be exceeded.
  - See website at [www.newmill.com](http://www.newmill.com) for Factory Mutual approved deck types and maximum FM construction spans.

## MAXIMUM CANTILEVER SPANS

| Gage  | F <sub>y</sub><br>(ksi) | Back-Span Condition |        |        |
|-------|-------------------------|---------------------|--------|--------|
|       |                         | Single              | Double | Triple |
| 18/16 | 40                      | 9 - 11              | 5 - 11 | 4 - 4  |
| 16/18 | 40                      | 9 - 11              | 5 - 11 | 4 - 4  |
| 16/16 | 40                      | 9 - 11              | 5 - 11 | 4 - 4  |
| 14/16 | 40                      | 9 - 11              | 5 - 11 | 4 - 4  |

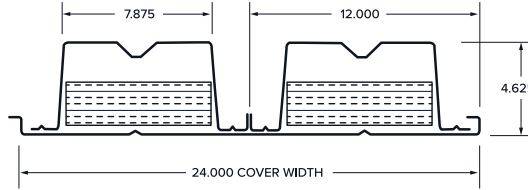
### Notes:

- Maximum cantilever spans shown are based on the following criteria:
  - ANSI/SDI RD-2017 Standard for Steel Roof Deck
  - Adjacent span assumed to be at least 3 times longer than the cantilever and no greater than the maximum design or construction spans shown in table above
  - Bearing width at perimeter support assumed to be 6" minimum
  - Design total uniform load of 45 psf in conjunction with a 100 lb. concentrated load.

# 4.5" Deep-Dek® Cellular Acoustical (4.5DCA)

## PROPERTIES

| Gage<br>(Hat/Pan) | Thickness<br>(in) | Cover<br>(in) | Weight<br>(psf) |
|-------------------|-------------------|---------------|-----------------|
| 20/20             | 0.0358/0.0358     | 24            | 4.32            |
| 20/18             | 0.0358/0.0474     |               | 4.84            |
| 18/20             | 0.0474/0.0358     |               | 5.19            |
| 18/18             | 0.0474/0.0474     |               | 5.72            |



ICC-ES APPROVED  
REFER TO ESR-2657

## ASD

### SECTION PROPERTIES

### DESIGN STRENGTHS

| Gage  | F <sub>y</sub><br>(ksi) | I <sub>D</sub> 1 Span<br>(in <sup>4</sup> /ft) | I <sub>D</sub> 2+ Span<br>(in <sup>4</sup> /ft) | I <sub>p</sub><br>(in <sup>4</sup> /ft) | I <sub>n</sub><br>(in <sup>4</sup> /ft) | S <sub>p</sub><br>(in <sup>3</sup> /ft) | S <sub>n</sub><br>(in <sup>3</sup> /ft) | M <sub>n,p</sub> /Ω<br>(in-lb/ft) | M <sub>n,n</sub> /Ω<br>(in-lb/ft) | V <sub>n</sub> /Ω<br>(lb/ft) | *R <sub>be</sub> /Ω<br>(lb/ft) | *R <sub>bi</sub> /Ω<br>(lb/ft) |
|-------|-------------------------|------------------------------------------------|-------------------------------------------------|-----------------------------------------|-----------------------------------------|-----------------------------------------|-----------------------------------------|-----------------------------------|-----------------------------------|------------------------------|--------------------------------|--------------------------------|
| 20/20 | 40                      | 4.243                                          | 4.283                                           | 4.001                                   | 4.061                                   | 1.051                                   | 1.545                                   | 25167                             | 37017                             | 1871                         | 588                            | 1164                           |
| 20/18 | 40                      | 4.528                                          | 4.787                                           | 4.235                                   | 4.624                                   | 1.053                                   | 1.603                                   | 25222                             | 38384                             | 1871                         | 588                            | 1164                           |
| 18/20 | 40                      | 5.597                                          | 5.597                                           | 5.490                                   | 4.998                                   | 1.723                                   | 2.008                                   | 41279                             | 48097                             | 4224                         | 990                            | 1925                           |
| 18/18 | 40                      | 6.040                                          | 6.040                                           | 5.920                                   | 5.623                                   | 1.728                                   | 2.075                                   | 41378                             | 49711                             | 4224                         | 990                            | 1925                           |

- Notes:**
- Section properties are calculated in accordance with the AISI S100-16, with perforation modifiers.
  - Web crippling design strengths\* are based on minimum bearing lengths of 4" for end bearing and 6" for interior bearing.

## ALLOWABLE UNIFORM LOADS AND MAXIMUM CONSTRUCTION SPANS

| Span Condition | Gage  | Allowable Uniform Total Load (psf) / Load that Produces L/240 Deflection (psf) |           |           |           |           |          |          |          |         |         | SDI Max. Constr. Span (ctr / ctr) |
|----------------|-------|--------------------------------------------------------------------------------|-----------|-----------|-----------|-----------|----------|----------|----------|---------|---------|-----------------------------------|
|                |       | Center to Center Span (ft - in)                                                |           |           |           |           |          |          |          |         |         |                                   |
|                |       | 11 - 0                                                                         | 12 - 0    | 13 - 0    | 14 - 0    | 15 - 0    | 16 - 0   | 18 - 0   | 20 - 0   | 22 - 0  | 24 - 0  |                                   |
| Single         | 20/20 | 107 / 209                                                                      | 98 / 161  | 90 / 127  | 84 / 101  | 75 / 82   | 66 / 68  | 52 / 48  | 42 / 35  | 35 / 26 | 29 / 20 | 31 - 4                            |
|                | 20/18 | 107 / 223                                                                      | 98 / 172  | 90 / 135  | 84 / 108  | 75 / 88   | 66 / 72  | 52 / 51  | 42 / 37  | 35 / 28 | 29 / 21 | 30 - 7                            |
|                | 18/20 | 180 / 276                                                                      | 165 / 212 | 152 / 167 | 140 / 134 | 122 / 109 | 107 / 90 | 85 / 63  | 69 / 46  | 57 / 34 | 48 / 27 | 40 - 0                            |
|                | 18/18 | 180 / 297                                                                      | 165 / 229 | 152 / 180 | 141 / 144 | 123 / 117 | 108 / 97 | 85 / 68  | 69 / 49  | 57 / 37 | 48 / 29 | 40 - 0                            |
| Double         | 20/20 | 85 / 509                                                                       | 78 / 392  | 72 / 308  | 67 / 247  | 62 / 201  | 58 / 165 | 52 / 116 | 47 / 85  | -       | -       | 37 - 4                            |
|                | 20/18 | 85 / 569                                                                       | 78 / 438  | 72 / 344  | 67 / 276  | 62 / 224  | 58 / 185 | 52 / 130 | 47 / 95  | -       | -       | 36 - 6                            |
|                | 18/20 | 140 / 665                                                                      | 128 / 512 | 118 / 403 | 110 / 322 | 103 / 262 | 96 / 216 | 86 / 152 | 77 / 111 | -       | -       | 40 - 0                            |
|                | 18/18 | 140 / 717                                                                      | 128 / 552 | 118 / 435 | 110 / 348 | 103 / 283 | 96 / 233 | 86 / 164 | 77 / 119 | -       | -       | 40 - 0                            |
| Triple         | 20/20 | 96 / 398                                                                       | 88 / 307  | 81 / 241  | 76 / 193  | 71 / 157  | -        | -        | -        | -       | -       | 37 - 10                           |
|                | 20/18 | 96 / 445                                                                       | 88 / 343  | 81 / 270  | 76 / 216  | 71 / 175  | -        | -        | -        | -       | -       | 36 - 11                           |
|                | 18/20 | 159 / 520                                                                      | 146 / 401 | 135 / 315 | 125 / 252 | 117 / 205 | -        | -        | -        | -       | -       | 40 - 0                            |
|                | 18/18 | 159 / 561                                                                      | 146 / 432 | 135 / 340 | 125 / 272 | 117 / 221 | -        | -        | -        | -       | -       | 40 - 0                            |

- Notes:**
- Allowable Uniform Loads and maximum construction spans shown are based on the following criteria:
    - ANSI/SDI RD-2017 Standard for Steel Roof Deck
    - Minimum bearing lengths of 4" for end bearing and 6" for interior bearing. Check web crippling if minimums are not met.
  - Maximum construction spans shown include a check for deck self-weight plus a nominal 200 lbs. concentrated load supported by a one foot section of deck per SDI criteria which exceeds the IBC requirement of a 300 lbs. roof maintenance load distributed over an area of 2 1/2 feet by 2 1/2 feet per Section 1607.4 and Table 1607.1.
  - "Load that Produces L/240 Deflection" values shown in RED exceed the "Allowable Uniform Total Load". These loads may be used to determine the deck capacity under deflection limits more stringent than L/240. In no case shall the "Allowable Uniform Total Load" be exceeded.
  - See website at [www.newmill.com](http://www.newmill.com) for Factory Mutual approved deck types and maximum FM construction spans.

## MAXIMUM CANTILEVER SPANS

| Gage  | F <sub>y</sub><br>(ksi) | Back-Span Condition |        |        |
|-------|-------------------------|---------------------|--------|--------|
|       |                         | Single              | Double | Triple |
| 20/20 | 40                      | 7 - 10              | 5 - 11 | 4 - 4  |
| 20/18 | 40                      | 9 - 1               | 5 - 11 | 4 - 4  |
| 18/20 | 40                      | 9 - 11              | 5 - 11 | 4 - 4  |
| 18/18 | 40                      | 9 - 11              | 5 - 11 | 4 - 4  |

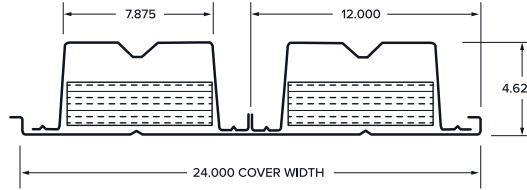
### Notes:

- Maximum cantilever spans shown are based on the following criteria:
  - ANSI/SDI RD-2017 Standard for Steel Roof Deck
  - Adjacent span assumed to be at least 3 times longer than the cantilever and no greater than the maximum design or construction spans shown in table above
  - Bearing width at perimeter support assumed to be 6" minimum
  - Design total uniform load of 45 psf in conjunction with a 100 lb. concentrated load.

# 4.5" Deep-Dek® Cellular Acoustical (4.5DCA)

## PROPERTIES

| Gage<br>(Hat/Pan) | Thickness<br>(in) | Cover<br>(in) | Weight<br>(psf) |
|-------------------|-------------------|---------------|-----------------|
| 18/16             | 0.0474/0.0598     | 24            | 6.27            |
| 16/18             | 0.0598/0.0474     |               | 6.65            |
| 16/16             | 0.0598/0.0598     |               | 7.21            |
| 14/16             | 0.0747/0.0598     |               | 8.33            |



ICC-ES APPROVED  
REFER TO ESR-2657

## ASD

### SECTION PROPERTIES

### DESIGN STRENGTHS

| Gage  | F <sub>y</sub><br>(ksi) | I <sub>b</sub> 1 Span<br>(in <sup>4</sup> /ft) | I <sub>b</sub> 2+ Span<br>(in <sup>4</sup> /ft) | I <sub>p</sub><br>(in <sup>4</sup> /ft) | I <sub>n</sub><br>(in <sup>4</sup> /ft) | S <sub>p</sub><br>(in <sup>3</sup> /ft) | S <sub>n</sub><br>(in <sup>3</sup> /ft) | M <sub>n,p</sub> /Ω<br>(in-lb/ft) | M <sub>n,n</sub> /Ω<br>(in-lb/ft) | V <sub>n</sub> /Ω<br>(lb/ft) | *R <sub>be</sub> /Ω<br>(lb/ft) | *R <sub>bi</sub> /Ω<br>(lb/ft) |
|-------|-------------------------|------------------------------------------------|-------------------------------------------------|-----------------------------------------|-----------------------------------------|-----------------------------------------|-----------------------------------------|-----------------------------------|-----------------------------------|------------------------------|--------------------------------|--------------------------------|
| 18/16 | 40                      | 6.447                                          | 6.447                                           | 6.315                                   | 6.261                                   | 1.726                                   | 2.139                                   | 41350                             | 51239                             | 4224                         | 990                            | 1925                           |
| 16/18 | 40                      | 7.446                                          | 7.446                                           | 7.446                                   | 6.646                                   | 2.430                                   | 2.574                                   | 58202                             | 61646                             | 6723                         | 1518                           | 2917                           |
| 16/16 | 40                      | 7.951                                          | 7.951                                           | 7.951                                   | 7.363                                   | 2.474                                   | 2.650                                   | 59260                             | 63462                             | 6723                         | 1518                           | 2917                           |
| 14/16 | 40                      | 9.354                                          | 9.354                                           | 9.354                                   | 8.624                                   | 3.327                                   | 3.252                                   | 79688                             | 77903                             | 9675                         | 2279                           | 4341                           |

- Notes:**
- Section properties are calculated in accordance with the AISI S100-16, with perforation modifiers.
  - Web crippling design strengths\* are based on minimum bearing lengths of 4" for end bearing and 6" for interior bearing.

## ALLOWABLE UNIFORM LOADS AND MAXIMUM CONSTRUCTION SPANS

| Span<br>Condition | Gage  | Allowable Uniform Total Load (psf) / Load that Produces L/240 Deflection (psf) |           |           |           |           |           |           |          |         |         | SDI Max.<br>Constr.<br>Span<br>(ctr / ctr) |
|-------------------|-------|--------------------------------------------------------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|----------|---------|---------|--------------------------------------------|
|                   |       | Center to Center Span (ft - in)                                                |           |           |           |           |           |           |          |         |         |                                            |
|                   |       | 13 - 0                                                                         | 14 - 0    | 15 - 0    | 16 - 0    | 17 - 0    | 18 - 0    | 20 - 0    | 22 - 0   | 24 - 0  | 26 - 0  |                                            |
| Single            | 18/16 | 152 / 192                                                                      | 141 / 154 | 123 / 125 | 108 / 103 | 95 / 86   | 85 / 72   | 69 / 53   | 57 / 40  | 48 / 31 | 41 / 24 | 40 - 0                                     |
|                   | 16/18 | 230 / 222                                                                      | 198 / 178 | 172 / 145 | 152 / 119 | 134 / 99  | 120 / 84  | 97 / 61   | 80 / 46  | 67 / 35 | 57 / 28 | 40 - 0                                     |
|                   | 16/16 | 233 / 237                                                                      | 202 / 190 | 176 / 154 | 154 / 127 | 137 / 106 | 122 / 89  | 99 / 65   | 82 / 49  | 69 / 38 | 58 / 30 | 40 - 0                                     |
|                   | 14/16 | 314 / 279                                                                      | 271 / 223 | 236 / 182 | 208 / 150 | 184 / 125 | 164 / 105 | 133 / 77  | 110 / 58 | 92 / 44 | 79 / 35 | 40 - 0                                     |
| Double            | 18/16 | 118 / 464                                                                      | 110 / 371 | 103 / 302 | 96 / 249  | 91 / 207  | 86 / 175  | 77 / 127  | -        | -       | -       | 40 - 0                                     |
|                   | 16/18 | 179 / 536                                                                      | 167 / 429 | 156 / 349 | 146 / 287 | 137 / 240 | 124 / 202 | 101 / 147 | -        | -       | -       | 40 - 0                                     |
|                   | 16/16 | 179 / 572                                                                      | 167 / 458 | 156 / 372 | 146 / 307 | 137 / 256 | 128 / 216 | 104 / 157 | -        | -       | -       | 40 - 0                                     |
|                   | 14/16 | 267 / 673                                                                      | 248 / 539 | 225 / 438 | 199 / 361 | 176 / 301 | 158 / 254 | 128 / 185 | -        | -       | -       | 40 - 0                                     |
| Triple            | 18/16 | 135 / 363                                                                      | 125 / 291 | 117 / 236 | -         | -         | -         | -         | -        | -       | -       | 40 - 0                                     |
|                   | 16/18 | 204 / 419                                                                      | 189 / 336 | 177 / 273 | -         | -         | -         | -         | -        | -       | -       | 40 - 0                                     |
|                   | 16/16 | 204 / 448                                                                      | 189 / 358 | 177 / 291 | -         | -         | -         | -         | -        | -       | -       | 40 - 0                                     |
|                   | 14/16 | 304 / 527                                                                      | 282 / 422 | 263 / 343 | -         | -         | -         | -         | -        | -       | -       | 40 - 0                                     |

- Notes:**
- Allowable Uniform Loads and maximum construction spans shown are based on the following criteria:
    - ANSI/SDI RD-2017 Standard for Steel Roof Deck
    - Minimum bearing lengths of 4" for end bearing and 6" for interior bearing. Check web crippling if minimums are not met.
  - Maximum construction spans shown include a check for deck self-weight plus a nominal 200 lbs. concentrated load supported by a one foot section of deck per SDI criteria which exceeds the IBC requirement of a 300 lbs. roof maintenance load distributed over an area of 2 1/2 feet by 2 1/2 feet per Section 1607.4 and Table 1607.1.
  - "Load that Produces L/240 Deflection" values shown in RED exceed the "Allowable Uniform Total Load". These loads may be used to determine the deck capacity under deflection limits more stringent than L/240. In no case shall the "Allowable Uniform Total Load" be exceeded.
  - See website at [www.newmill.com](http://www.newmill.com) for Factory Mutual approved deck types and maximum FM construction spans.

## MAXIMUM CANTILEVER SPANS

| Gage  | F <sub>y</sub><br>(ksi) | Back-Span Condition |        |        |
|-------|-------------------------|---------------------|--------|--------|
|       |                         | Single              | Double | Triple |
| 18/16 | 40                      | 9 - 11              | 5 - 11 | 4 - 4  |
| 16/18 | 40                      | 9 - 11              | 5 - 11 | 4 - 4  |
| 16/16 | 40                      | 9 - 11              | 5 - 11 | 4 - 4  |
| 14/16 | 40                      | 9 - 11              | 5 - 11 | 4 - 4  |

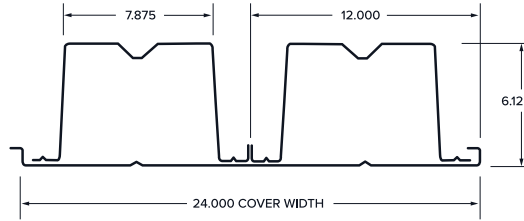
### Notes:

- Maximum cantilever spans shown are based on the following criteria:
  - ANSI/SDI RD-2017 Standard for Steel Roof Deck
  - Adjacent span assumed to be at least 3 times longer than the cantilever and no greater than the maximum design or construction spans shown in table above
  - Bearing width at perimeter support assumed to be 6" minimum
  - Design total uniform load of 45 psf in conjunction with a 100 lb. concentrated load.

# 6" Deep-Dek® Cellular (6.0DC)

## PROPERTIES

| Gage<br>(Hat/Pan) | Thickness<br>(in) | Cover<br>(in) | Weight<br>(psf) |
|-------------------|-------------------|---------------|-----------------|
| 20/20             | 0.0358/0.0358     | 24            | 4.83            |
| 20/18             | 0.0358/0.0474     |               | 5.40            |
| 18/20             | 0.0474/0.0358     |               | 5.82            |
| 18/18             | 0.0474/0.0474     |               | 6.39            |



ICC-ES APPROVED  
REFER TO ESR-2657

## ASD

## SECTION PROPERTIES

## DESIGN STRENGTHS

| Gage  | F <sub>y</sub><br>(ksi) | I <sub>D</sub> 1 Span<br>(in <sup>4</sup> /ft) | I <sub>D</sub> 2+ Span<br>(in <sup>4</sup> /ft) | I <sub>p</sub><br>(in <sup>4</sup> /ft) | I <sub>n</sub><br>(in <sup>4</sup> /ft) | S <sub>p</sub><br>(in <sup>3</sup> /ft) | S <sub>n</sub><br>(in <sup>3</sup> /ft) | M <sub>n,p</sub> /Ω<br>(in-lb/ft) | M <sub>n,n</sub> /Ω<br>(in-lb/ft) | V <sub>n</sub> /Ω<br>(lb/ft) | *R <sub>be</sub> /Ω<br>(lb/ft) | *R <sub>bi</sub> /Ω<br>(lb/ft) |
|-------|-------------------------|------------------------------------------------|-------------------------------------------------|-----------------------------------------|-----------------------------------------|-----------------------------------------|-----------------------------------------|-----------------------------------|-----------------------------------|------------------------------|--------------------------------|--------------------------------|
| 20/20 | 40                      | 7.912                                          | 8.107                                           | 7.351                                   | 7.645                                   | 1.417                                   | 2.207                                   | 33937                             | 52850                             | 1391                         | 552                            | 1156                           |
| 20/18 | 40                      | 8.430                                          | 9.008                                           | 7.759                                   | 8.626                                   | 1.418                                   | 2.286                                   | 33960                             | 54745                             | 1391                         | 552                            | 1156                           |
| 18/20 | 40                      | 10.713                                         | 10.713                                          | 10.524                                  | 9.414                                   | 2.346                                   | 2.862                                   | 56190                             | 68560                             | 3235                         | 940                            | 1913                           |
| 18/18 | 40                      | 11.495                                         | 11.495                                          | 11.248                                  | 10.507                                  | 2.335                                   | 2.958                                   | 55937                             | 70852                             | 3235                         | 940                            | 1913                           |

- Notes:**
- Section properties are calculated in accordance with the AISI S100-16.
  - Web crippling design strengths\* are based on minimum bearing lengths of 4" for end bearing and 6" for interior bearing.

## ALLOWABLE UNIFORM LOADS AND MAXIMUM CONSTRUCTION SPANS

| Span Condition | Gage  | Allowable Uniform Total Load (psf) / Load that Produces L/240 Deflection (psf) |           |           |           |           |          |          |         |         |         | SDI Max. Constr. Span (ctr / ctr) |
|----------------|-------|--------------------------------------------------------------------------------|-----------|-----------|-----------|-----------|----------|----------|---------|---------|---------|-----------------------------------|
|                |       | Center to Center Span (ft - in)                                                |           |           |           |           |          |          |         |         |         |                                   |
|                |       | 14 - 0                                                                         | 15 - 0    | 16 - 0    | 17 - 0    | 18 - 0    | 19 - 0   | 20 - 0   | 22 - 0  | 24 - 0  | 26 - 0  |                                   |
| Single         | 20/20 | 79 / 189                                                                       | 74 / 154  | 69 / 127  | 65 / 106  | 61 / 89   | 58 / 76  | 55 / 65  | 47 / 49 | 39 / 38 | 33 / 30 | 38 - 7                            |
|                | 20/18 | 79 / 201                                                                       | 74 / 164  | 69 / 135  | 65 / 112  | 61 / 95   | 58 / 81  | 55 / 69  | 47 / 52 | 39 / 40 | 33 / 31 | 37 - 6                            |
|                | 18/20 | 134 / 256                                                                      | 125 / 208 | 118 / 171 | 111 / 143 | 104 / 120 | 99 / 102 | 94 / 88  | 77 / 66 | 65 / 51 | 55 / 40 | 40 - 0                            |
|                | 18/18 | 134 / 275                                                                      | 125 / 223 | 118 / 184 | 111 / 153 | 104 / 129 | 99 / 110 | 93 / 94  | 77 / 71 | 65 / 55 | 55 / 43 | 40 - 0                            |
| Double         | 20/20 | 66 / 467                                                                       | 62 / 380  | 58 / 313  | 54 / 261  | 51 / 220  | 49 / 187 | 46 / 160 | -       | -       | -       | 40 - 0                            |
|                | 20/18 | 66 / 519                                                                       | 62 / 422  | 58 / 348  | 54 / 290  | 51 / 244  | 49 / 208 | 46 / 178 | -       | -       | -       | 40 - 0                            |
|                | 18/20 | 109 / 617                                                                      | 102 / 502 | 96 / 413  | 90 / 345  | 85 / 290  | 81 / 247 | 77 / 212 | -       | -       | -       | 40 - 0                            |
|                | 18/18 | 109 / 662                                                                      | 102 / 538 | 96 / 444  | 90 / 370  | 85 / 312  | 81 / 265 | 77 / 227 | -       | -       | -       | 40 - 0                            |
| Triple         | 20/20 | 75 / 365                                                                       | 70 / 297  | -         | -         | -         | -        | -        | -       | -       | -       | 40 - 0                            |
|                | 20/18 | 75 / 406                                                                       | 70 / 330  | -         | -         | -         | -        | -        | -       | -       | -       | 40 - 0                            |
|                | 18/20 | 124 / 483                                                                      | 116 / 393 | -         | -         | -         | -        | -        | -       | -       | -       | 40 - 0                            |
|                | 18/18 | 124 / 518                                                                      | 116 / 421 | -         | -         | -         | -        | -        | -       | -       | -       | 40 - 0                            |

- Notes:**
- Allowable Uniform Loads and maximum construction spans shown are based on the following criteria:
    - ANSI/SDI RD-2017 Standard for Steel Roof Deck
    - Minimum bearing lengths of 4" for end bearing and 6" for interior bearing. Check web crippling if minimums are not met.
  - Maximum construction spans shown include a check for deck self-weight plus a nominal 200 lbs. concentrated load supported by a one foot section of deck per SDI criteria which exceeds the IBC requirement of a 300 lbs. roof maintenance load distributed over an area of 2 1/2 feet by 2 1/2 feet per Section 1607.4 and Table 1607.1.
  - "Load that Produces L/240 Deflection" values shown in RED exceed the "Allowable Uniform Total Load". These loads may be used to determine the deck capacity under deflection limits more stringent than L/240. In no case shall the "Allowable Uniform Total Load" be exceeded.
  - See website at [www.newmill.com](http://www.newmill.com) for Factory Mutual approved deck types and maximum FM construction spans.

## MAXIMUM CANTILEVER SPANS

| Gage  | F <sub>y</sub><br>(ksi) | Back-Span Condition |        |        |
|-------|-------------------------|---------------------|--------|--------|
|       |                         | Single              | Double | Triple |
| 20/20 | 40                      | 8 - 4               | 5 - 11 | 4 - 4  |
| 20/18 | 40                      | 8 - 4               | 5 - 11 | 4 - 4  |
| 18/20 | 40                      | 9 - 11              | 5 - 11 | 4 - 4  |
| 18/18 | 40                      | 9 - 11              | 5 - 11 | 4 - 4  |

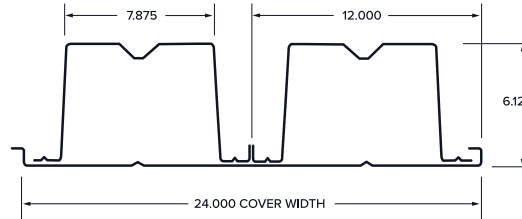
### Notes:

- Maximum cantilever spans shown are based on the following criteria:
  - ANSI/SDI RD-2017 Standard for Steel Roof Deck
  - Adjacent span assumed to be at least 3 times longer than the cantilever and no greater than the maximum design or construction spans shown in table above
  - Bearing width at perimeter support assumed to be 6" minimum
  - Design total uniform load of 45 psf in conjunction with a 100 lb. concentrated load.

# 6" Deep-Dek® Cellular (6.0DC)

## PROPERTIES

| Gage<br>(Hat/Pan) | Thickness<br>(in) | Cover<br>(in) | Weight<br>(psf) |
|-------------------|-------------------|---------------|-----------------|
| 18/16             | 0.0474/0.0598     | 24            | 7.00            |
| 16/18             | 0.0598/0.0474     |               | 7.44            |
| 16/16             | 0.0598/0.0598     |               | 8.06            |
| 14/16             | 0.0747/0.0598     |               | 9.33            |



ICC-ES APPROVED  
REFER TO ESR-2657

## ASD

## SECTION PROPERTIES

## DESIGN STRENGTHS

| Gage  | F <sub>y</sub><br>(ksi) | I <sub>D</sub> 1 Span<br>(in <sup>4</sup> /ft) | I <sub>D</sub> 2+ Span<br>(in <sup>4</sup> /ft) | I <sub>p</sub><br>(in <sup>4</sup> /ft) | I <sub>n</sub><br>(in <sup>4</sup> /ft) | S <sub>p</sub><br>(in <sup>3</sup> /ft) | S <sub>n</sub><br>(in <sup>3</sup> /ft) | M <sub>n,p</sub> /Ω<br>(in-lb/ft) | M <sub>n,n</sub> /Ω<br>(in-lb/ft) | V <sub>n</sub> /Ω<br>(lb/ft) | *R <sub>be</sub> /Ω<br>(lb/ft) | *R <sub>bi</sub> /Ω<br>(lb/ft) |
|-------|-------------------------|------------------------------------------------|-------------------------------------------------|-----------------------------------------|-----------------------------------------|-----------------------------------------|-----------------------------------------|-----------------------------------|-----------------------------------|------------------------------|--------------------------------|--------------------------------|
| 18/16 | 40                      | 12.146                                         | 12.146                                          | 11.814                                  | 11.624                                  | 2.331                                   | 3.047                                   | 55833                             | 72975                             | 3235                         | 940                            | 1913                           |
| 16/18 | 40                      | 14.204                                         | 14.204                                          | 14.204                                  | 12.437                                  | 3.514                                   | 3.665                                   | 84165                             | 87794                             | 6510                         | 1452                           | 2900                           |
| 16/16 | 40                      | 15.167                                         | 15.167                                          | 15.167                                  | 13.682                                  | 3.500                                   | 3.772                                   | 83837                             | 90337                             | 6510                         | 1452                           | 2900                           |
| 14/16 | 40                      | 17.832                                         | 17.832                                          | 17.832                                  | 16.050                                  | 4.779                                   | 4.627                                   | 114468                            | 110823                            | 10491                        | 2192                           | 4319                           |

- Notes:**
- Section properties are calculated in accordance with the AISI S100-16.
  - Web crippling design strengths\* are based on minimum bearing lengths of 4" for end bearing and 6" for interior bearing.

## ALLOWABLE UNIFORM LOADS AND MAXIMUM CONSTRUCTION SPANS

| Span Condition | Gage  | Allowable Uniform Total Load (psf) / Load that Produces L/240 Deflection (psf) |           |           |           |           |           |          |          |         |         | SDI Max. Constr. Span (ctr / ctr) |
|----------------|-------|--------------------------------------------------------------------------------|-----------|-----------|-----------|-----------|-----------|----------|----------|---------|---------|-----------------------------------|
|                |       | Center to Center Span (ft - in)                                                |           |           |           |           |           |          |          |         |         |                                   |
|                |       | 15 - 0                                                                         | 16 - 0    | 17 - 0    | 18 - 0    | 20 - 0    | 22 - 0    | 24 - 0   | 26 - 0   | 28 - 0  | 30 - 0  |                                   |
| Single         | 18/16 | 125 / 236                                                                      | 118 / 194 | 111 / 162 | 104 / 137 | 93 / 100  | 77 / 75   | 65 / 58  | 55 / 45  | 47 / 36 | 41 / 29 | 40 - 0                            |
|                | 16/18 | 194 / 276                                                                      | 181 / 227 | 171 / 190 | 161 / 160 | 140 / 116 | 116 / 87  | 97 / 67  | 83 / 53  | 72 / 42 | 62 / 34 | 40 - 0                            |
|                | 16/16 | 194 / 295                                                                      | 181 / 243 | 171 / 202 | 161 / 170 | 140 / 124 | 115 / 93  | 97 / 72  | 83 / 57  | 71 / 45 | 62 / 37 | 40 - 0                            |
|                | 14/16 | 292 / 346                                                                      | 274 / 285 | 258 / 238 | 236 / 200 | 191 / 146 | 158 / 110 | 132 / 85 | 113 / 67 | 97 / 53 | 85 / 43 | 40 - 0                            |
| Double         | 18/16 | 102 / 569                                                                      | 96 / 469  | 90 / 391  | 85 / 329  | 77 / 240  | -         | -        | -        | -       | -       | 40 - 0                            |
|                | 16/18 | 155 / 665                                                                      | 145 / 548 | 136 / 457 | 129 / 385 | 116 / 281 | -         | -        | -        | -       | -       | 40 - 0                            |
|                | 16/16 | 155 / 710                                                                      | 145 / 585 | 136 / 488 | 129 / 411 | 116 / 300 | -         | -        | -        | -       | -       | 40 - 0                            |
|                | 14/16 | 230 / 835                                                                      | 216 / 688 | 203 / 574 | 192 / 483 | 173 / 352 | -         | -        | -        | -       | -       | 40 - 0                            |
| Triple         | 18/16 | 116 / 445                                                                      | -         | -         | -         | -         | -         | -        | -        | -       | -       | 40 - 0                            |
|                | 16/18 | 176 / 521                                                                      | -         | -         | -         | -         | -         | -        | -        | -       | -       | 40 - 0                            |
|                | 16/16 | 176 / 556                                                                      | -         | -         | -         | -         | -         | -        | -        | -       | -       | 40 - 0                            |
|                | 14/16 | 262 / 654                                                                      | -         | -         | -         | -         | -         | -        | -        | -       | -       | 40 - 0                            |

- Notes:**
- Allowable Uniform Loads and maximum construction spans shown are based on the following criteria:
    - ANSI/SDI RD-2017 Standard for Steel Roof Deck
    - Minimum bearing lengths of 4" for end bearing and 6" for interior bearing. Check web crippling if minimums are not met.
  - Maximum construction spans shown include a check for deck self-weight plus a nominal 200 lbs. concentrated load supported by a one foot section of deck per SDI criteria which exceeds the IBC requirement of a 300 lbs. roof maintenance load distributed over an area of 2 1/2 feet by 2 1/2 feet per Section 1607.4 and Table 1607.1.
  - "Load that Produces L/240 Deflection" values shown in RED exceed the "Allowable Uniform Total Load". These loads may be used to determine the deck capacity under deflection limits more stringent than L/240. In no case shall the "Allowable Uniform Total Load" be exceeded.
  - See website at [www.newmill.com](http://www.newmill.com) for Factory Mutual approved deck types and maximum FM construction spans.

## MAXIMUM CANTILEVER SPANS

| Gage  | F <sub>y</sub><br>(ksi) | Back-Span Condition |        |        |
|-------|-------------------------|---------------------|--------|--------|
|       |                         | Single              | Double | Triple |
| 18/16 | 40                      | 9 - 11              | 5 - 11 | 4 - 4  |
| 16/18 | 40                      | 9 - 11              | 5 - 11 | 4 - 4  |
| 16/16 | 40                      | 9 - 11              | 5 - 11 | 4 - 4  |
| 14/16 | 40                      | 9 - 11              | 5 - 11 | 4 - 4  |

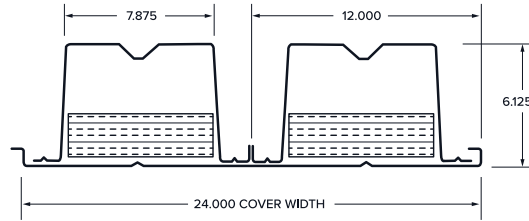
## Notes:

- Maximum cantilever spans shown are based on the following criteria:
  - ANSI/SDI RD-2017 Standard for Steel Roof Deck
  - Adjacent span assumed to be at least 3 times longer than the cantilever and no greater than the maximum design or construction spans shown in table above
  - Bearing width at perimeter support assumed to be 6" minimum
  - Design total uniform load of 45 psf in conjunction with a 100 lb. concentrated load.

# 6" Deep-Dek® Cellular Acoustical (6.0DCA)

## PROPERTIES

| Gage<br>(Hat/Pan) | Thickness<br>(in) | Cover<br>(in) | Weight<br>(psf) |
|-------------------|-------------------|---------------|-----------------|
| 20/20             | 0.0358/0.0358     | 24            | 4.67            |
| 20/18             | 0.0358/0.0474     |               | 5.19            |
| 18/20             | 0.0474/0.0358     |               | 5.66            |
| 18/18             | 0.0474/0.0474     |               | 6.18            |



ICC-ES APPROVED  
REFER TO ESR-2657

## ASD

## SECTION PROPERTIES

## DESIGN STRENGTHS

| Gage  | F <sub>y</sub><br>(ksi) | I <sub>D</sub> 1 Span<br>(in <sup>4</sup> /ft) | I <sub>D</sub> 2+ Span<br>(in <sup>4</sup> /ft) | I <sub>p</sub><br>(in <sup>4</sup> /ft) | I <sub>n</sub><br>(in <sup>4</sup> /ft) | S <sub>p</sub><br>(in <sup>3</sup> /ft) | S <sub>n</sub><br>(in <sup>3</sup> /ft) | M <sub>n,p</sub> /Ω<br>(in-lb/ft) | M <sub>n,n</sub> /Ω<br>(in-lb/ft) | V <sub>n</sub> /Ω<br>(lb/ft) | *R <sub>be</sub> /Ω<br>(lb/ft) | *R <sub>bi</sub> /Ω<br>(lb/ft) |
|-------|-------------------------|------------------------------------------------|-------------------------------------------------|-----------------------------------------|-----------------------------------------|-----------------------------------------|-----------------------------------------|-----------------------------------|-----------------------------------|------------------------------|--------------------------------|--------------------------------|
| 20/20 | 40                      | 7.735                                          | 8.026                                           | 7.210                                   | 7.647                                   | 1.417                                   | 2.207                                   | 33937                             | 52856                             | 1391                         | 552                            | 1156                           |
| 20/18 | 40                      | 8.242                                          | 8.910                                           | 7.612                                   | 8.615                                   | 1.417                                   | 2.285                                   | 33946                             | 54726                             | 1391                         | 552                            | 1156                           |
| 18/20 | 40                      | 10.434                                         | 10.434                                          | 10.252                                  | 9.417                                   | 2.350                                   | 2.863                                   | 56281                             | 68568                             | 3235                         | 940                            | 1913                           |
| 18/18 | 40                      | 11.228                                         | 11.228                                          | 11.012                                  | 10.497                                  | 2.338                                   | 2.957                                   | 55994                             | 70835                             | 3235                         | 940                            | 1913                           |

- Notes:**
- Section properties are calculated in accordance with the AISI S100-16, with perforation modifiers.
  - Web crippling design strengths\* are based on minimum bearing lengths of 4" for end bearing and 6" for interior bearing.

## ALLOWABLE UNIFORM LOADS AND MAXIMUM CONSTRUCTION SPANS

| Span Condition | Gage  | Allowable Uniform Total Load (psf) / Load that Produces L/240 Deflection (psf) |           |           |           |           |          |          |         |         |         | SDI Max. Constr. Span (ctr / ctr) |
|----------------|-------|--------------------------------------------------------------------------------|-----------|-----------|-----------|-----------|----------|----------|---------|---------|---------|-----------------------------------|
|                |       | Center to Center Span (ft - in)                                                |           |           |           |           |          |          |         |         |         |                                   |
|                |       | 14 - 0                                                                         | 15 - 0    | 16 - 0    | 17 - 0    | 18 - 0    | 19 - 0   | 20 - 0   | 22 - 0  | 24 - 0  | 26 - 0  |                                   |
| Single         | 20/20 | 79 / 185                                                                       | 74 / 150  | 69 / 124  | 65 / 103  | 61 / 87   | 58 / 74  | 55 / 63  | 47 / 48 | 39 / 37 | 33 / 29 | 38 - 10                           |
|                | 20/18 | 79 / 197                                                                       | 74 / 160  | 69 / 132  | 65 / 110  | 61 / 93   | 58 / 79  | 55 / 68  | 47 / 51 | 39 / 39 | 33 / 31 | 37 - 11                           |
|                | 18/20 | 134 / 249                                                                      | 125 / 203 | 118 / 167 | 111 / 139 | 104 / 117 | 99 / 100 | 94 / 86  | 78 / 64 | 65 / 49 | 56 / 39 | 40 - 0                            |
|                | 18/18 | 134 / 268                                                                      | 125 / 218 | 118 / 180 | 111 / 150 | 104 / 126 | 99 / 107 | 93 / 92  | 77 / 69 | 65 / 53 | 55 / 42 | 40 - 0                            |
| Double         | 20/20 | 66 / 462                                                                       | 62 / 376  | 58 / 310  | 54 / 258  | 51 / 218  | 49 / 185 | 46 / 159 | -       | -       | -       | 40 - 0                            |
|                | 20/18 | 66 / 513                                                                       | 62 / 417  | 58 / 344  | 54 / 287  | 51 / 242  | 49 / 205 | 46 / 176 | -       | -       | -       | 40 - 0                            |
|                | 18/20 | 109 / 601                                                                      | 102 / 489 | 96 / 403  | 90 / 336  | 85 / 283  | 81 / 240 | 77 / 206 | -       | -       | -       | 40 - 0                            |
|                | 18/18 | 109 / 647                                                                      | 102 / 526 | 96 / 433  | 90 / 361  | 85 / 304  | 81 / 259 | 77 / 222 | -       | -       | -       | 40 - 0                            |
| Triple         | 20/20 | 75 / 362                                                                       | 70 / 294  | -         | -         | -         | -        | -        | -       | -       | -       | 40 - 0                            |
|                | 20/18 | 75 / 402                                                                       | 70 / 327  | -         | -         | -         | -        | -        | -       | -       | -       | 40 - 0                            |
|                | 18/20 | 124 / 470                                                                      | 116 / 382 | -         | -         | -         | -        | -        | -       | -       | -       | 40 - 0                            |
|                | 18/18 | 124 / 506                                                                      | 116 / 412 | -         | -         | -         | -        | -        | -       | -       | -       | 40 - 0                            |

- Notes:**
- Allowable Uniform Loads and maximum construction spans shown are based on the following criteria:
    - ANSI/SDI RD-2017 Standard for Steel Roof Deck
    - Minimum bearing lengths of 4" for end bearing and 6" for interior bearing. Check web crippling if minimums are not met.
  - Maximum construction spans shown include a check for deck self-weight plus a nominal 200 lbs. concentrated load supported by a one foot section of deck per SDI criteria which exceeds the IBC requirement of a 300 lbs. roof maintenance load distributed over an area of 2 1/2 feet by 2 1/2 feet per Section 1607.4 and Table 1607.1.
  - "Load that Produces L/240 Deflection" values shown in RED exceed the "Allowable Uniform Total Load". These loads may be used to determine the deck capacity under deflection limits more stringent than L/240. In no case shall the "Allowable Uniform Total Load" be exceeded.
  - See website at [www.newmill.com](http://www.newmill.com) for Factory Mutual approved deck types and maximum FM construction spans.

## MAXIMUM CANTILEVER SPANS

| Gage  | F <sub>y</sub><br>(ksi) | Back-Span Condition |        |        |
|-------|-------------------------|---------------------|--------|--------|
|       |                         | Single              | Double | Triple |
| 20/20 | 40                      | 8 - 4               | 5 - 11 | 4 - 4  |
| 20/18 | 40                      | 8 - 4               | 5 - 11 | 4 - 4  |
| 18/20 | 40                      | 9 - 11              | 5 - 11 | 4 - 4  |
| 18/18 | 40                      | 9 - 11              | 5 - 11 | 4 - 4  |

## Notes:

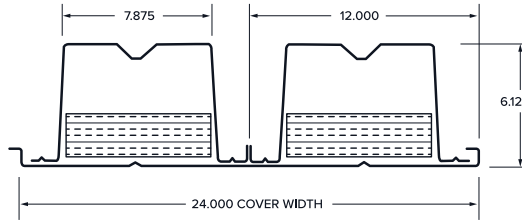
- Maximum cantilever spans shown are based on the following criteria:
  - ANSI/SDI RD-2017 Standard for Steel Roof Deck
  - Adjacent span assumed to be at least 3 times longer than the cantilever and no greater than the maximum design or construction spans shown in table above
  - Bearing width at perimeter support assumed to be 6" minimum
  - Design total uniform load of 45 psf in conjunction with a 100 lb. concentrated load.



# 6" Deep-Dek® Cellular Acoustical (6.0DCA)

## PROPERTIES

| Gage<br>(Hat/Pan) | Thickness<br>(in) | Cover<br>(in) | Weight<br>(psf) |
|-------------------|-------------------|---------------|-----------------|
| 18/16             | 0.0474/0.0598     | 24            | 6.74            |
| 16/18             | 0.0598/0.0474     |               | 7.24            |
| 16/16             | 0.0598/0.0598     |               | 7.80            |
| 14/16             | 0.0747/0.0598     |               | 9.06            |



ICC-ES APPROVED  
REFER TO ESR-2657

## ASD

## SECTION PROPERTIES

## DESIGN STRENGTHS

| Gage  | F <sub>y</sub><br>(ksi) | I <sub>D</sub> 1 Span<br>(in <sup>4</sup> /ft) | I <sub>D</sub> 2+ Span<br>(in <sup>4</sup> /ft) | I <sub>p</sub><br>(in <sup>4</sup> /ft) | I <sub>n</sub><br>(in <sup>4</sup> /ft) | S <sub>p</sub><br>(in <sup>3</sup> /ft) | S <sub>n</sub><br>(in <sup>3</sup> /ft) | M <sub>n,p</sub> /Ω<br>(in-lb/ft) | M <sub>n,n</sub> /Ω<br>(in-lb/ft) | V <sub>n</sub> /Ω<br>(lb/ft) | *R <sub>be</sub> /Ω<br>(lb/ft) | *R <sub>bi</sub> /Ω<br>(lb/ft) |
|-------|-------------------------|------------------------------------------------|-------------------------------------------------|-----------------------------------------|-----------------------------------------|-----------------------------------------|-----------------------------------------|-----------------------------------|-----------------------------------|------------------------------|--------------------------------|--------------------------------|
| 18/16 | 40                      | 11.865                                         | 11.878                                          | 11.570                                  | 11.590                                  | 2.332                                   | 3.044                                   | 55861                             | 72920                             | 3235                         | 940                            | 1913                           |
| 16/18 | 40                      | 13.824                                         | 13.824                                          | 13.824                                  | 12.429                                  | 3.486                                   | 3.665                                   | 83492                             | 87779                             | 6510                         | 1452                           | 2900                           |
| 16/16 | 40                      | 14.749                                         | 14.749                                          | 14.749                                  | 13.649                                  | 3.508                                   | 3.769                                   | 84032                             | 90281                             | 6510                         | 1452                           | 2900                           |
| 14/16 | 40                      | 17.351                                         | 17.351                                          | 17.351                                  | 16.019                                  | 4.741                                   | 4.624                                   | 113551                            | 110765                            | 10491                        | 2193                           | 4319                           |

- Notes:**
- Section properties are calculated in accordance with the AISI S100-16, with perforation modifiers.
  - Web crippling design strengths\* are based on minimum bearing lengths of 4" for end bearing and 6" for interior bearing.

## ALLOWABLE UNIFORM LOADS AND MAXIMUM CONSTRUCTION SPANS

| Span Condition | Gage  | Allowable Uniform Total Load (psf) / Load that Produces L/240 Deflection (psf) |           |           |           |           |           |          |          |         |         | SDI Max. Constr. Span (ctr / ctr) |
|----------------|-------|--------------------------------------------------------------------------------|-----------|-----------|-----------|-----------|-----------|----------|----------|---------|---------|-----------------------------------|
|                |       | Center to Center Span (ft - in)                                                |           |           |           |           |           |          |          |         |         |                                   |
|                |       | 15 - 0                                                                         | 16 - 0    | 17 - 0    | 18 - 0    | 20 - 0    | 22 - 0    | 24 - 0   | 26 - 0   | 28 - 0  | 30 - 0  |                                   |
| Single         | 18/16 | 125 / 230                                                                      | 118 / 190 | 111 / 158 | 104 / 133 | 93 / 97   | 77 / 73   | 65 / 56  | 55 / 44  | 48 / 35 | 41 / 29 | 40 - 0                            |
|                | 16/18 | 194 / 269                                                                      | 181 / 221 | 171 / 184 | 161 / 155 | 139 / 113 | 115 / 85  | 97 / 66  | 82 / 52  | 71 / 41 | 62 / 34 | 40 - 0                            |
|                | 16/16 | 194 / 286                                                                      | 181 / 236 | 171 / 197 | 161 / 166 | 140 / 121 | 116 / 91  | 97 / 70  | 83 / 55  | 71 / 44 | 62 / 36 | 40 - 0                            |
|                | 14/16 | 292 / 337                                                                      | 274 / 278 | 258 / 232 | 234 / 195 | 189 / 142 | 156 / 107 | 131 / 82 | 112 / 65 | 97 / 52 | 84 / 42 | 40 - 0                            |
| Double         | 18/16 | 102 / 556                                                                      | 96 / 458  | 90 / 382  | 85 / 322  | 77 / 235  | -         | -        | -        | -       | -       | 40 - 0                            |
|                | 16/18 | 155 / 647                                                                      | 145 / 533 | 136 / 445 | 129 / 375 | 116 / 273 | -         | -        | -        | -       | -       | 40 - 0                            |
|                | 16/16 | 155 / 691                                                                      | 145 / 569 | 136 / 475 | 129 / 400 | 116 / 291 | -         | -        | -        | -       | -       | 40 - 0                            |
|                | 14/16 | 230 / 813                                                                      | 216 / 670 | 203 / 558 | 192 / 470 | 173 / 343 | -         | -        | -        | -       | -       | 40 - 0                            |
| Triple         | 18/16 | 116 / 435                                                                      | -         | -         | -         | -         | -         | -        | -        | -       | -       | 40 - 0                            |
|                | 16/18 | 176 / 507                                                                      | -         | -         | -         | -         | -         | -        | -        | -       | -       | 40 - 0                            |
|                | 16/16 | 176 / 541                                                                      | -         | -         | -         | -         | -         | -        | -        | -       | -       | 40 - 0                            |
|                | 14/16 | 262 / 636                                                                      | -         | -         | -         | -         | -         | -        | -        | -       | -       | 40 - 0                            |

- Notes:**
- Allowable Uniform Loads and maximum construction spans shown are based on the following criteria:
    - ANSI/SDI RD-2017 Standard for Steel Roof Deck
    - Minimum bearing lengths of 4" for end bearing and 6" for interior bearing. Check web crippling if minimums are not met.
  - Maximum construction spans shown include a check for deck self-weight plus a nominal 200 lbs. concentrated load supported by a one foot section of deck per SDI criteria which exceeds the IBC requirement of a 300 lbs. roof maintenance load distributed over an area of 2 1/2 feet by 2 1/2 feet per Section 1607.4 and Table 1607.1.
  - "Load that Produces L/240 Deflection" values shown in RED exceed the "Allowable Uniform Total Load". These loads may be used to determine the deck capacity under deflection limits more stringent than L/240. In no case shall the "Allowable Uniform Total Load" be exceeded.
  - See website at [www.newmill.com](http://www.newmill.com) for Factory Mutual approved deck types and maximum FM construction spans.

## MAXIMUM CANTILEVER SPANS

| Gage  | F <sub>y</sub><br>(ksi) | Back-Span Condition |        |        |
|-------|-------------------------|---------------------|--------|--------|
|       |                         | Single              | Double | Triple |
| 18/16 | 40                      | 9 - 11              | 5 - 11 | 4 - 4  |
| 16/18 | 40                      | 9 - 11              | 5 - 11 | 4 - 4  |
| 16/16 | 40                      | 9 - 11              | 5 - 11 | 4 - 4  |
| 14/16 | 40                      | 9 - 11              | 5 - 11 | 4 - 4  |

## Notes:

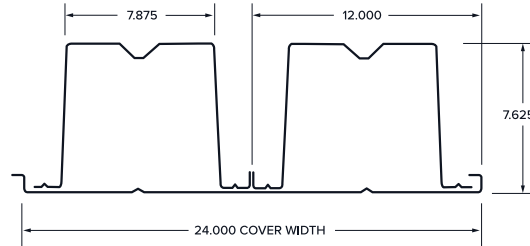
- Maximum cantilever spans shown are based on the following criteria:
  - ANSI/SDI RD-2017 Standard for Steel Roof Deck
  - Adjacent span assumed to be at least 3 times longer than the cantilever and no greater than the maximum design or construction spans shown in table above
  - Bearing width at perimeter support assumed to be 6" minimum
  - Design total uniform load of 45 psf in conjunction with a 100 lb. concentrated load.



# 7.5" Deep-Dek® Cellular (7.5DC)

## PROPERTIES

| Gage<br>(Hat/Pan) | Thickness<br>(in) | Cover<br>(in) | Weight<br>(psf) |
|-------------------|-------------------|---------------|-----------------|
| 20/20             | 0.0358/0.0358     | 24            | 5.17            |
| 20/18             | 0.0358/0.0474     |               | 5.74            |
| 18/20             | 0.0474/0.0358     |               | 6.27            |
| 18/18             | 0.0474/0.0474     |               | 6.85            |



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REFER TO ESR-2657

## ASD

### SECTION PROPERTIES

### DESIGN STRENGTHS

| Gage  | F <sub>y</sub><br>(ksi) | I <sub>D</sub> 1 Span<br>(in <sup>4</sup> /ft) | I <sub>D</sub> 2+ Span<br>(in <sup>4</sup> /ft) | I <sub>p</sub><br>(in <sup>4</sup> /ft) | I <sub>n</sub><br>(in <sup>4</sup> /ft) | S <sub>p</sub><br>(in <sup>3</sup> /ft) | S <sub>n</sub><br>(in <sup>3</sup> /ft) | M <sub>n,p</sub> /Ω<br>(in-lb/ft) | M <sub>n,n</sub> /Ω<br>(in-lb/ft) | V <sub>n</sub> /Ω<br>(lb/ft) | *R <sub>be</sub> /Ω<br>(lb/ft) | *R <sub>bi</sub> /Ω<br>(lb/ft) |
|-------|-------------------------|------------------------------------------------|-------------------------------------------------|-----------------------------------------|-----------------------------------------|-----------------------------------------|-----------------------------------------|-----------------------------------|-----------------------------------|------------------------------|--------------------------------|--------------------------------|
| 20/20 | 40                      | 12.639                                         | 13.197                                          | 11.608                                  | 12.445                                  | 1.787                                   | 2.922                                   | 42796                             | 69981                             | 1108                         | 521                            | 1148                           |
| 20/18 | 40                      | 13.461                                         | 14.636                                          | 12.234                                  | 13.997                                  | 1.787                                   | 3.030                                   | 42795                             | 72584                             | 1108                         | 521                            | 1148                           |
| 18/20 | 40                      | 17.211                                         | 17.211                                          | 16.796                                  | 15.352                                  | 2.958                                   | 3.785                                   | 70852                             | 90657                             | 2575                         | 896                            | 1902                           |
| 18/18 | 40                      | 18.349                                         | 18.349                                          | 17.772                                  | 17.060                                  | 2.948                                   | 3.916                                   | 70602                             | 93787                             | 2575                         | 896                            | 1902                           |

- Notes:**
- Section properties are calculated in accordance with the AISI S100-16.
  - Web crippling design strengths\* are based on minimum bearing lengths of 4" for end bearing and 6" for interior bearing.

## ALLOWABLE UNIFORM LOADS AND MAXIMUM CONSTRUCTION SPANS

| Span Condition | Gage  | Allowable Uniform Total Load (psf) / Load that Produces L/240 Deflection (psf) |           |          |          |          |         |         |         |         |         |        | SDI Max. Constr. Span (ctr / ctr) |
|----------------|-------|--------------------------------------------------------------------------------|-----------|----------|----------|----------|---------|---------|---------|---------|---------|--------|-----------------------------------|
|                |       | Center to Center Span (ft - in)                                                |           |          |          |          |         |         |         |         |         |        |                                   |
|                |       | 17 - 0                                                                         | 18 - 0    | 19 - 0   | 20 - 0   | 22 - 0   | 24 - 0  | 26 - 0  | 28 - 0  | 30 - 0  | 32 - 0  |        |                                   |
| Single         | 20/20 | 61 / 169                                                                       | 58 / 142  | 55 / 121 | 52 / 104 | 47 / 78  | 43 / 60 | 40 / 47 | 36 / 38 | 32 / 31 | 28 / 25 | 40 - 0 |                                   |
|                | 20/18 | 61 / 180                                                                       | 58 / 151  | 55 / 129 | 52 / 110 | 47 / 83  | 43 / 64 | 40 / 50 | 36 / 40 | 32 / 33 | 28 / 27 | 40 - 0 |                                   |
|                | 18/20 | 105 / 230                                                                      | 100 / 193 | 94 / 164 | 90 / 141 | 81 / 106 | 75 / 82 | 69 / 64 | 60 / 51 | 52 / 42 | 46 / 34 | 40 - 0 |                                   |
|                | 18/18 | 105 / 245                                                                      | 100 / 206 | 94 / 175 | 90 / 150 | 81 / 113 | 75 / 87 | 69 / 68 | 60 / 55 | 52 / 45 | 46 / 37 | 40 - 0 |                                   |
| Double         | 20/20 | 54 / 425                                                                       | 51 / 358  | 48 / 304 | 46 / 261 | -        | -       | -       | -       | -       | -       | 40 - 0 |                                   |
|                | 20/18 | 54 / 471                                                                       | 51 / 397  | 48 / 337 | 46 / 289 | -        | -       | -       | -       | -       | -       | 40 - 0 |                                   |
|                | 18/20 | 90 / 554                                                                       | 85 / 466  | 80 / 397 | 76 / 340 | -        | -       | -       | -       | -       | -       | 40 - 0 |                                   |
|                | 18/18 | 90 / 590                                                                       | 85 / 497  | 80 / 423 | 76 / 363 | -        | -       | -       | -       | -       | -       | 40 - 0 |                                   |

- Notes:**
- Allowable Uniform Loads and maximum construction spans shown are based on the following criteria:
    - ANSI/SDI RD-2017 Standard for Steel Roof Deck
    - Minimum bearing lengths of 4" for end bearing and 6" for interior bearing. Check web crippling if minimums are not met.
  - Maximum construction spans shown include a check for deck self-weight plus a nominal 200 lbs. concentrated load supported by a one foot section of deck per SDI criteria which exceeds the IBC requirement of a 300 lbs. roof maintenance load distributed over an area of 2 1/2 feet by 2 1/2 feet per Section 1607.4 and Table 1607.1.
  - "Load that Produces L/240 Deflection" values shown in RED exceed the "Allowable Uniform Total Load". These loads may be used to determine the deck capacity under deflection limits more stringent than L/240. In no case shall the "Allowable Uniform Total Load" be exceeded.
  - See website at [www.newmill.com](http://www.newmill.com) for Factory Mutual approved deck types and maximum FM construction spans.

## MAXIMUM CANTILEVER SPANS

| Gage  | F <sub>y</sub><br>(ksi) | Back-Span Condition |        |
|-------|-------------------------|---------------------|--------|
|       |                         | Single              | Double |
| 20/20 | 40                      | 6 - 3               | 5 - 11 |
| 20/18 | 40                      | 6 - 3               | 5 - 11 |
| 18/20 | 40                      | 9 - 11              | 5 - 11 |
| 18/18 | 40                      | 9 - 11              | 5 - 11 |

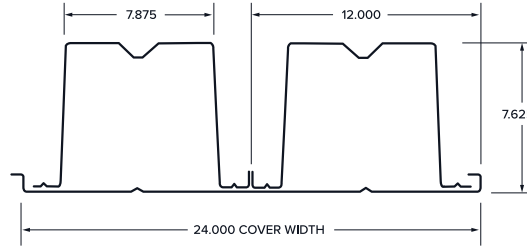
### Notes:

- Maximum cantilever spans shown are based on the following criteria:
  - ANSI/SDI RD-2017 Standard for Steel Roof Deck
  - Adjacent span assumed to be at least 3 times longer than the cantilever and no greater than the maximum design or construction spans shown in table above
  - Bearing width at perimeter support assumed to be 6" minimum
  - Design total uniform load of 45 psf in conjunction with a 100 lb. concentrated load.

# 7.5" Deep-Dek® Cellular (7.5DC)

## PROPERTIES

| Gage<br>(Hat/Pan) | Thickness<br>(in) | Cover<br>(in) | Weight<br>(psf) |
|-------------------|-------------------|---------------|-----------------|
| 18/16             | 0.0474/0.0598     | 24            | 7.46            |
| 16/18             | 0.0598/0.0474     |               | 8.02            |
| 16/16             | 0.0598/0.0598     |               | 8.64            |
| 14/16             | 0.0747/0.0598     |               | 10.05           |



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## ASD

## SECTION PROPERTIES

## DESIGN STRENGTHS

| Gage  | F <sub>y</sub><br>(ksi) | I <sub>D</sub> 1 Span<br>(in <sup>4</sup> /ft) | I <sub>D</sub> 2+ Span<br>(in <sup>4</sup> /ft) | I <sub>p</sub><br>(in <sup>4</sup> /ft) | I <sub>n</sub><br>(in <sup>4</sup> /ft) | S <sub>p</sub><br>(in <sup>3</sup> /ft) | S <sub>n</sub><br>(in <sup>3</sup> /ft) | M <sub>n,p</sub> /Ω<br>(in-lb/ft) | M <sub>n,n</sub> /Ω<br>(in-lb/ft) | V <sub>n</sub> /Ω<br>(lb/ft) | *R <sub>be</sub> /Ω<br>(lb/ft) | *R <sub>bi</sub> /Ω<br>(lb/ft) |
|-------|-------------------------|------------------------------------------------|-------------------------------------------------|-----------------------------------------|-----------------------------------------|-----------------------------------------|-----------------------------------------|-----------------------------------|-----------------------------------|------------------------------|--------------------------------|--------------------------------|
| 18/16 | 40                      | 19.380                                         | 19.503                                          | 18.646                                  | 18.832                                  | 2.942                                   | 4.038                                   | 70476                             | 96718                             | 2575                         | 896                            | 1902                           |
| 16/18 | 40                      | 23.094                                         | 23.094                                          | 23.094                                  | 20.217                                  | 4.447                                   | 4.846                                   | 106525                            | 116074                            | 5178                         | 1394                           | 2886                           |
| 16/16 | 40                      | 24.659                                         | 24.659                                          | 24.659                                  | 22.170                                  | 4.422                                   | 4.992                                   | 105918                            | 119561                            | 5178                         | 1394                           | 2886                           |
| 14/16 | 40                      | 28.977                                         | 28.977                                          | 28.977                                  | 26.028                                  | 6.346                                   | 6.118                                   | 152001                            | 146538                            | 10113                        | 2117                           | 4300                           |

- Notes:**
- Section properties are calculated in accordance with the AISI S100-16.
  - Web crippling design strengths\* are based on minimum bearing lengths of 4" for end bearing and 6" for interior bearing.

## ALLOWABLE UNIFORM LOADS AND MAXIMUM CONSTRUCTION SPANS

| Span Condition | Gage  | Allowable Uniform Total Load (psf) / Load that Produces L/240 Deflection (psf) |           |           |           |           |           |          |          |         |         | SDI Max. Constr. Span (ctr / ctr) |
|----------------|-------|--------------------------------------------------------------------------------|-----------|-----------|-----------|-----------|-----------|----------|----------|---------|---------|-----------------------------------|
|                |       | Center to Center Span (ft - in)                                                |           |           |           |           |           |          |          |         |         |                                   |
|                |       | 20 - 0                                                                         | 21 - 0    | 22 - 0    | 23 - 0    | 24 - 0    | 26 - 0    | 28 - 0   | 30 - 0   | 32 - 0  | 34 - 0  |                                   |
| Single         | 18/16 | 90 / 159                                                                       | 85 / 137  | 81 / 119  | 78 / 104  | 75 / 92   | 69 / 72   | 60 / 58  | 52 / 47  | 46 / 39 | 41 / 32 | 40 - 0                            |
|                | 16/18 | 139 / 189                                                                      | 133 / 163 | 127 / 142 | 121 / 124 | 116 / 110 | 105 / 86  | 91 / 69  | 79 / 56  | 69 / 46 | 61 / 39 | 40 - 0                            |
|                | 16/16 | 139 / 202                                                                      | 133 / 175 | 127 / 152 | 121 / 133 | 116 / 117 | 104 / 92  | 90 / 74  | 78 / 60  | 69 / 49 | 61 / 41 | 40 - 0                            |
|                | 14/16 | 212 / 237                                                                      | 202 / 205 | 192 / 178 | 184 / 156 | 176 / 137 | 150 / 108 | 129 / 87 | 113 / 70 | 99 / 58 | 88 / 48 | 40 - 0                            |
| Double         | 18/16 | 76 / 385                                                                       | 72 / 333  | -         | -         | -         | -         | -        | -        | -       | -       | 40 - 0                            |
|                | 16/18 | 115 / 456                                                                      | 110 / 394 | -         | -         | -         | -         | -        | -        | -       | -       | 40 - 0                            |
|                | 16/16 | 115 / 487                                                                      | 110 / 421 | -         | -         | -         | -         | -        | -        | -       | -       | 40 - 0                            |
|                | 14/16 | 172 / 573                                                                      | 164 / 495 | -         | -         | -         | -         | -        | -        | -       | -       | 40 - 0                            |

- Notes:**
- Allowable Uniform Loads and maximum construction spans shown are based on the following criteria:
    - ANSI/SDI RD-2017 Standard for Steel Roof Deck
    - Minimum bearing lengths of 4" for end bearing and 6" for interior bearing. Check web crippling if minimums are not met.
  - Maximum construction spans shown include a check for deck self-weight plus a nominal 200 lbs. concentrated load supported by a one foot section of deck per SDI criteria which exceeds the IBC requirement of a 300 lbs. roof maintenance load distributed over an area of 2 1/2 feet by 2 1/2 feet per Section 1607.4 and Table 1607.1.
  - "Load that Produces L/240 Deflection" values shown in RED exceed the "Allowable Uniform Total Load". These loads may be used to determine the deck capacity under deflection limits more stringent than L/240. In no case shall the "Allowable Uniform Total Load" be exceeded.
  - See website at [www.newmill.com](http://www.newmill.com) for Factory Mutual approved deck types and maximum FM construction spans.

## MAXIMUM CANTILEVER SPANS

| Gage  | F <sub>y</sub><br>(ksi) | Back-Span Condition |        |
|-------|-------------------------|---------------------|--------|
|       |                         | Single              | Double |
| 18/16 | 40                      | 9 - 11              | 5 - 11 |
| 16/18 | 40                      | 9 - 11              | 5 - 11 |
| 16/16 | 40                      | 9 - 11              | 5 - 11 |
| 14/16 | 40                      | 9 - 11              | 5 - 11 |

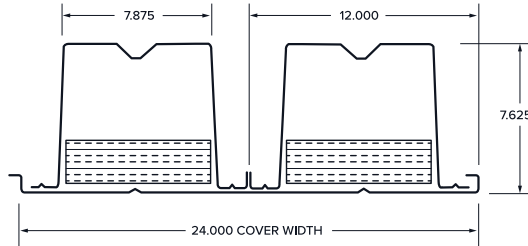
### Notes:

- Maximum cantilever spans shown are based on the following criteria:
  - ANSI/SDI RD-2017 Standard for Steel Roof Deck
  - Adjacent span assumed to be at least 3 times longer than the cantilever and no greater than the maximum design or construction spans shown in table above
  - Bearing width at perimeter support assumed to be 6" minimum
  - Design total uniform load of 45 psf in conjunction with a 100 lb. concentrated load.

# 7.5" Deep-Dek® Cellular Acoustical (7.5DCA)

## PROPERTIES

| Gage<br>(Hat/Pan) | Thickness<br>(in) | Cover<br>(in) | Weight<br>(psf) |
|-------------------|-------------------|---------------|-----------------|
| 20/20             | 0.0358/0.0358     | 24            | 5.01            |
| 20/18             | 0.0358/0.0474     |               | 5.54            |
| 18/20             | 0.0474/0.0358     |               | 6.12            |
| 18/18             | 0.0474/0.0474     |               | 6.64            |



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## ASD

### SECTION PROPERTIES

### DESIGN STRENGTHS

| Gage  | F <sub>y</sub><br>(ksi) | I <sub>D</sub> 1 Span<br>(in <sup>4</sup> /ft) | I <sub>D</sub> 2+ Span<br>(in <sup>4</sup> /ft) | I <sub>p</sub><br>(in <sup>4</sup> /ft) | I <sub>n</sub><br>(in <sup>4</sup> /ft) | S <sub>p</sub><br>(in <sup>3</sup> /ft) | S <sub>n</sub><br>(in <sup>3</sup> /ft) | M <sub>n,p</sub> /Ω<br>(in-lb/ft) | M <sub>n,n</sub> /Ω<br>(in-lb/ft) | V <sub>n</sub> /Ω<br>(lb/ft) | *R <sub>be</sub> /Ω<br>(lb/ft) | *R <sub>bi</sub> /Ω<br>(lb/ft) |
|-------|-------------------------|------------------------------------------------|-------------------------------------------------|-----------------------------------------|-----------------------------------------|-----------------------------------------|-----------------------------------------|-----------------------------------|-----------------------------------|------------------------------|--------------------------------|--------------------------------|
| 20/20 | 40                      | 12.361                                         | 13.064                                          | 11.391                                  | 12.445                                  | 1.787                                   | 2.922                                   | 42791                             | 69984                             | 1108                         | 521                            | 1148                           |
| 20/18 | 40                      | 13.164                                         | 14.476                                          | 12.008                                  | 13.976                                  | 1.786                                   | 3.029                                   | 42780                             | 72554                             | 1108                         | 521                            | 1148                           |
| 18/20 | 40                      | 16.840                                         | 16.840                                          | 16.474                                  | 15.354                                  | 2.961                                   | 3.785                                   | 70923                             | 90663                             | 2575                         | 896                            | 1902                           |
| 18/18 | 40                      | 17.934                                         | 17.934                                          | 17.416                                  | 17.041                                  | 2.950                                   | 3.914                                   | 70649                             | 93759                             | 2575                         | 896                            | 1902                           |

- Notes:**
- Section properties are calculated in accordance with the AISI S100-16, with perforation modifiers.
  - Web crippling design strengths\* are based on minimum bearing lengths of 4" for end bearing and 6" for interior bearing.

## ALLOWABLE UNIFORM LOADS AND MAXIMUM CONSTRUCTION SPANS

| Span Condition | Gage  | Allowable Uniform Total Load (psf) / Load that Produces L/240 Deflection (psf) |           |          |          |          |         |         |         |         |         |        | SDI Max. Constr. Span (ctr / ctr) |
|----------------|-------|--------------------------------------------------------------------------------|-----------|----------|----------|----------|---------|---------|---------|---------|---------|--------|-----------------------------------|
|                |       | Center to Center Span (ft - in)                                                |           |          |          |          |         |         |         |         |         |        |                                   |
|                |       | 17 - 0                                                                         | 18 - 0    | 19 - 0   | 20 - 0   | 22 - 0   | 24 - 0  | 26 - 0  | 28 - 0  | 30 - 0  | 32 - 0  |        |                                   |
| Single         | 20/20 | 61 / 165                                                                       | 58 / 139  | 55 / 118 | 52 / 101 | 47 / 76  | 43 / 59 | 40 / 46 | 36 / 37 | 32 / 30 | 28 / 25 | 40 - 0 |                                   |
|                | 20/18 | 61 / 176                                                                       | 58 / 148  | 55 / 126 | 52 / 108 | 47 / 81  | 43 / 62 | 40 / 49 | 36 / 39 | 32 / 32 | 28 / 26 | 40 - 0 |                                   |
|                | 18/20 | 105 / 225                                                                      | 100 / 189 | 94 / 161 | 90 / 138 | 81 / 104 | 75 / 80 | 69 / 63 | 60 / 50 | 53 / 41 | 46 / 34 | 40 - 0 |                                   |
|                | 18/18 | 105 / 239                                                                      | 100 / 202 | 94 / 171 | 90 / 147 | 81 / 110 | 75 / 85 | 69 / 67 | 60 / 54 | 52 / 44 | 46 / 36 | 40 - 0 |                                   |
| Double         | 20/20 | 54 / 420                                                                       | 51 / 354  | 48 / 301 | 46 / 258 | -        | -       | -       | -       | -       | -       | 40 - 0 |                                   |
|                | 20/18 | 54 / 466                                                                       | 51 / 392  | 48 / 334 | 46 / 286 | -        | -       | -       | -       | -       | -       | 40 - 0 |                                   |
|                | 18/20 | 90 / 542                                                                       | 85 / 456  | 80 / 388 | 76 / 333 | -        | -       | -       | -       | -       | -       | 40 - 0 |                                   |
|                | 18/18 | 90 / 577                                                                       | 85 / 486  | 80 / 413 | 76 / 354 | -        | -       | -       | -       | -       | -       | 40 - 0 |                                   |

- Notes:**
- Allowable Uniform Loads and maximum construction spans shown are based on the following criteria:
    - ANSI/SDI RD-2017 Standard for Steel Roof Deck
    - Minimum bearing lengths of 4" for end bearing and 6" for interior bearing. Check web crippling if minimums are not met.
  - Maximum construction spans shown include a check for deck self-weight plus a nominal 200 lbs. concentrated load supported by a one foot section of deck per SDI criteria which exceeds the IBC requirement of a 300 lbs. roof maintenance load distributed over an area of 2 1/2 feet by 2 1/2 feet per Section 1607.4 and Table 1607.1.
  - "Load that Produces L/240 Deflection" values shown in RED exceed the "Allowable Uniform Total Load". These loads may be used to determine the deck capacity under deflection limits more stringent than L/240. In no case shall the "Allowable Uniform Total Load" be exceeded.
  - See website at [www.newmill.com](http://www.newmill.com) for Factory Mutual approved deck types and maximum FM construction spans.

## MAXIMUM CANTILEVER SPANS

| Gage  | F <sub>y</sub><br>(ksi) | Back-Span Condition |        |
|-------|-------------------------|---------------------|--------|
|       |                         | Single              | Double |
| 20/20 | 40                      | 6 - 3               | 5 - 11 |
| 20/18 | 40                      | 6 - 3               | 5 - 11 |
| 18/20 | 40                      | 9 - 11              | 5 - 11 |
| 18/18 | 40                      | 9 - 11              | 5 - 11 |

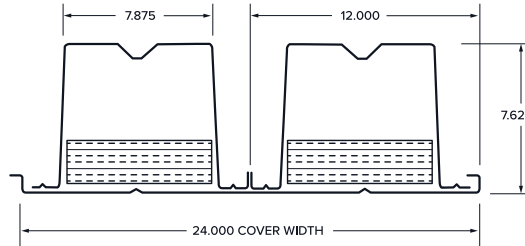
### Notes:

- Maximum cantilever spans shown are based on the following criteria:
  - ANSI/SDI RD-2017 Standard for Steel Roof Deck
  - Adjacent span assumed to be at least 3 times longer than the cantilever and no greater than the maximum design or construction spans shown in table above
  - Bearing width at perimeter support assumed to be 6" minimum
  - Design total uniform load of 45 psf in conjunction with a 100 lb. concentrated load.

# 7.5" Deep-Dek® Cellular Acoustical (7.5DCA)

## PROPERTIES

| Gage<br>(Hat/Pan) | Thickness<br>(in) | Cover<br>(in) | Weight<br>(psf) |
|-------------------|-------------------|---------------|-----------------|
| 18/16             | 0.0474/0.0598     | 24            | 7.20            |
| 16/18             | 0.0598/0.0474     |               | 7.81            |
| 16/16             | 0.0598/0.0598     |               | 8.37            |
| 14/16             | 0.0747/0.0598     |               | 9.79            |



ICC-ES APPROVED  
REFER TO ESR-2657

## ASD

## SECTION PROPERTIES

## DESIGN STRENGTHS

| Gage  | F <sub>y</sub><br>(ksi) | I <sub>D</sub> 1 Span<br>(in <sup>4</sup> /ft) | I <sub>D</sub> 2+ Span<br>(in <sup>4</sup> /ft) | I <sub>p</sub><br>(in <sup>4</sup> /ft) | I <sub>n</sub><br>(in <sup>4</sup> /ft) | S <sub>p</sub><br>(in <sup>3</sup> /ft) | S <sub>n</sub><br>(in <sup>3</sup> /ft) | Mn,p/Ω<br>(in-lb/ft) | Mn,n/Ω<br>(in-lb/ft) | Vn/Ω<br>(lb/ft) | *Rbe/Ω<br>(lb/ft) | *Rbi/Ω<br>(lb/ft) |
|-------|-------------------------|------------------------------------------------|-------------------------------------------------|-----------------------------------------|-----------------------------------------|-----------------------------------------|-----------------------------------------|----------------------|----------------------|-----------------|-------------------|-------------------|
| 18/16 | 40                      | 18.937                                         | 19.273                                          | 18.270                                  | 18.775                                  | 2.943                                   | 4.035                                   | 70502                | 96637                | 2575            | 896               | 1902              |
| 16/18 | 40                      | 22.483                                         | 22.483                                          | 22.483                                  | 20.200                                  | 4.458                                   | 4.845                                   | 106773               | 116047               | 5178            | 1394              | 2886              |
| 16/16 | 40                      | 23.982                                         | 23.982                                          | 23.982                                  | 22.115                                  | 4.430                                   | 4.988                                   | 106112               | 119477               | 5178            | 1394              | 2886              |
| 14/16 | 40                      | 28.205                                         | 28.205                                          | 28.205                                  | 25.976                                  | 6.292                                   | 6.114                                   | 150718               | 146450               | 10113           | 2117              | 4300              |

- Notes:**
- Section properties are calculated in accordance with the AISI S100-16, with perforation modifiers.
  - Web crippling design strengths\* are based on minimum bearing lengths of 4" for end bearing and 6" for interior bearing.

## ALLOWABLE UNIFORM LOADS AND MAXIMUM CONSTRUCTION SPANS

| Span Condition | Gage  | Allowable Uniform Total Load (psf) / Load that Produces L/240 Deflection (psf) |           |           |           |           |           |          |          |         |         |        | SDI Max. Constr. Span (ctr / ctr) |
|----------------|-------|--------------------------------------------------------------------------------|-----------|-----------|-----------|-----------|-----------|----------|----------|---------|---------|--------|-----------------------------------|
|                |       | Center to Center Span (ft - in)                                                |           |           |           |           |           |          |          |         |         |        |                                   |
|                |       | 20 - 0                                                                         | 21 - 0    | 22 - 0    | 23 - 0    | 24 - 0    | 26 - 0    | 28 - 0   | 30 - 0   | 32 - 0  | 34 - 0  |        |                                   |
| Single         | 18/16 | 90 / 155                                                                       | 85 / 134  | 81 / 117  | 78 / 102  | 75 / 90   | 69 / 71   | 60 / 57  | 52 / 46  | 46 / 38 | 41 / 32 | 40 - 0 |                                   |
|                | 16/18 | 139 / 184                                                                      | 133 / 159 | 127 / 138 | 121 / 121 | 116 / 107 | 105 / 84  | 91 / 67  | 79 / 55  | 70 / 45 | 62 / 37 | 40 - 0 |                                   |
|                | 16/16 | 139 / 197                                                                      | 133 / 170 | 127 / 148 | 121 / 129 | 116 / 114 | 105 / 89  | 90 / 72  | 79 / 58  | 69 / 48 | 61 / 40 | 40 - 0 |                                   |
|                | 14/16 | 212 / 231                                                                      | 202 / 200 | 192 / 174 | 184 / 152 | 174 / 134 | 149 / 105 | 128 / 84 | 112 / 68 | 98 / 56 | 87 / 47 | 40 - 0 |                                   |
| Double         | 18/16 | 76 / 381                                                                       | 72 / 329  | -         | -         | -         | -         | -        | -        | -       | -       | 40 - 0 |                                   |
|                | 16/18 | 115 / 444                                                                      | 110 / 384 | -         | -         | -         | -         | -        | -        | -       | -       | 40 - 0 |                                   |
|                | 16/16 | 115 / 474                                                                      | 110 / 409 | -         | -         | -         | -         | -        | -        | -       | -       | 40 - 0 |                                   |
|                | 14/16 | 172 / 557                                                                      | 164 / 481 | -         | -         | -         | -         | -        | -        | -       | -       | 40 - 0 |                                   |

- Notes:**
- Allowable Uniform Loads and maximum construction spans shown are based on the following criteria:
    - ANSI/SDI RD-2017 Standard for Steel Roof Deck
    - Minimum bearing lengths of 4" for end bearing and 6" for interior bearing. Check web crippling if minimums are not met.
  - Maximum construction spans shown include a check for deck self-weight plus a nominal 200 lbs. concentrated load supported by a one foot section of deck per SDI criteria which exceeds the IBC requirement of a 300 lbs. roof maintenance load distributed over an area of 2 1/2 feet by 2 1/2 feet per Section 1607.4 and Table 1607.1.
  - "Load that Produces L/240 Deflection" values shown in RED exceed the "Allowable Uniform Total Load". These loads may be used to determine the deck capacity under deflection limits more stringent than L/240. In no case shall the "Allowable Uniform Total Load" be exceeded.
  - See website at [www.newmill.com](http://www.newmill.com) for Factory Mutual approved deck types and maximum FM construction spans.

## MAXIMUM CANTILEVER SPANS

| Gage  | F <sub>y</sub><br>(ksi) | Back-Span Condition |        |
|-------|-------------------------|---------------------|--------|
|       |                         | Single              | Double |
| 18/16 | 40                      | 9 - 11              | 5 - 11 |
| 16/18 | 40                      | 9 - 11              | 5 - 11 |
| 16/16 | 40                      | 9 - 11              | 5 - 11 |
| 14/16 | 40                      | 9 - 11              | 5 - 11 |

## Notes:

- Maximum cantilever spans shown are based on the following criteria:
  - ANSI/SDI RD-2017 Standard for Steel Roof Deck
  - Adjacent span assumed to be at least 3 times longer than the cantilever and no greater than the maximum design or construction spans shown in table above
  - Bearing width at perimeter support assumed to be 6" minimum
  - Design total uniform load of 45 psf in conjunction with a 100 lb. concentrated load.