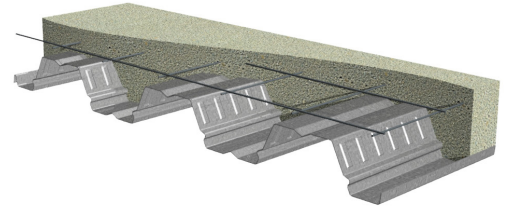


PLW3™-36/W3-36 FORMLOK® COMPOSITE DECKS GRADE 50 STEEL

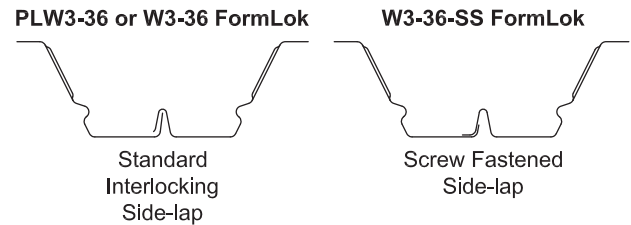
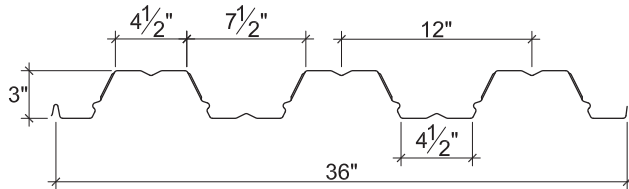
ASD

W3 FORMLOK DECKS

- PLW3-36 FormLok Deck used with PunchLok® II System
- W3-36 FormLok Deck used with TSWs or BPs
- W3-36-SS FormLok Deck used with Side-lap Screws



Nominal Dimensions



Section Properties

| Deck Gage | Deck Weight w_{dd} (psf) | Base Metal Thickness t (in.) | Yield Strength F_y (ksi) | Effective Moment of Inertia at Service Load $I_d = (2I_e + I_g)/3$ | | Effective Section Modulus at $F_y = 50$ ksi | | Vertical Web Shear V_n/Ω (lb/ft) |
|-----------|----------------------------------|--------------------------------------|----------------------------------|---|-----------------------------------|---|-----------------------------------|---|
| | | | | I_{d+} (in ⁴ /ft) | I_{d-} (in ⁴ /ft) | S_{e+} (in ³ /ft) | S_{e-} (in ³ /ft) | |
| 22 | 1.9 | 0.0299 | 50 | 0.736 | 0.730 | 0.393 | 0.410 | 1364 |
| 20 | 2.3 | 0.0359 | 50 | 0.907 | 0.899 | 0.510 | 0.528 | 2360 |
| 18 | 2.9 | 0.0478 | 50 | 1.213 | 1.211 | 0.752 | 0.768 | 4286 |
| 16 | 3.5 | 0.0598 | 50 | 1.516 | 1.516 | 0.968 | 0.966 | 6199 |

Allowable Reactions at Supports Based on Web Crippling, R_n/Ω (lb/ft)

| Deck Gage | Bearing Length of Webs | | | | | | | | | | | |
|-----------|------------------------|------|------|------------------|------|------|--------------------|------|------|------------------|------|------|
| | One-Flange Loading | | | | | | Two-Flange Loading | | | | | |
| | End Bearing | | | Interior Bearing | | | End Bearing | | | Interior Bearing | | |
| | 1 1/2" | 2" | 3" | 4" | 4" | 8" | 1 1/2" | 2" | 3" | 4" | 4" | 8" |
| 22 | 349 | 383 | 441 | 490 | 778 | 908 | 329 | 354 | 397 | 432 | 901 | 1063 |
| 20 | 493 | 540 | 619 | 686 | 1090 | 1351 | 498 | 535 | 596 | 648 | 1286 | 1617 |
| 18 | 845 | 922 | 1049 | 1157 | 1845 | 2310 | 938 | 1001 | 1108 | 1198 | 2228 | 2835 |
| 16 | 1285 | 1395 | 1581 | 1737 | 2779 | 3449 | 1517 | 1614 | 1776 | 1913 | 3406 | 4297 |

Standard Features

- ASTM A653 SS GR50 Min., with G60 or G90, white or gray primer bottom optional
- ASTM A1008 SS GR50 Min. with gray primer bottom
- Standard lengths – 6'-0" to 40'-0"
- IAPMO UES ER-2018 and UL Listed
- Tables conform to ANSI/SDI C-2017

Optional Features

- Inquire regarding cost and lead times for:
 - Short cuts < 6'-0"
 - Sheet Lengths > 40'-0"
 - Alternative metallic and painted finishes
- Factory Vent Tabs

PLW3™-36/W3-36 FORMLOK® DECK-SLABS

NORMAL WEIGHT CONCRETE (145 pcf)

ASD

| Slab Depth | | Maximum Unshored Spans | | | Composite Deck-Slab Properties | | | | |
|------------|---------|------------------------|--|---------|--------------------------------|-----------------------|---|------------------------------------|--------------------------------|
| | | Deck Gage | Maximum Unshored Construction Clear Span | | | Concrete + Deck (psf) | Deflection $I_d = (I_{cr} + I_u)/2$ (in ⁴ /ft) | Moment M_{no}/Ω (kip-ft/ft) | Shear V_{no}/Ω (kip/ft) |
| Total | Topping | | 1 | 2 | 3 | | | | |
| 5" | 2" | 22 | 10'-1" | 10'-9" | 11'-1" | 44.2 | 7.52 | 3.45 | 3.16 |
| | | 20 | 11'-8" | 12'-4" | 12'-9" | 44.6 | 7.98 | 4.05 | 3.83 |
| | | 18 | 12'-7" | 14'-11" | 14'-8" | 45.2 | 8.83 | 5.20 | 3.83 |
| | | 16 | 13'-3" | 16'-6" | 15'-6" | 45.8 | 9.61 | 6.30 | 3.83 |
| 6½" | 3½" | 22 | 8'-11" | 8'-6" | 9'-8" | 62.3 | 15.90 | 4.54 | 4.01 |
| | | 20 | 10'-4" | 10'-11" | 11'-3" | 62.7 | 16.81 | 5.35 | 4.92 |
| | | 18 | 11'-7" | 13'-3" | 13'-7" | 63.3 | 18.50 | 6.89 | 5.52 |
| | | 16 | 12'-3" | 14'-10" | 14'-4" | 63.9 | 20.05 | 8.37 | 5.52 |
| 7½" | 4½" | 22 | 8'-4" | 7'-5" | 8'-6" | 74.4 | 24.07 | 5.33 | 4.64 |
| | | 20 | 9'-8" | 10'-2" | 10'-6" | 74.8 | 25.40 | 6.28 | 5.55 |
| | | 18 | 11'-1" | 12'-5" | 12'-10" | 75.4 | 27.87 | 8.12 | 6.78 |
| | | 16 | 11'-9" | 13'-11" | 13'-9" | 76.0 | 30.15 | 9.88 | 6.78 |

Note:

- Maximum unshored spans do not consider web-crippling. Required bearing should be determined based on specific span conditions.

Superimposed Allowable Load, W_n/Ω , Limited by L/360 (psf)

NWC (145 pcf), $f'_c = 3000$ psi

| Total Slab Depth | Deck Gage | Span (ft-in.) | | | | | | | | |
|------------------|-----------|---------------|-------|--------|--------|--------|--------|--------|--------|--------|
| | | 8'-0" | 9'-0" | 10'-0" | 11'-0" | 12'-0" | 13'-0" | 14'-0" | 15'-0" | 16'-0" |
| 5" | 22 | 386 | 296 | 231 | 183 | 147 | 118 | 96 | 78 | 63 |
| | 20 | 462 | 355 | 279 | 223 | 180 | 147 | 120 | 99 | 82 |
| | 18 | 604 | 468 | 370 | 289 | 223 | 175 | 140 | 114 | 94 |
| | 16 | 741 | 575 | 419 | 315 | 242 | 191 | 153 | 124 | 102 |
| 6½" | 22 | 505 | 386 | 301 | 238 | 190 | 152 | 123 | 99 | 79 |
| | 20 | 606 | 465 | 365 | 291 | 234 | 190 | 155 | 127 | 104 |
| | 18 | 798 | 617 | 488 | 392 | 319 | 262 | 218 | 181 | 152 |
| | 16 | 982 | 763 | 605 | 489 | 401 | 332 | 277 | 233 | 197 |
| 7½" | 22 | 591 | 451 | 351 | 277 | 221 | 177 | 142 | 114 | 92 |
| | 20 | 710 | 545 | 427 | 340 | 274 | 222 | 181 | 148 | 121 |
| | 18 | 939 | 726 | 573 | 461 | 375 | 308 | 255 | 213 | 178 |
| | 16 | 1159 | 900 | 714 | 577 | 473 | 391 | 327 | 275 | 232 |

Notes:

- For high loads long term concrete creep should be considered.
- See Composite Deck-Slab Strength Web Based Solutions for alternate slabs or LRFD design.

PLW3™-36/W3-36 FORMLOK® DECK-SLABS

LIGHT WEIGHT CONCRETE (110 pcf)

ASD

| Slab Depth | | Maximum Unshored Spans | | | Composite Deck-Slab Properties | | | | |
|------------|---------|------------------------|--|---------|--------------------------------|-----------------------|---|------------------------------------|--------------------------------|
| | | Deck Gage | Maximum Unshored Construction Clear Span | | | Concrete + Deck (psf) | Deflection $I_d = (I_{cr} + I_u)/2$ (in ⁴ /ft) | Moment M_{no}/Ω (kip-ft/ft) | Shear V_{no}/Ω (kip/ft) |
| Total | Topping | | 1 | 2 | 3 | | | | |
| 5" | 2" | 22 | 11'-2" | 11'-10" | 12'-2" | 34.0 | 5.73 | 3.30 | 2.69 |
| | | 20 | 12'-6" | 13'-6" | 14'-0" | 34.4 | 6.14 | 3.87 | 3.60 |
| | | 18 | 13'-5" | 16'-4" | 15'-8" | 35.0 | 6.88 | 4.94 | 3.83 |
| | | 16 | 14'-1" | 17'-7" | 16'-6" | 35.6 | 7.56 | 5.97 | 3.83 |
| 5½" | 2½" | 22 | 10'-8" | 11'-4" | 11'-8" | 38.6 | 7.49 | 3.64 | 2.89 |
| | | 20 | 12'-2" | 13'-0" | 13'-5" | 39.0 | 8.01 | 4.27 | 3.80 |
| | | 18 | 13'-0" | 15'-8" | 15'-3" | 39.6 | 8.95 | 5.45 | 4.37 |
| | | 16 | 13'-9" | 17'-1" | 16'-1" | 40.2 | 9.80 | 6.58 | 4.37 |
| 6¼" | ¾" | 22 | 10'-1" | 10'-8" | 11'-1" | 45.4 | 10.75 | 4.18 | 3.21 |
| | | 20 | 11'-8" | 12'-4" | 12'-9" | 45.8 | 11.48 | 4.91 | 4.12 |
| | | 18 | 12'-6" | 14'-11" | 14'-8" | 46.4 | 12.79 | 6.28 | 5.22 |
| | | 16 | 13'-3" | 16'-5" | 15'-6" | 47.0 | 13.99 | 7.59 | 5.22 |

Note:

- Maximum unshored spans do not consider web-crippling. Required bearing should be determined based on specific span conditions.

Superimposed Allowable Load, W_n/Ω , Limited by L/360 (psf)

LWC (110 pcf), $f'_c = 3000$ psi

| Total Slab Depth | Deck Gage | Span (ft-in.) | | | | | | | | |
|------------------|-----------|---------------|-------|--------|--------|--------|--------|--------|--------|--------|
| | | 8'-0" | 9'-0" | 10'-0" | 11'-0" | 12'-0" | 13'-0" | 14'-0" | 15'-0" | 16'-0" |
| 5" | 22 | 379 | 292 | 230 | 184 | 145 | 114 | 91 | 74 | 61 |
| | 20 | 449 | 348 | 268 | 201 | 155 | 122 | 97 | 79 | 65 |
| | 18 | 583 | 412 | 300 | 225 | 174 | 136 | 109 | 89 | 73 |
| | 16 | 645 | 453 | 330 | 248 | 191 | 150 | 120 | 97 | 80 |
| 5½" | 22 | 416 | 321 | 252 | 202 | 163 | 133 | 110 | 90 | 75 |
| | 20 | 494 | 382 | 302 | 243 | 198 | 159 | 127 | 103 | 85 |
| | 18 | 642 | 499 | 391 | 293 | 226 | 177 | 142 | 115 | 95 |
| | 16 | 782 | 587 | 428 | 321 | 247 | 195 | 156 | 126 | 104 |
| 6¼" | 22 | 477 | 367 | 289 | 231 | 186 | 152 | 125 | 103 | 85 |
| | 20 | 568 | 439 | 347 | 278 | 226 | 186 | 154 | 128 | 107 |
| | 18 | 739 | 574 | 456 | 369 | 302 | 251 | 203 | 165 | 136 |
| | 16 | 902 | 703 | 560 | 455 | 353 | 278 | 222 | 181 | 149 |

Notes:

- For high loads long term concrete creep should be considered.
- See Composite Deck-Slab Strength Web Based Solutions for alternate slabs or LRFD design.

PLW3-36/W3-36 FormLok Deck-Slab Information

$f'_c = 3000$ psi

| Total Slab Depth (in.) | Cover Depth (in.) | Theoretical Concrete Volume (yd ³ /100 ft ²) | Min. A _s for T&S (in. ²) | Recommended Reinforcing for Temperature and Shrinkage | |
|---|-------------------|---|---|---|---|
| | | | | WWR | (OR) Bekaert Dramix® Steel Fiber Alternate to WWR (lb/yd ³) |
| | | | | 4D 65/60BG | |
| Normal Weight Concrete (145 pcf) | | | | | |
| 5 | 2 | 1.08 | 0.028 | 6x6-W1.4xW1.4 | 23 |
| 5½ | 2½ | 1.24 | 0.028 | 6x6-W1.4xW1.4 | 18 |
| 6 | 3 | 1.39 | 0.028 | 6x6-W1.4xW1.4 | 15 |
| 6½ | 3½ | 1.54 | 0.032 | 6x6-W2.1xW2.1 | 15 |
| 7½ | 4½ | 1.85 | 0.041 | 6x6-W2.1xW2.1 | 15 |
| Light Weight Concrete (110 pcf) | | | | | |
| 5 | 2 | 1.08 | 0.028 | 6x6-W1.4xW1.4 | 33 |
| 5½ | 2½ | 1.24 | 0.028 | 6x6-W1.4xW1.4 | 25 |
| 6¼ | 3¼ | 1.47 | 0.029 | 6x6-W2.1xW2.1 | 20 |
| 7¼ | 4¼ | 1.78 | 0.038 | 6x6-W2.1xW2.1 | 20 |

Notes:

1. FRC reinforcement is based on IAPMO UES ER-465.
2. Dramix® fibers may be used in UL or ULC fire rated assemblies in lieu of WWR. See UL file R19307 for additional information.

For information on Bekaert Dramix® fibers contact 770-514-2295 or infobuilding@beckaert.com

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