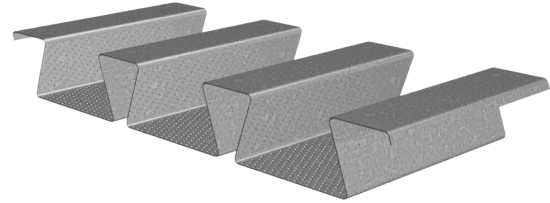


# 3.5DF-24 AC ACOUSTICAL DOVETAIL ROOF DECK GRADE 50 STEEL

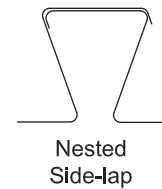
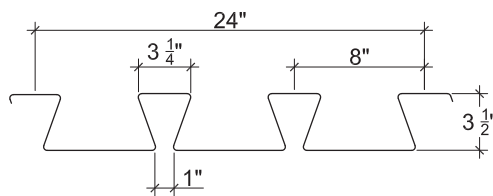
LRFD

## 3.5DF-24 AC DOVETAIL ROOF DECK

- Enhanced 2-Coat Polyester Paint
- White Factory Primer Paint
- Galvanized Finish
- FM Listed



## Nominal Dimensions



## Section Properties

| Deck<br>Gage | Deck<br>Weight<br>$w_{dd}$<br>(psf) | Base Metal<br>Thickness<br>$t$<br>(in.) | Yield<br>Strength<br>$F_y$<br>(ksi) | Effective Moment<br>of Inertia<br>at Service Load<br>$I_d = (2I_e + I_g)/3$ |                                   | Effective<br>Section Modulus<br>at $F_y = 50$ ksi |                                   | Design<br>Moment            |                             | Vertical<br>Web<br>Shear<br>$\phi V_n$<br>(lb/ft) |
|--------------|-------------------------------------|-----------------------------------------|-------------------------------------|-----------------------------------------------------------------------------|-----------------------------------|---------------------------------------------------|-----------------------------------|-----------------------------|-----------------------------|---------------------------------------------------|
|              |                                     |                                         |                                     | $I_{d+}$<br>(in <sup>4</sup> /ft)                                           | $I_{d-}$<br>(in <sup>4</sup> /ft) | $S_{e+}$<br>(in <sup>3</sup> /ft)                 | $S_{e-}$<br>(in <sup>3</sup> /ft) | $\phi M_{n+}$<br>(lb-ft/ft) | $\phi M_{n-}$<br>(lb-ft/ft) |                                                   |
| 18           | 4.2                                 | 0.0478                                  | 50                                  | 2.318                                                                       | 2.268                             | 0.984                                             | 0.834                             | 3691                        | 3128                        | 10356                                             |
| 16           | 5.3                                 | 0.0598                                  | 50                                  | 2.948                                                                       | 2.947                             | 1.325                                             | 1.144                             | 4971                        | 4291                        | 14868                                             |

## Design Reactions at Supports Based on Web Crippling, $\phi R_n$ (lb/ft)

| Deck<br>Gage | Bearing Length of Webs |      |      |      |                  |      |                    |      |      |      |                  |      |
|--------------|------------------------|------|------|------|------------------|------|--------------------|------|------|------|------------------|------|
|              | One-Flange Loading     |      |      |      |                  |      | Two-Flange Loading |      |      |      |                  |      |
|              | End Bearing            |      |      |      | Interior Bearing |      | End Bearing        |      |      |      | Interior Bearing |      |
|              | 2"                     | 3"   | 4"   | 5"   | 4"               | 6"   | 2"                 | 3"   | 4"   | 5"   | 4"               | 6"   |
| 18           | 2241                   | 2553 | 2815 | 3046 | 4363             | 4960 | 2435               | 2695 | 2915 | 3108 | 5269             | 6048 |
| 16           | 3392                   | 3843 | 4223 | 4557 | 6567             | 7425 | 3924               | 4319 | 4652 | 4945 | 8048             | 9192 |

## Standard Features

- ASTM A653 SS GR 50 Min. with G90
- Standard lengths – 6'-0" to 40'-0"
- Tables conform to ANSI/SDI RD-2017
- IAPMO UES ER-423 and FM Listed

## Optional Features

- Inquire regarding cost and lead times for:
  - 17 gage
  - Alternative metallic and painted finishes

# 3.5DF-24 AC ACOUSTICAL DOVETAIL ROOF DECK GRADE 50 STEEL

LRFD

## Inward Uniform Design Loads, LRFD (psf)

| Deck<br>Gage | Spans  | Criteria   | Span (ft-in.) |        |        |        |        |        |        |        |        |        |        |
|--------------|--------|------------|---------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|              |        |            | 11'-0"        | 12'-0" | 13'-0" | 14'-0" | 15'-0" | 16'-0" | 17'-0" | 18'-0" | 19'-0" | 20'-0" | 21'-0" |
| 18           | Single | $\phi W_n$ | 244           | 205    | 175    | 151    | 131    | 115    | 102    | 91     | 82     | 74     | 67     |
|              |        | L/240      | 114           | 88     | 69     | 55     | 45     | 37     | 31     | 26     | 22     | 19     | 16     |
|              | Double | $\phi W_n$ | 205           | 172    | 147    | 127    | 111    | 97     | 86     | 77     | 69     | 62     |        |
|              |        | L/240      | 269           | 207    | 163    | 131    | 106    | 87     | 73     | 61     | 52     | 45     |        |
|              | Triple | $\phi W_n$ | 255           | 215    | 183    |        |        |        |        |        |        |        |        |
|              |        | L/240      | 211           | 162    | 128    |        |        |        |        |        |        |        |        |
| 16           | Single | $\phi W_n$ | 329           | 276    | 235    | 203    | 177    | 155    | 138    | 123    | 110    | 99     | 90     |
|              |        | L/240      | 145           | 112    | 88     | 70     | 57     | 47     | 39     | 33     | 28     | 24     | 21     |
|              | Double | $\phi W_n$ | 281           | 237    | 202    | 174    | 152    | 134    | 118    | 106    | 95     | 86     |        |
|              |        | L/240      | 350           | 269    | 212    | 170    | 138    | 114    | 95     | 80     | 68     | 58     |        |
|              | Triple | $\phi W_n$ | 350           | 295    | 252    |        |        |        |        |        |        |        |        |
|              |        | L/240      | 274           | 211    | 166    |        |        |        |        |        |        |        |        |

### Notes:

1. Table does not account for web crippling. Required bearing should be determined based on specific span conditions.
2. The symbol "---" indicates that the uniform allowable load based on deflection exceeds the allowable load based on stress.

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