

X829

Wide Flange Structural Steel Columns

CAFCO® BLAZE-SHIELD® II, HP & ISOLATEK® Type II, HP

| ASTM Desig. | W/D | Metric Desig. | M/D | Hp/A | 1-Hour | 1-1/2 Hour | 2-Hour | 3-Hour | 4-Hour |
|-------------|------|---------------|-------|-------|--------|------------|--------|--------|---------|
| W44 x 335 | 2.25 | W1120 x 498 | 132.8 | 59.5 | 3/8 | 9/16 | 11/16 | 1-1/16 | 1-3/8 |
| 290 | 1.97 | 432 | 116.2 | 68.0 | 7/16 | 5/8 | 13/16 | 1-3/16 | 1-9/16 |
| 262 | 1.78 | 390 | 105.0 | 75.3 | 7/16 | 5/8 | 7/8 | 1-1/4 | 1-11/16 |
| 230 | 1.58 | 342 | 93.2 | 84.8 | 7/16 | 11/16 | 15/16 | 1-3/8 | 1-13/16 |
| W40 x 593 | 4.03 | W1000 x 883 | 237.8 | 33.2 | 3/8 | 3/8 | 7/16 | 11/16 | 7/8 |
| 503 | 3.49 | 748 | 205.9 | 38.4 | 3/8 | 3/8 | 1/2 | 3/4 | 1 |
| 431 | 3.04 | 641 | 179.4 | 44.1 | 3/8 | 7/16 | 1/2 | 13/16 | 1-1/8 |
| 397 | 2.80 | 591 | 165.2 | 47.9 | 3/8 | 7/16 | 1/2 | 7/8 | 1-3/16 |
| 392 | 3.06 | 583 | 180.5 | 43.8 | 3/8 | 7/16 | 1/2 | 13/16 | 1-1/8 |
| 372 | 2.64 | 554 | 155.8 | 50.8 | 3/8 | 1/2 | 1/2 | 15/16 | 1-1/4 |
| 362 | 2.57 | 539 | 151.6 | 52.1 | 3/8 | 1/2 | 1/2 | 15/16 | 1-1/4 |
| 331 | 2.63 | 493 | 155.2 | 50.9 | 3/8 | 1/2 | 1/2 | 15/16 | 1-1/4 |
| 327 | 2.62 | 487 | 154.6 | 51.1 | 3/8 | 1/2 | 1/2 | 15/16 | 1-1/4 |
| 324 | 2.31 | 482 | 136.3 | 58.0 | 3/8 | 9/16 | 11/16 | 1-1/16 | 1-3/8 |
| 297 | 2.14 | 442 | 126.3 | 62.6 | 3/8 | 9/16 | 3/4 | 1-1/8 | 1-7/16 |
| 278 | 2.24 | 414 | 132.2 | 59.8 | 3/8 | 9/16 | 11/16 | 1-1/16 | 1-3/8 |
| 277 | 1.99 | 412 | 117.4 | 67.3 | 3/8 | 9/16 | 3/4 | 1-1/8 | 1-1/2 |
| 264 | 2.13 | 393 | 125.7 | 62.9 | 3/8 | 9/16 | 3/4 | 1-1/8 | 1-7/16 |
| 249 | 1.79 | 371 | 105.6 | 74.9 | 7/16 | 5/8 | 13/16 | 1-1/4 | 1-5/8 |
| 235 | 1.90 | 350 | 112.1 | 70.5 | 7/16 | 5/8 | 13/16 | 1-3/16 | 1-9/16 |
| 215 | 1.56 | 320 | 92.0 | 85.9 | 7/16 | 11/16 | 15/16 | 1-3/8 | 1-13/16 |
| 211 | 1.72 | 314 | 101.5 | 77.9 | 7/16 | 11/16 | 7/8 | 1-5/16 | 1-11/16 |
| 199 | 1.45 | 296 | 85.6 | 92.4 | 1/2 | 3/4 | 1 | 1-7/16 | 1-15/16 |
| 183 | 1.50 | 272 | 88.5 | 89.3 | 7/16 | 3/4 | 15/16 | 1-7/16 | 1-7/8 |
| 167 | 1.38 | 249 | 81.4 | 97.1 | 1/2 | 3/4 | 1 | 1-1/2 | 2 |
| 149 | 1.23 | 222 | 72.6 | 108.9 | 9/16 | 13/16 | 1-1/16 | 1-5/8 | 2-1/8 |
| W36 x 798 | 5.36 | W920 x 1188 | 316.2 | 25.0 | 3/8 | 3/8 | 3/8 | 1/2 | 11/16 |
| 650 | 4.45 | 967 | 262.6 | 30.1 | 3/8 | 3/8 | 7/16 | 5/8 | 13/16 |
| 527 | 3.71 | 784 | 218.9 | 36.1 | 3/8 | 3/8 | 1/2 | 11/16 | 15/16 |
| 439 | 3.14 | 653 | 185.3 | 42.7 | 3/8 | 7/16 | 1/2 | 13/16 | 1-1/16 |
| 393 | 2.85 | 585 | 168.2 | 47.0 | 3/8 | 7/16 | 1/2 | 7/8 | 1-3/16 |
| 359 | 2.62 | 534 | 154.6 | 51.1 | 3/8 | 1/2 | 1/2 | 15/16 | 1-1/4 |
| 328 | 2.39 | 488 | 141.0 | 56.1 | 3/8 | 1/2 | 11/16 | 1 | 1-5/16 |
| 300 | 2.21 | 446 | 130.4 | 60.6 | 3/8 | 9/16 | 3/4 | 1-1/16 | 1-7/16 |
| 280 | 2.06 | 417 | 121.5 | 65.0 | 3/8 | 9/16 | 3/4 | 1-1/8 | 1-1/2 |
| 260 | 1.93 | 387 | 113.9 | 69.4 | 7/16 | 5/8 | 13/16 | 1-3/16 | 1-9/16 |
| 256 | 2.13 | 381 | 125.7 | 62.9 | 3/8 | 9/16 | 3/4 | 1-1/8 | 1-7/16 |
| 245 | 1.81 | 365 | 106.8 | 74.0 | 7/16 | 5/8 | 13/16 | 1-1/4 | 1-5/8 |
| 232 | 1.93 | 345 | 113.9 | 69.4 | 7/16 | 5/8 | 13/16 | 1-3/16 | 1-9/16 |
| 230 | 1.72 | 342 | 101.5 | 77.9 | 7/16 | 11/16 | 7/8 | 1-5/16 | 1-11/16 |
| 210 | 1.76 | 313 | 103.8 | 76.1 | 7/16 | 5/8 | 7/8 | 1-1/4 | 1-11/16 |
| 194 | 1.63 | 289 | 96.2 | 82.2 | 7/16 | 11/16 | 7/8 | 1-5/16 | 1-3/4 |
| 182 | 1.53 | 271 | 90.3 | 87.6 | 7/16 | 11/16 | 15/16 | 1-3/8 | 1-7/8 |
| 170 | 1.44 | 253 | 85.0 | 93.0 | 1/2 | 3/4 | 1 | 1-7/16 | 1-15/16 |
| 160 | 1.36 | 238 | 80.2 | 98.5 | 1/2 | 3/4 | 1 | 1-1/2 | 2 |
| 150 | 1.28 | 233 | 75.5 | 104.7 | 9/16 | 13/16 | 1-1/16 | 1-9/16 | 2-1/16 |

Note: Increased thicknesses may be applied when thickness applied to lower flange tips is reduced by one-half. Refer to alternate thickness tables.

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Wide Flange Structural Steel Columns

CAFCO® BLAZE-SHIELD® II, HP & ISOLATEK® Type II, HP

| ASTM Desig. | W/D | Metric Desig. | M/D | Hp/A | 1-Hour | 1-1/2 Hour | 2-Hour | 3-Hour | 4-Hour |
|-------------|------|---------------|-------|-------|--------|------------|--------|---------|---------|
| W36 x 135 | 1.15 | W920 x 201 | 67.9 | 116.5 | 9/16 | 7/8 | 1-1/8 | 1-11/16 | 2-1/8 |
| W33 x 387 | 2.91 | W840 x 576 | 171.7 | 46.0 | 3/8 | 7/16 | 1/2 | 7/8 | 1-1/8 |
| 354 | 2.68 | 527 | 158.1 | 50.0 | 3/8 | 1/2 | 1/2 | 15/16 | 1-1/4 |
| 318 | 2.43 | 473 | 143.4 | 55.1 | 3/8 | 1/2 | 11/16 | 1 | 1-5/16 |
| 291 | 2.24 | 433 | 132.2 | 59.8 | 3/8 | 9/16 | 11/16 | 1-1/16 | 1-3/8 |
| 263 | 2.04 | 392 | 120.4 | 65.7 | 3/8 | 9/16 | 3/4 | 1-1/8 | 1-1/2 |
| 241 | 1.87 | 359 | 110.3 | 71.6 | 7/16 | 5/8 | 13/16 | 1-3/16 | 1-5/8 |
| 221 | 1.73 | 329 | 102.1 | 77.4 | 7/16 | 5/8 | 7/8 | 1-1/4 | 1-11/16 |
| 201 | 1.58 | 299 | 93.2 | 84.8 | 7/16 | 11/16 | 15/16 | 1-3/8 | 1-13/16 |
| 169 | 1.52 | 251 | 89.7 | 88.1 | 7/16 | 11/16 | 15/16 | 1-3/8 | 1-7/8 |
| 152 | 1.37 | 226 | 80.8 | 97.8 | 1/2 | 3/4 | 1 | 1-1/2 | 2 |
| 141 | 1.28 | 210 | 75.5 | 104.7 | 9/16 | 13/16 | 1-1/16 | 1-9/16 | 2-1/16 |
| 130 | 1.18 | 193 | 69.6 | 113.5 | 9/16 | 13/16 | 1-1/8 | 1-5/8 | 2-1/8 |
| 118 | 1.08 | 176 | 63.7 | 124.1 | 5/8 | 7/8 | 1-3/16 | 1-11/16 | 2-1/8 |
| W30 x 391 | 3.13 | W760 x 582 | 184.7 | 42.8 | 3/8 | 7/16 | 1/2 | 13/16 | 1-1/16 |
| 357 | 2.88 | 531 | 169.9 | 46.5 | 3/8 | 7/16 | 1/2 | 7/8 | 1-1/8 |
| 326 | 2.65 | 484 | 156.4 | 50.6 | 3/8 | 1/2 | 1/2 | 15/16 | 1-1/4 |
| 292 | 2.39 | 434 | 141.0 | 56.1 | 3/8 | 1/2 | 11/16 | 1 | 1-5/16 |
| 261 | 2.16 | 389 | 127.4 | 62.0 | 3/8 | 9/16 | 3/4 | 1-1/16 | 1-7/16 |
| 235 | 1.96 | 350 | 115.6 | 68.4 | 7/16 | 5/8 | 13/16 | 1-3/16 | 1-9/16 |
| 211 | 1.76 | 314 | 103.8 | 76.1 | 7/16 | 5/8 | 7/8 | 1-1/4 | 1-11/16 |
| 191 | 1.62 | 284 | 95.6 | 82.7 | 7/16 | 11/16 | 7/8 | 1-5/16 | 1-3/4 |
| 173 | 1.45 | 257 | 85.6 | 92.4 | 1/2 | 3/4 | 1 | 1-7/16 | 1-15/16 |
| 148 | 1.47 | 220 | 86.7 | 91.1 | 7/16 | 3/4 | 15/16 | 1-7/16 | 1-7/8 |
| 132 | 1.32 | 196 | 77.9 | 101.5 | 9/16 | 13/16 | 1-1/16 | 1-9/16 | 2-1/16 |
| 124 | 1.24 | 185 | 73.2 | 108.1 | 9/16 | 13/16 | 1-1/16 | 1-5/8 | 2-1/8 |
| 116 | 1.16 | 173 | 68.4 | 115.5 | 9/16 | 7/8 | 1-1/8 | 1-11/16 | 2-1/8 |
| 108 | 1.09 | 161 | 64.3 | 122.9 | 5/8 | 7/8 | 1-3/16 | 1-11/16 | 2-1/8 |
| 99 | 1 | 147 | 59.0 | 134.0 | 5/8 | 15/16 | 1-1/4 | 1-11/16 | 2-1/8 |
| 90 | 0.91 | 134 | 53.7 | 147.2 | 11/16 | 1 | 1-1/4 | 1-11/16 | 2-1/8 |
| W27x539 | 4.45 | W690 x 802 | 262.6 | 30.1 | 3/8 | 3/8 | 7/16 | 5/8 | 13/16 |
| 368 | 3.17 | 548 | 187.0 | 42.3 | 3/8 | 7/16 | 1/2 | 13/16 | 1-1/16 |
| 336 | 2.92 | 500 | 172.3 | 45.9 | 3/8 | 7/16 | 1/2 | 7/8 | 1-1/8 |
| 307 | 2.72 | 457 | 160.5 | 49.3 | 3/8 | 1/2 | 1/2 | 15/16 | 1-3/16 |
| 281 | 2.49 | 418 | 146.9 | 53.8 | 3/8 | 1/2 | 11/16 | 1 | 1-5/16 |
| 258 | 2.3 | 384 | 135.7 | 58.3 | 3/8 | 9/16 | 11/16 | 1-1/16 | 1-3/8 |
| 235 | 2.12 | 350 | 125.1 | 63.2 | 3/8 | 9/16 | 3/4 | 1-1/8 | 1-7/16 |
| 217 | 1.97 | 323 | 116.2 | 68.0 | 7/16 | 5/8 | 13/16 | 1-3/16 | 1-9/16 |
| 194 | 1.76 | 289 | 103.8 | 76.1 | 7/16 | 5/8 | 7/8 | 1-1/4 | 1-11/16 |
| 178 | 1.63 | 265 | 96.2 | 82.2 | 7/16 | 11/16 | 7/8 | 1-5/16 | 1-3/4 |
| 161 | 1.48 | 240 | 87.3 | 90.5 | 7/16 | 3/4 | 15/16 | 1-7/16 | 1-7/8 |
| 146 | 1.35 | 217 | 79.7 | 99.2 | 1/2 | 3/4 | 1 | 1-1/2 | 2 |
| 129 | 1.39 | 192 | 82.0 | 96.4 | 1/2 | 3/4 | 1 | 1-1/2 | 2 |

Note: Increased thicknesses may be applied when thickness applied to lower flange tips is reduced by one-half. Refer to alternate thickness tables.

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Wide Flange Structural Steel Columns

CAFCO® BLAZE-SHIELD® II, HP & ISOLATEK® Type II, HP

| ASTM Desig. | W/D | Metric Desig. | M/D | Hp/A | 1-Hour | 1-1/2 Hour | 2-Hour | 3-Hour | 4-Hour |
|-------------|------|---------------|-------|-------|--------|------------|--------|---------|---------|
| W27 x 114 | 1.23 | W690 x 170 | 72.6 | 108.9 | 9/16 | 13/16 | 1-1/16 | 1-5/8 | 2-1/8 |
| 102 | 1.11 | 152 | 65.5 | 120.7 | 9/16 | 7/8 | 1-1/8 | 1-11/16 | 2-1/8 |
| 94 | 1.03 | 140 | 60.8 | 130.1 | 5/8 | 15/16 | 1-3/16 | 1-11/16 | 2-1/8 |
| 84 | 0.92 | 125 | 54.3 | 145.6 | 11/16 | 1 | 1-1/4 | 1-11/16 | 2-1/8 |
| W24 x 370 | 3.46 | W610 x 551 | 204.1 | 38.7 | 3/8 | 3/8 | 1/2 | 3/4 | 1 |
| 335 | 3.19 | 498 | 188.2 | 42.0 | 3/8 | 7/16 | 1/2 | 13/16 | 1-1/16 |
| 306 | 2.94 | 455 | 173.5 | 45.6 | 3/8 | 7/16 | 1/2 | 7/8 | 1-1/8 |
| 279 | 2.71 | 415 | 159.9 | 49.4 | 3/8 | 1/2 | 1/2 | 15/16 | 1-3/16 |
| 250 | 2.45 | 372 | 144.6 | 54.7 | 3/8 | 1/2 | 11/16 | 1 | 1-5/16 |
| 229 | 2.27 | 341 | 133.9 | 59.0 | 3/8 | 9/16 | 11/16 | 1-1/16 | 1-3/8 |
| 207 | 2.05 | 307 | 121.0 | 65.4 | 3/8 | 9/16 | 3/4 | 1-1/8 | 1-1/2 |
| 192 | 1.92 | 285 | 113.3 | 69.8 | 7/16 | 5/8 | 13/16 | 1-3/16 | 1-9/16 |
| 176 | 1.77 | 262 | 104.4 | 75.7 | 7/16 | 5/8 | 7/8 | 1-1/4 | 1-11/16 |
| 162 | 1.63 | 241 | 96.2 | 82.2 | 7/16 | 11/16 | 7/8 | 1-5/16 | 1-3/4 |
| 146 | 1.48 | 217 | 87.3 | 90.5 | 7/16 | 3/4 | 15/16 | 1-7/16 | 1-7/8 |
| 131 | 1.33 | 195 | 78.5 | 100.7 | 1/2 | 3/4 | 1 | 1-1/2 | 2 |
| 117 | 1.2 | 174 | 70.8 | 111.7 | 9/16 | 13/16 | 1-1/8 | 1-5/8 | 2-1/8 |
| 104 | 1.07 | 155 | 63.1 | 125.2 | 5/8 | 7/8 | 1-3/16 | 1-11/16 | 2-1/8 |
| 103 | 1.25 | 153 | 73.8 | 107.2 | 9/16 | 13/16 | 1-1/16 | 1-9/16 | 2-1/8 |
| 94 | 1.14 | 140 | 67.3 | 117.5 | 9/16 | 7/8 | 1-1/8 | 1-11/16 | 2-1/8 |
| 84 | 1.02 | 125 | 60.2 | 131.4 | 5/8 | 15/16 | 1-3/16 | 1-11/16 | 2-1/8 |
| 76 | 0.93 | 113 | 54.9 | 144.1 | 11/16 | 1 | 1-1/4 | 1-11/16 | 2-1/8 |
| 68 | 0.83 | 101 | 49.0 | 161.4 | 11/16 | 1-1/16 | 1-3/8 | 1-7/8 | 2-5/16 |
| 62 | 0.84 | 92 | 49.6 | 159.5 | 11/16 | 1 | 1-1/4 | 1-11/16 | 2-1/8 |
| 55 | 0.74 | 82 | 43.7 | 181.1 | 11/16 | 1-1/8 | 1-7/16 | 1-7/8 | 2-5/16 |
| W21 x 201 | 2.16 | W530 x 300 | 127.4 | 62.0 | 3/8 | 9/16 | 3/4 | 1-1/16 | 1-7/16 |
| 182 | 1.97 | 272 | 116.2 | 68.0 | 7/16 | 5/8 | 13/16 | 1-3/16 | 1-9/16 |
| 166 | 1.81 | 248 | 106.8 | 74.0 | 7/16 | 5/8 | 13/16 | 1-1/4 | 1-5/8 |
| 147 | 1.61 | 219 | 95.0 | 83.2 | 7/16 | 11/16 | 7/8 | 1-5/16 | 1-3/4 |
| 132 | 1.45 | 196 | 85.6 | 92.4 | 1/2 | 3/4 | 1 | 1-7/16 | 1-15/16 |
| 122 | 1.35 | 182 | 79.7 | 99.2 | 1/2 | 3/4 | 1 | 1-1/2 | 2 |
| 111 | 1.24 | 165 | 73.2 | 108.1 | 9/16 | 13/16 | 1-1/16 | 1-5/8 | 2-1/8 |
| 101 | 1.13 | 150 | 66.7 | 118.6 | 9/16 | 7/8 | 1-1/8 | 1-11/16 | 2-1/8 |
| 93 | 1.24 | 138 | 73.2 | 108.1 | 9/16 | 13/16 | 1-1/16 | 1-5/8 | 2-1/8 |
| 83 | 1.12 | 123 | 66.1 | 119.6 | 9/16 | 7/8 | 1-1/8 | 1-11/16 | 2-1/8 |
| 73 | 0.98 | 109 | 57.8 | 136.7 | 5/8 | 15/16 | 1-1/4 | 1-11/16 | 2-1/8 |
| 68 | 0.92 | 101 | 54.3 | 145.6 | 11/16 | 1 | 1-1/4 | 1-11/16 | 2-1/8 |
| 62 | 0.84 | 92 | 49.6 | 159.5 | 11/16 | 1 | 1-1/4 | 1-11/16 | 2-1/8 |
| 57 | 0.85 | 85 | 50.2 | 157.6 | 11/16 | 1 | 1-1/4 | 1-11/16 | 2-1/8 |
| 55 | 0.75 | 82 | 44.3 | 178.6 | 11/16 | 1-1/16 | 1-7/16 | 1-7/8 | 2-5/16 |
| 50 | 0.75 | 74 | 44.3 | 178.6 | 11/16 | 1-1/16 | 1-7/16 | 1-7/8 | 2-5/16 |
| 48 | 0.66 | 72 | 38.9 | 203.0 | 11/16 | 1-1/8 | 1-9/16 | 2-5/16 | 3-1/16 |
| 44 | 0.67 | 66 | 39.5 | 200.0 | 11/16 | 1-1/8 | 1-1/2 | 2-1/4 | 3 |
| W18 x 175 | 2.12 | W460 x 260 | 125.1 | 63.2 | 3/8 | 9/16 | 3/4 | 1-1/8 | 1-7/16 |
| 158 | 1.93 | 235 | 113.9 | 69.4 | 7/16 | 5/8 | 13/16 | 1-3/16 | 1-9/16 |

Note: Increased thicknesses may be applied when thickness applied to lower flange tips is reduced by one-half. Refer to alternate thickness tables.

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Wide Flange Structural Steel Columns

CAFCO® BLAZE-SHIELD® II, HP & ISOLATEK® Type II, HP

| ASTM Desig. | W/D | Metric Desig. | M/D | Hp/A | 1-Hour | 1-1/2 Hour | 2-Hour | 3-Hour | 4-Hour |
|-------------|------|---------------|-------|-------|--------|------------|--------|---------|---------|
| W18 x 143 | 1.77 | W460 x 213 | 104.4 | 75.7 | 7/16 | 5/8 | 7/8 | 1-1/4 | 1-11/16 |
| 130 | 1.61 | 193 | 95.0 | 83.2 | 7/16 | 11/16 | 7/8 | 1-5/16 | 1-3/4 |
| 119 | 1.48 | 177 | 87.3 | 90.5 | 7/16 | 3/4 | 15/16 | 1-7/16 | 1-7/8 |
| 106 | 1.33 | 158 | 78.5 | 100.7 | 1/2 | 3/4 | 1 | 1-1/2 | 2 |
| 97 | 1.22 | 144 | 72.0 | 109.8 | 9/16 | 13/16 | 1-1/16 | 1-5/8 | 2-1/8 |
| 86 | 1.09 | 128 | 64.3 | 122.9 | 5/8 | 7/8 | 1-3/16 | 1-11/16 | 2-1/8 |
| 76 | 0.97 | 113 | 57.2 | 138.1 | 5/8 | 15/16 | 1-1/4 | 1-11/16 | 2-1/8 |
| 71 | 1.08 | 106 | 63.7 | 124.1 | 5/8 | 7/8 | 1-3/16 | 1-11/16 | 2-1/8 |
| 65 | 0.99 | 97 | 58.4 | 135.3 | 5/8 | 15/16 | 1-1/4 | 1-11/16 | 2-1/8 |
| 60 | 0.92 | 89 | 54.3 | 145.6 | 11/16 | 1 | 1-1/4 | 1-11/16 | 2-1/8 |
| 55 | 0.85 | 82 | 50.2 | 157.6 | 11/16 | 1 | 1-1/4 | 1-11/16 | 2-1/8 |
| 50 | 0.77 | 74 | 45.4 | 174.0 | 11/16 | 1-1/16 | 1-7/16 | 1-7/8 | 2-5/16 |
| 46 | 0.78 | 68 | 46.0 | 171.8 | 11/16 | 1-1/16 | 1-7/16 | 1-7/8 | 2-5/16 |
| 40 | 0.68 | 60 | 40.1 | 197.0 | 11/16 | 1-1/8 | 1-7/16 | 1-7/8 | 2-5/16 |
| 35 | 0.6 | 52 | 35.4 | 223.3 | 11/16 | 1-1/8 | 1-9/16 | 2-3/8 | 3-3/16 |
| W16 x 100 | 1.37 | W410 x 149 | 80.8 | 97.8 | 1/2 | 3/4 | 1 | 1-1/2 | 2 |
| 89 | 1.22 | 132 | 72.0 | 109.8 | 9/16 | 13/16 | 1-1/16 | 1-5/8 | 2-1/8 |
| 77 | 1.07 | 114 | 63.1 | 125.2 | 5/8 | 7/8 | 1-3/16 | 1-11/16 | 2-1/8 |
| 67 | 0.93 | 100 | 54.9 | 144.1 | 11/16 | 1 | 1-1/4 | 1-11/16 | 2-1/8 |
| 57 | 0.96 | 85 | 56.6 | 139.6 | 5/8 | 15/16 | 1-1/4 | 1-11/16 | 2-1/8 |
| 50 | 0.84 | 74 | 49.6 | 159.5 | 11/16 | 1 | 1-1/4 | 1-11/16 | 2-1/8 |
| 45 | 0.76 | 67 | 44.8 | 176.3 | 11/16 | 1-1/16 | 1-7/16 | 1-7/8 | 2-5/16 |
| 40 | 0.68 | 60 | 40.1 | 197.0 | 11/16 | 1-1/8 | 1-7/16 | 1-7/8 | 2-5/16 |
| 36 | 0.61 | 53 | 36.0 | 219.6 | 11/16 | 1-1/8 | 1-9/16 | 2-3/8 | 3-3/16 |
| 31 | 0.59 | 46 | 34.8 | 227.1 | 11/16 | 1-1/8 | 1-9/16 | 2-7/16 | 3-3/16 |
| 26 | 0.49 | 39 | 28.9 | 273.4 | 1-1/8 | 1-11/16 | 2-3/16 | 3-5/16 | NR |
| W14 x 808 | 7.28 | W360 x 1202 | 429.5 | 18.4 | 3/8 | 3/8 | 3/8 | 3/8 | 1/2 |
| 730 | 6.76 | 1086 | 398.8 | 19.8 | 3/8 | 3/8 | 3/8 | 7/16 | 9/16 |
| 665 | 6.21 | 990 | 366.4 | 21.6 | 3/8 | 3/8 | 3/8 | 7/16 | 5/8 |
| 605 | 5.82 | 900 | 343.4 | 23.0 | 3/8 | 3/8 | 3/8 | 1/2 | 5/8 |
| 550 | 5.34 | 818 | 315.1 | 25.1 | 3/8 | 3/8 | 3/8 | 1/2 | 11/16 |
| 500 | 4.95 | 744 | 292.1 | 27.1 | 3/8 | 3/8 | 3/8 | 9/16 | 3/4 |
| 455 | 4.59 | 677 | 270.8 | 29.2 | 3/8 | 3/8 | 7/16 | 5/8 | 13/16 |
| 426 | 4.32 | 634 | 254.9 | 31.0 | 3/8 | 3/8 | 7/16 | 5/8 | 13/16 |
| 398 | 4.09 | 592 | 241.3 | 32.8 | 3/8 | 3/8 | 7/16 | 11/16 | 7/8 |
| 370 | 3.84 | 551 | 226.6 | 34.9 | 3/8 | 3/8 | 1/2 | 11/16 | 15/16 |
| 342 | 3.58 | 509 | 211.2 | 37.4 | 3/8 | 3/8 | 1/2 | 3/4 | 15/16 |
| 311 | 3.3 | 463 | 194.7 | 40.6 | 3/8 | 7/16 | 1/2 | 13/16 | 1-1/16 |
| 283 | 3.03 | 421 | 178.8 | 44.2 | 3/8 | 7/16 | 1/2 | 13/16 | 1-1/8 |
| 257 | 2.78 | 382 | 164.0 | 48.2 | 3/8 | 7/16 | 1/2 | 7/8 | 1-3/16 |
| 233 | 2.55 | 347 | 150.5 | 52.5 | 3/8 | 1/2 | 1/2 | 15/16 | 1-1/4 |
| 211 | 2.32 | 314 | 136.9 | 57.8 | 3/8 | 1/2 | 11/16 | 1 | 1-3/8 |
| 193 | 2.14 | 287 | 126.3 | 62.6 | 3/8 | 9/16 | 3/4 | 1-1/8 | 1-7/16 |
| 176 | 1.96 | 262 | 115.6 | 68.4 | 7/16 | 5/8 | 13/16 | 1-3/16 | 1-9/16 |
| 159 | 1.78 | 237 | 105.0 | 75.3 | 7/16 | 5/8 | 7/8 | 1-1/4 | 1-11/16 |
| 145 | 1.64 | 216 | 96.8 | 81.7 | 7/16 | 11/16 | 7/8 | 1-5/16 | 1-3/4 |
| 132 | 1.56 | 196 | 92.0 | 85.9 | 7/16 | 11/16 | 15/16 | 1-3/8 | 1-13/16 |

Note: Increased thicknesses may be applied when thickness applied to lower flange tips is reduced by one-half. Refer to alternate thickness tables.

X829

Wide Flange Structural Steel Columns

CAFCO® BLAZE-SHIELD® II, HP & ISOLATEK® Type II, HP

| ASTM Desig. | W/D | Metric Desig. | M/D | Hp/A | 1-Hour | 1-1/2 Hour | 2-Hour | 3-Hour | 4-Hour |
|-------------|------|---------------|-------|-------|--------|------------|---------|---------|---------|
| W14 x 120 | 1.42 | W360 x 179 | 83.8 | 94.4 | 1/2 | 3/4 | 1 | 1-7/16 | 1-15/16 |
| 109 | 1.29 | 162 | 76.1 | 103.9 | 9/16 | 13/16 | 1-1/16 | 1-9/16 | 2-1/16 |
| 99 | 1.18 | 147 | 69.6 | 113.5 | 9/16 | 13/16 | 1-1/8 | 1-5/8 | 2-1/8 |
| 90 | 1.08 | 134 | 63.7 | 124.1 | 5/8 | 7/8 | 1-3/16 | 1-11/16 | 2-1/8 |
| 82 | 1.23 | 122 | 72.6 | 108.9 | 9/16 | 13/16 | 1-1/16 | 1-5/8 | 2-1/8 |
| 74 | 1.12 | 110 | 66.1 | 119.6 | 9/16 | 7/8 | 1-1/8 | 1-11/16 | 2-1/8 |
| 68 | 1.04 | 101 | 61.4 | 128.8 | 5/8 | 15/16 | 1-3/16 | 1-11/16 | 2-1/8 |
| 61 | 0.92 | 91 | 54.3 | 145.6 | 11/16 | 1 | 1-1/4 | 1-11/16 | 2-1/8 |
| 53 | 0.91 | 79 | 53.7 | 147.2 | 11/16 | 1 | 1-1/4 | 1-11/16 | 2-1/8 |
| 48 | 0.83 | 72 | 49.0 | 161.4 | 11/16 | 1-1/16 | 1-3/8 | 1-7/8 | 2-5/16 |
| 43 | 0.75 | 64 | 44.3 | 178.6 | 11/16 | 1-1/16 | 1-7/16 | 1-7/8 | 2-5/16 |
| 38 | 0.7 | 57 | 41.3 | 191.4 | 11/16 | 1-1/8 | 1-7/16 | 1-7/8 | 2-5/16 |
| 34 | 0.63 | 51 | 37.2 | 212.7 | 11/16 | 1-1/8 | 1-9/16 | 2-3/8 | 3-1/8 |
| 30 | 0.56 | 45 | 33.0 | 239.3 | 7/8 | 1-1/4 | 1-11/16 | 2-1/2 | 3-5/16 |
| 26 | 0.55 | 39 | 32.5 | 243.6 | 7/8 | 1-1/4 | 1-11/16 | 2-1/2 | 3-5/16 |
| 22 | 0.47 | 33 | 27.7 | 285.1 | 1-1/8 | 1-11/16 | 2-1/4 | 3-3/8 | NR |
| W12 x 336 | 4.06 | W310 x 500 | 239.5 | 33.0 | 3/8 | 3/8 | 7/16 | 11/16 | 7/8 |
| 305 | 3.76 | 454 | 221.8 | 35.6 | 3/8 | 3/8 | 1/2 | 11/16 | 15/16 |
| 279 | 3.5 | 415 | 206.5 | 38.3 | 3/8 | 3/8 | 1/2 | 3/4 | 1 |
| 252 | 3.2 | 375 | 188.8 | 41.9 | 3/8 | 7/16 | 1/2 | 13/16 | 1-1/16 |
| 230 | 2.96 | 342 | 174.6 | 45.3 | 3/8 | 7/16 | 1/2 | 7/8 | 1-1/8 |
| 210 | 2.73 | 313 | 161.1 | 49.1 | 3/8 | 1/2 | 1/2 | 15/16 | 1-3/16 |
| 190 | 2.5 | 283 | 147.5 | 53.6 | 3/8 | 1/2 | 11/16 | 1 | 1-5/16 |
| 170 | 2.26 | 253 | 133.3 | 59.3 | 3/8 | 9/16 | 11/16 | 1-1/16 | 1-3/8 |
| 152 | 2.04 | 225 | 120.4 | 65.7 | 3/8 | 9/16 | 3/4 | 1-1/8 | 1-1/2 |
| 136 | 1.86 | 202 | 109.7 | 72.0 | 7/16 | 5/8 | 13/16 | 1-3/16 | 1-5/8 |
| 120 | 1.65 | 179 | 97.4 | 81.2 | 7/16 | 11/16 | 7/8 | 1-5/16 | 1-3/4 |
| 106 | 1.47 | 158 | 86.7 | 91.1 | 7/16 | 3/4 | 15/16 | 1-7/16 | 1-7/8 |
| 96 | 1.34 | 143 | 79.1 | 100.0 | 1/2 | 3/4 | 1 | 1-1/2 | 2 |
| 87 | 1.22 | 129 | 72.0 | 109.8 | 9/16 | 13/16 | 1-1/16 | 1-5/8 | 2-1/8 |
| 79 | 1.11 | 117 | 65.5 | 120.7 | 9/16 | 7/8 | 1-1/8 | 1-11/16 | 2-1/8 |
| 72 | 1.02 | 107 | 60.2 | 131.4 | 5/8 | 15/16 | 1-3/16 | 1-11/16 | 2-1/8 |
| 65 | 0.92 | 97 | 54.3 | 145.6 | 11/16 | 1 | 1-1/4 | 1-11/16 | 2-1/8 |
| 58 | 0.92 | 86 | 54.3 | 145.6 | 11/16 | 1 | 1-1/4 | 1-11/16 | 2-1/8 |
| 53 | 0.85 | 79 | 50.2 | 157.6 | 11/16 | 1 | 1-1/4 | 1-11/16 | 2-1/8 |
| 50 | 0.9 | 74 | 53.1 | 148.9 | 11/16 | 1 | 1-1/4 | 1-11/16 | 2-1/8 |
| 45 | 0.82 | 67 | 48.4 | 163.4 | 11/16 | 1-1/16 | 1-3/8 | 1-7/8 | 2-5/16 |
| 40 | 0.73 | 60 | 43.1 | 183.5 | 11/16 | 1-1/8 | 1-7/16 | 1-7/8 | 2-5/16 |
| 35 | 0.7 | 52 | 41.3 | 191.4 | 11/16 | 1-1/8 | 1-7/16 | 1-7/8 | 2-5/16 |
| 30 | 0.6 | 45 | 35.4 | 223.3 | 11/16 | 1-1/8 | 1-9/16 | 2-3/8 | 3-3/16 |
| 26 | 0.53 | 39 | 31.3 | 252.8 | 1-1/16 | 1-5/8 | 2-1/8 | 3-3/16 | NR |
| 22 | 0.56 | 33 | 33.0 | 239.3 | 7/8 | 1-1/4 | 1-11/16 | 2-1/2 | 3-5/16 |
| 19 | 0.48 | 28 | 28.3 | 279.1 | 1-1/8 | 1-11/16 | 2-1/4 | 3-5/16 | NR |
| 16 | 0.41 | 24 | 24.2 | 326.8 | 1-1/4 | 1-13/16 | 2-5/16 | 3-9/16 | NR |
| 14 | 0.36 | 25 | 21.2 | 372.2 | 1-1/4 | 1-13/16 | 2-5/16 | 3-9/16 | NR |
| W10 x 112 | 1.81 | W250 x 167 | 106.8 | 74.0 | 7/16 | 5/8 | 13/16 | 1-1/4 | 1-5/8 |
| 100 | 1.64 | 149 | 96.8 | 81.7 | 7/16 | 11/16 | 7/8 | 1-5/16 | 1-3/4 |

Note: Increased thicknesses may be applied when thickness applied to lower flange tips is reduced by one-half. Refer to alternate thickness tables.

X829

Wide Flange Structural Steel Columns

CAFECO® BLAZE-SHIELD® II, HP & ISOLATEK® Type II, HP

| ASTM Desig. | W/D | Metric Desig. | M/D | Hp/A | 1-Hour | 1-1/2 Hour | 2-Hour | 3-Hour | 4-Hour |
|-------------|------|---------------|------|-------|--------|------------|---------|---------|---------|
| W10 x 88 | 1.45 | W250 x 131 | 85.6 | 92.4 | 1/2 | 3/4 | 1 | 1-7/16 | 1-15/16 |
| 77 | 1.28 | 115 | 75.5 | 104.7 | 9/16 | 13/16 | 1-1/16 | 1-9/16 | 2-1/16 |
| 68 | 1.15 | 101 | 67.9 | 116.5 | 9/16 | 7/8 | 1-1/8 | 1-11/16 | 2-1/8 |
| 60 | 1.01 | 89 | 59.6 | 132.7 | 5/8 | 15/16 | 1-1/4 | 1-11/16 | 2-1/8 |
| 54 | 0.92 | 80 | 54.3 | 145.6 | 11/16 | 1 | 1-1/4 | 1-11/16 | 2-1/8 |
| 49 | 0.84 | 73 | 49.6 | 159.5 | 11/16 | 1 | 1-1/4 | 1-11/16 | 2-1/8 |
| 45 | 0.88 | 67 | 51.9 | 152.3 | 11/16 | 1 | 1-1/4 | 1-11/16 | 2-1/8 |
| 39 | 0.78 | 58 | 46.0 | 171.8 | 11/16 | 1-1/16 | 1-7/16 | 1-7/8 | 2-5/16 |
| 33 | 0.66 | 49 | 38.9 | 203.0 | 11/16 | 1-1/8 | 1-9/16 | 2-5/16 | 3-1/16 |
| 30 | 0.69 | 45 | 40.7 | 194.2 | 11/16 | 1-1/8 | 1-7/16 | 1-7/8 | 2-5/16 |
| 26 | 0.61 | 39 | 36.0 | 219.6 | 11/16 | 1-1/8 | 1-9/16 | 2-3/8 | 3-3/16 |
| 22 | 0.52 | 33 | 30.7 | 257.7 | 1-1/16 | 1-5/8 | 2-1/8 | 3-3/16 | NR |
| 19 | 0.53 | 28 | 31.3 | 252.8 | 1-1/16 | 1-5/8 | 2-1/8 | 3-3/16 | NR |
| 17 | 0.48 | 25 | 28.3 | 279.1 | 1-1/8 | 1-11/16 | 2-1/4 | 3-5/16 | NR |
| 15 | 0.42 | 22 | 24.8 | 319.0 | 1-3/16 | 1-13/16 | 2-5/16 | 3-9/16 | NR |
| 12 | 0.34 | 18 | 20.1 | 394.1 | 1-1/4 | 1-13/16 | 2-5/16 | 3-9/16 | NR |
| W8 x 67 | 1.37 | W200 x 100 | 80.8 | 97.8 | 1/2 | 3/4 | 1 | 1-1/2 | 2 |
| 58 | 1.2 | 86 | 70.8 | 111.7 | 9/16 | 13/16 | 1-1/8 | 1-5/8 | 2-1/8 |
| 48 | 1 | 71 | 59.0 | 134.0 | 5/8 | 15/16 | 1-1/4 | 1-11/16 | 2-1/8 |
| 40 | 0.84 | 59 | 49.6 | 159.5 | 11/16 | 1 | 1-1/4 | 1-11/16 | 2-1/8 |
| 35 | 0.74 | 52 | 43.7 | 181.1 | 11/16 | 1-1/8 | 1-7/16 | 1-7/8 | 2-5/16 |
| 31 | 0.66 | 46 | 38.9 | 203.0 | 11/16 | 1-1/8 | 1-9/16 | 2-5/16 | 3-1/16 |
| 28 | 0.68 | 42 | 40.1 | 197.0 | 11/16 | 1-1/8 | 1-7/16 | 1-7/8 | 2-5/16 |
| 24 | 0.59 | 36 | 34.8 | 227.1 | 11/16 | 1-1/8 | 1-9/16 | 2-7/16 | 3-3/16 |
| 21 | 0.57 | 31 | 33.6 | 235.1 | 13/16 | 1-1/4 | 1-5/8 | 2-7/16 | 3-1/4 |
| 18 | 0.49 | 27 | 28.9 | 273.4 | 1-1/8 | 1-11/16 | 2-3/16 | 3-5/16 | NR |
| 15 | 0.48 | 22 | 28.3 | 279.1 | 1-1/8 | 1-11/16 | 2-1/4 | 3-5/16 | NR |
| 13 | 0.42 | 19 | 24.8 | 319.0 | 1-3/16 | 1-13/16 | 2-5/16 | 3-9/16 | NR |
| 10 | 0.33 | 15 | 19.5 | 406.0 | 1-1/4 | 1-13/16 | 2-5/16 | 3-9/16 | NR |
| W6 x 25 | 0.69 | W150 x 37 | 40.7 | 194.2 | 11/16 | 1-1/8 | 1-7/16 | 1-7/8 | 2-5/16 |
| 20 | 0.56 | 30 | 33.0 | 239.3 | 7/8 | 1-1/4 | 1-11/16 | 2-1/2 | 3-5/16 |
| 16 | 0.58 | 24 | 34.2 | 231.0 | 11/16 | 1-1/8 | 1-9/16 | 2-7/16 | 3-1/4 |
| 15 | 0.43 | 22 | 25.4 | 311.6 | 1-3/16 | 1-3/4 | 2-5/16 | 3-1/2 | NR |
| 12 | 0.44 | 18 | 26.0 | 304.5 | 1-3/16 | 1-3/4 | 2-5/16 | 3-1/2 | NR |
| 9 | 0.33 | 14 | 19.5 | 406.0 | 1-1/4 | 1-13/16 | 2-5/16 | 3-9/16 | NR |
| W5 x 19 | 0.64 | W130 x 28 | 37.8 | 209.3 | 11/16 | 1-1/8 | 1-9/16 | 2-5/16 | 3-1/16 |
| 16 | 0.55 | 24 | 32.5 | 243.6 | 7/8 | 1-1/4 | 1-11/16 | 2-1/2 | 3-5/16 |
| W4 x 13 | 0.55 | W100 x 19 | 32.5 | 243.6 | 7/8 | 1-1/4 | 1-11/16 | 2-1/2 | 3-5/16 |

Note: Increased thicknesses may be applied when thickness applied to lower flange tips is reduced by one-half. Refer to alternate thickness tables.