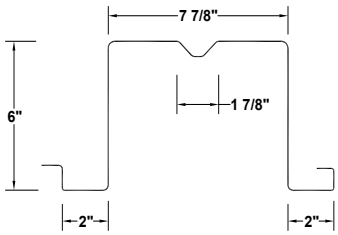
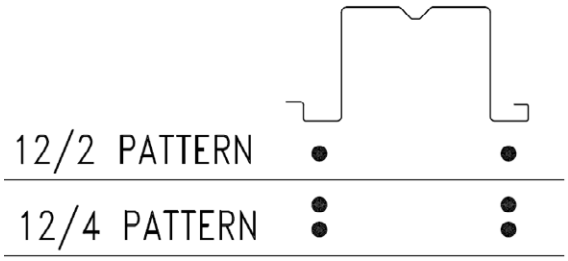
# 5.3 6D-12
## Deep Deck




**Panel Properties**

| Gauge | Weight | Base Metal Thickness | Yield Strength | Tensile Strength | Gross Section Properties | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Area | Moment of Inertia | Distance to N.A. from Bottom | Distance to N.A. from Top | Section Modulus | Radius of Gyration |
| | w | t | $F_y$ | $F_u$ | $A_g$ | $I_g$ | $y_b$ | $y_t$ | $S_{gbot}$ | r |
| | psf | in | ksi | ksi | $in^2/ft$ | $in^4/ft$ | in | in | $in^3/ft$ | in |
| 20 | 3.25 | 0.0359 | 40 | 55 | 0.975 | 5.518 | 3.16 | 2.841 | 1.747 | 2.379 |
| 18 | 4.37 | 0.0478 | 40 | 55 | 1.298 | 7.313 | 3.16 | 2.841 | 2.315 | 2.374 |
| 16 | 5.41 | 0.0598 | 40 | 55 | 1.622 | 9.107 | 3.16 | 2.841 | 2.883 | 2.370 |
| 14 | 6.86 | 0.0750 | 40 | 55 | 2.032 | 11.355 | 3.16 | 2.841 | 3.594 | 2.364 |

| Gauge | Effective Section Modulus for Bending at $F_y$ | | | | | Effective Moment of Inertia for Deflection at Service Load | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Area | Section Modulus | Max Distance to N.A. from Extreme Fiber | Section Modulus | Max Distance to N.A. from Extreme Fiber | Moment of Inertia | Moment of Inertia | Uniform Load Only $I_d = (2I_e+I_g)/3$ | |
| | $A_e+$ | $S_e+$ | $y_b$ | $S_e-$ | $y_b$ | $I_e+$ | $I_e-$ | I+ | I- |
| | $in^2/ft$ | $in^3/ft$ | in | $in^3/ft$ | in | $in^4/ft$ | $in^4/ft$ | $in^4/ft$ | $in^4/ft$ |
| 20 | 0.906 | 1.631 | 3.05 | 1.701 | 3.20 | 4.969 | 5.441 | 5.152 | 5.467 |
| 18 | 1.262 | 2.285 | 3.08 | 2.313 | 3.16 | 7.044 | 7.309 | 7.134 | 7.310 |
| 16 | 1.622 | 2.883 | 3.16 | 2.883 | 3.16 | 9.107 | 9.107 | 9.107 | 9.107 |
| 14 | 2.032 | 3.595 | 3.16 | 3.595 | 3.16 | 11.355 | 11.355 | 11.355 | 11.355 |

**Reactions and supports (plf) Based on Web Crippling**

| Gauge | Effective Section Modulus for Bending at $F_y$ | | | | | Effective Moment of Inertia for Deflection at Service Load | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Area | Section Modulus | Max Distance to N.A. from Extreme Fiber | Section Modulus | Max Distance to N.A. from Extreme Fiber | Moment of Inertia | Moment of Inertia | Uniform Load Only $I_d = (2I_e+I_g)/3$ | |
| | $A_e+$ | $S_e+$ | $y_b$ | $S_e-$ | $y_b$ | $I_e+$ | $I_e-$ | I+ | I- |
| | $in^2/ft$ | $in^3/ft$ | in | $in^3/ft$ | in | $in^4/ft$ | $in^4/ft$ | $in^4/ft$ | $in^4/ft$ |
| 20 | 0.906 | 1.631 | 3.05 | 1.701 | 3.20 | 4.969 | 5.441 | 5.152 | 5.467 |
| 18 | 1.262 | 2.285 | 3.08 | 2.313 | 3.16 | 7.044 | 7.309 | 7.134 | 7.310 |
| 16 | 1.622 | 2.883 | 3.16 | 2.883 | 3.16 | 9.107 | 9.107 | 9.107 | 9.107 |
| 14 | 2.032 | 3.595 | 3.16 | 3.595 | 3.16 | 11.355 | 11.355 | 11.355 | 11.355 |

## Inward Allowable (fb/Ω) and Factored (Φfb) Distributed Load (lbs/ft2 )

| Inward Allowable ($f_b/\Omega$) and Factored ($\Phi f_b$) Distributed Load (lbs/ft$^2$) | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gauge | Span | Limit Condition | Panel Span (Support Spacing) | | | | | | | | | | |
| | | | 10' - 0" | 12' - 0" | 14' - 0" | 16' - 0" | 18' - 0" | 20' - 0" | 22' - 0" | 24' - 0" | 26' - 0" | 28' - 0" | 30' - 0" |
| 20 | SS | $f_b/\Omega$ | 260 | 181 | 133 | 102 | 80 | 65 | 54 | 45 | 39 | 33 | 29 |
| | | $\Phi f_b$ | 413 | 287 | 211 | 161 | 128 | 103 | 85 | 72 | 61 | 53 | 46 |
| | | L/360 | 225 | 130 | 82 | 55 | 39 | 28 | 21 | 16 | 13 | 10 | 8 |
| | | L/240 | - | - | 123 | 82 | 58 | 42 | 32 | 24 | 19 | 15 | 13 |
| | | L/180 | - | - | - | - | 77 | 56 | 42 | 33 | 26 | 21 | 17 |
| | | L/120 | - | - | - | - | - | - | - | - | 38 | 31 | 25 |
| | DS | $f_b/\Omega$ | 272 | 189 | 139 | 106 | 84 | 68 | 56 | 47 | 40 | 35 | 30 |
| | | $\Phi f_b$ | 431 | 299 | 220 | 168 | 133 | 108 | 89 | 75 | 64 | 55 | 48 |
| | | L/360 | - | - | - | - | - | - | 54 | 42 | 33 | 26 | 21 |
| | | L/240 | - | - | - | - | - | - | - | - | - | - | - |
| | | L/180 | - | - | - | - | - | - | - | - | - | - | - |
| | | L/120 | - | - | - | - | - | - | - | - | - | - | - |
| | TS | $f_b/\Omega$ | 340 | 236 | 173 | 133 | 105 | 85 | 70 | 59 | 50 | 43 | 38 |
| | | $\Phi f_b$ | 539 | 374 | 275 | 210 | 166 | 135 | 111 | 94 | 80 | 69 | 60 |
| | | L/360 | - | - | - | 129 | 90 | 66 | 50 | 38 | 30 | 24 | 20 |
| | | L/240 | - | - | - | - | - | - | - | 57 | 45 | 36 | 29 |
| | | L/180 | - | - | - | - | - | - | - | - | - | - | - |
| | | L/120 | - | - | - | - | - | - | - | - | - | - | - |
| 18 | SS | $f_b/\Omega$ | 365 | 253 | 186 | 143 | 113 | 91 | 75 | 63 | 54 | 47 | 41 |
| | | $\Phi f_b$ | 579 | 402 | 295 | 226 | 179 | 145 | 120 | 100 | 86 | 74 | 64 |
| | | L/360 | 312 | 180 | 114 | 76 | 53 | 39 | 29 | 23 | 18 | 14 | 12 |
| | | L/240 | - | - | 170 | 114 | 80 | 58 | 44 | 34 | 27 | 21 | 17 |
| | | L/180 | - | - | - | - | 107 | 78 | 59 | 45 | 35 | 28 | 23 |
| | | L/120 | - | - | - | - | - | - | - | - | 53 | 43 | 35 |
| | DS | $f_b/\Omega$ | 369 | 256 | 188 | 144 | 114 | 92 | 76 | 64 | 55 | 47 | 41 |
| | | $\Phi f_b$ | 586 | 407 | 299 | 229 | 181 | 146 | 121 | 102 | 87 | 75 | 65 |
| | | L/360 | - | - | - | - | - | - | 72 | 56 | 44 | 35 | 29 |
| | | L/240 | - | - | - | - | - | - | - | - | - | - | - |
| | | L/180 | - | - | - | - | - | - | - | - | - | - | - |
| | | L/120 | - | - | - | - | - | - | - | - | - | - | - |
| | TS | $f_b/\Omega$ | 462 | 321 | 236 | 180 | 142 | 115 | 95 | 80 | 68 | 59 | 51 |
| | | $\Phi f_b$ | 732 | 509 | 374 | 286 | 226 | 183 | 151 | 127 | 108 | 93 | 81 |
| | | L/360 | - | - | - | 172 | 121 | 88 | 66 | 51 | 40 | 32 | 26 |
| | | L/240 | - | - | - | - | - | - | - | 77 | 60 | 48 | 39 |
| | | L/180 | - | - | - | - | - | - | - | - | - | - | - |
| | | L/120 | - | - | - | - | - | - | - | - | - | - | - |
| 16 | SS | $f_b/\Omega$ | 460 | 320 | 235 | 180 | 142 | 115 | 95 | 80 | 68 | 59 | 51 |
| | | $\Phi f_b$ | 730 | 507 | 373 | 285 | 225 | 183 | 151 | 127 | 108 | 93 | 81 |
| | | L/360 | 398 | 230 | 145 | 97 | 68 | 50 | 37 | 29 | 23 | 18 | 15 |
| | | L/240 | - | - | 218 | 146 | 102 | 75 | 56 | 43 | 34 | 27 | 22 |
| | | L/180 | - | - | - | - | 136 | 100 | 75 | 58 | 45 | 36 | 29 |
| | | L/120 | - | - | - | - | - | - | - | - | 68 | 54 | 44 |
| | DS | $f_b/\Omega$ | 460 | 320 | 235 | 180 | 142 | 115 | 95 | 80 | 68 | 59 | 51 |
| | | $\Phi f_b$ | 730 | 507 | 373 | 285 | 225 | 183 | 151 | 127 | 108 | 93 | 81 |
| | | L/360 | - | - | - | - | - | - | 90 | 69 | 55 | 44 | 36 |
| | | L/240 | - | - | - | - | - | - | - | - | - | - | - |
| | | L/180 | - | - | - | - | - | - | - | - | - | - | - |
| | | L/120 | - | - | - | - | - | - | - | - | - | - | - |
| | TS | $f_b/\Omega$ | 575 | 400 | 294 | 225 | 178 | 144 | 119 | 100 | 85 | 73 | 64 |
| | | $\Phi f_b$ | 913 | 634 | 466 | 357 | 282 | 228 | 189 | 158 | 135 | 116 | 101 |
| | | L/360 | - | - | - | 214 | 151 | 110 | 82 | 64 | 50 | 40 | 33 |
| | | L/240 | - | - | - | - | - | - | - | 95 | 75 | 60 | 49 |
| | | L/180 | - | - | - | - | - | - | - | - | - | - | - |
| | | L/120 | - | - | - | - | - | - | - | - | - | - | - |
| 14 | SS | $f_b/\Omega$ | 574 | 399 | 293 | 224 | 177 | 143 | 119 | 100 | 85 | 73 | 64 |
| | | $\Phi f_b$ | 911 | 632 | 465 | 356 | 281 | 228 | 188 | 158 | 135 | 116 | 101 |
| | | L/360 | 496 | 287 | 181 | 121 | 85 | 62 | 47 | 36 | 28 | 23 | 18 |
| | | L/240 | - | - | 271 | 182 | 128 | 93 | 70 | 54 | 42 | 34 | 28 |
| | | L/180 | - | - | - | - | 170 | 124 | 93 | 72 | 56 | 45 | 37 |
| | | L/120 | - | - | - | - | - | - | - | - | 85 | 68 | 55 |
| | DS | $f_b/\Omega$ | 574 | 399 | 293 | 224 | 177 | 143 | 119 | 100 | 85 | 73 | 64 |
| | | $\Phi f_b$ | 911 | 632 | 465 | 356 | 281 | 228 | 188 | 158 | 135 | 116 | 101 |
| | | L/360 | - | - | - | - | - | - | 112 | 86 | 68 | 54 | 44 |
| | | L/240 | - | - | - | - | - | - | - | - | - | - | - |
| | | L/180 | - | - | - | - | - | - | - | - | - | - | - |
| | | L/120 | - | - | - | - | - | - | - | - | - | - | - |
| | TS | $f_b/\Omega$ | 717 | 498 | 366 | 280 | 221 | 179 | 148 | 125 | 106 | 92 | 80 |
| | | $\Phi f_b$ | 1138 | 790 | 581 | 445 | 351 | 285 | 235 | 198 | 168 | 145 | 126 |
| | | L/360 | - | - | - | 267 | 188 | 137 | 103 | 79 | 62 | 50 | 41 |
| | | L/240 | - | - | - | - | - | - | - | 119 | 93 | 75 | 61 |
| | | L/180 | - | - | - | - | - | - | - | - | - | - | - |
| | | L/120 | - | - | - | - | - | - | - | - | - | - | - |