

**X790 / Y729**

**Wide Flange Structural Steel Columns**

**CAFCO® 300 Series & ISOLATEK® Type 300 Series**

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

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

**X790 / Y729**  
**Wide Flange Structural Steel Columns**  
**CAFCO® 300 Series & ISOLATEK® Type 300 Series**

| 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 | 7/16   | 13/16      | 1-1/16 | 1-9/16 | 2-1/16  |
| W33 x 387   | 2.91 | W840 x 576    | 171.7 | 46.0  | 1/4    | 7/16       | 9/16   | 13/16  | 1-1/16  |
| 354         | 2.68 | 527           | 158.1 | 50.0  | 1/4    | 7/16       | 9/16   | 7/8    | 1-1/8   |
| 318         | 2.43 | 473           | 143.4 | 55.1  | 1/4    | 7/16       | 9/16   | 7/8    | 1-1/8   |
| 291         | 2.24 | 433           | 132.2 | 59.8  | 1/4    | 1/2        | 5/8    | 15/16  | 1-1/4   |
| 263         | 2.04 | 392           | 120.4 | 65.7  | 1/4    | 1/2        | 11/16  | 1      | 1-5/16  |
| 241         | 1.87 | 359           | 110.3 | 71.6  | 1/4    | 9/16       | 3/4    | 1-1/16 | 1-7/16  |
| 221         | 1.73 | 329           | 102.1 | 77.4  | 1/4    | 9/16       | 3/4    | 1-1/8  | 1-1/2   |
| 201         | 1.58 | 299           | 93.2  | 84.8  | 1/4    | 9/16       | 13/16  | 1-1/4  | 1-5/8   |
| 169         | 1.52 | 251           | 89.7  | 88.1  | 1/4    | 9/16       | 13/16  | 1-1/4  | 1-11/16 |
| 152         | 1.37 | 226           | 80.8  | 97.8  | 7/16   | 11/16      | 15/16  | 1-3/8  | 1-13/16 |
| 141         | 1.28 | 210           | 75.5  | 104.7 | 7/16   | 3/4        | 15/16  | 1-7/16 | 1-7/8   |
| 130         | 1.18 | 193           | 69.6  | 113.5 | 7/16   | 3/4        | 1      | 1-1/2  | 2       |
| 118         | 1.08 | 176           | 63.7  | 124.1 | 7/16   | 13/16      | 1-1/16 | 1-5/8  | 2-1/8   |
|             |      |               |       |       | 0      | 0          | 0      | 0      | 0       |
|             |      |               |       |       | 0      | 0          | 0      | 0      | 0       |
| W30 x 391   | 3.13 | W760 x 582    | 184.7 | 42.8  | 1/4    | 3/8        | 1/2    | 3/4    | 1       |
| 357         | 2.88 | 531           | 169.9 | 46.5  | 1/4    | 7/16       | 9/16   | 13/16  | 1-1/16  |
| 326         | 2.65 | 484           | 156.4 | 50.6  | 1/4    | 7/16       | 9/16   | 7/8    | 1-1/8   |
| 292         | 2.39 | 434           | 141.0 | 56.1  | 1/4    | 7/16       | 5/8    | 7/8    | 1-3/16  |
| 261         | 2.16 | 389           | 127.4 | 62.0  | 1/4    | 1/2        | 5/8    | 15/16  | 1-1/4   |
| 235         | 1.96 | 350           | 115.6 | 68.4  | 1/4    | 9/16       | 11/16  | 1-1/16 | 1-3/8   |
| 211         | 1.76 | 314           | 103.8 | 76.1  | 1/4    | 9/16       | 3/4    | 1-1/8  | 1-1/2   |
| 191         | 1.62 | 284           | 95.6  | 82.7  | 1/4    | 9/16       | 13/16  | 1-3/16 | 1-5/8   |
| 173         | 1.45 | 257           | 85.6  | 92.4  | 7/16   | 11/16      | 7/8    | 1-5/16 | 1-3/4   |
| 148         | 1.47 | 220           | 86.7  | 91.1  | 1/4    | 9/16       | 13/16  | 1-1/4  | 1-11/16 |
| 132         | 1.32 | 196           | 77.9  | 101.5 | 7/16   | 11/16      | 15/16  | 1-3/8  | 1-7/8   |
| 124         | 1.24 | 185           | 73.2  | 108.1 | 7/16   | 3/4        | 1      | 1-1/2  | 1-15/16 |
| 116         | 1.16 | 173           | 68.4  | 115.5 | 7/16   | 13/16      | 1-1/16 | 1-9/16 | 2-1/16  |
| 108         | 1.09 | 161           | 64.3  | 122.9 | 7/16   | 13/16      | 1-1/16 | 1-5/8  | 2-1/8   |
| 99          | 1    | 147           | 59.0  | 134.0 | 7/16   | 13/16      | 1-1/8  | 1-5/8  | 2-1/8   |
| 90          | 0.91 | 134           | 53.7  | 147.2 | 7/16   | 13/16      | 1-1/8  | 1-5/8  | 2-1/8   |
|             |      |               |       |       | 0      | 0          | 0      | 0      | 0       |
|             |      |               |       |       | 0      | 0          | 0      | 0      | 0       |
| W27x539     | 4.45 | W690 x 802    | 262.6 | 30.1  | 1/4    | 5/16       | 3/8    | 9/16   | 3/4     |
| 368         | 3.17 | 548           | 187.0 | 42.3  | 1/4    | 3/8        | 1/2    | 3/4    | 1       |
| 336         | 2.92 | 500           | 172.3 | 45.9  | 1/4    | 7/16       | 9/16   | 13/16  | 1-1/16  |
| 307         | 2.72 | 457           | 160.5 | 49.3  | 1/4    | 7/16       | 9/16   | 7/8    | 1-1/8   |
| 281         | 2.49 | 418           | 146.9 | 53.8  | 1/4    | 7/16       | 9/16   | 7/8    | 1-1/8   |
| 258         | 2.3  | 384           | 135.7 | 58.3  | 1/4    | 1/2        | 5/8    | 15/16  | 1-3/16  |
| 235         | 2.12 | 350           | 125.1 | 63.2  | 1/4    | 1/2        | 11/16  | 1      | 1-5/16  |
| 217         | 1.97 | 323           | 116.2 | 68.0  | 1/4    | 9/16       | 11/16  | 1-1/16 | 1-3/8   |
| 194         | 1.76 | 289           | 103.8 | 76.1  | 1/4    | 9/16       | 3/4    | 1-1/8  | 1-1/2   |
| 178         | 1.63 | 265           | 96.2  | 82.2  | 1/4    | 9/16       | 13/16  | 1-3/16 | 1-9/16  |
| 161         | 1.48 | 240           | 87.3  | 90.5  | 1/4    | 9/16       | 13/16  | 1-1/4  | 1-11/16 |
| 146         | 1.35 | 217           | 79.7  | 99.2  | 7/16   | 11/16      | 15/16  | 1-3/8  | 1-13/16 |
| 129         | 1.39 | 192           | 82.0  | 96.4  | 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.

**X790 / Y729**

**Wide Flange Structural Steel Columns**

**CAFCO® 300 Series & ISOLATEK® Type 300 Series**

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

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

**X790 / Y729**

**Wide Flange Structural Steel Columns**

**CAFCO® 300 Series & ISOLATEK® Type 300 Series**

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

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

**X790 / Y729**

**Wide Flange Structural Steel Columns**

**CAFCO® 300 Series & ISOLATEK® Type 300 Series**

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

## X790 / Y729

### Wide Flange Structural Steel Columns

#### CAFCO® 300 Series & ISOLATEK® Type 300 Series

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

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