

**Y616**  
**Structural Steel Square Tube Columns**  
**CAFCO® SprayFilm® WB 5 & ISOLATEK® Type WB 5**

| ASTM Desig. | Wall Thk | A/P  | Metric Desig.    | M/D | Hp/A | 1-Hour | 1-1/2 Hour | 2-Hour | 3-Hour |
|-------------|----------|------|------------------|-----|------|--------|------------|--------|--------|
| 30 x 30     | 5/8      | 0.61 | 762 x 762 x 15.9 | 116 | 68   | 0.047  | 0.093      | 0.147  | 0.288  |
| 28 x 28     | 5/8      | 0.61 | 711 x 711 x 15.9 | 116 | 68   | 0.047  | 0.093      | 0.147  | 0.288  |
| 26 x 26     | 5/8      | 0.61 | 660 x 660 x 15.9 | 116 | 68   | 0.047  | 0.093      | 0.147  | 0.288  |
| 24 x 24     | 5/8      | 0.61 | 610 x 610 x 15.9 | 116 | 68   | 0.047  | 0.093      | 0.147  | 0.288  |
|             | 1/2      | 0.49 | x 12.7           | 93  | 85   | 0.047  | 0.093      | 0.147  | 0.288  |
|             | 3/8      | 0.37 | x 9.5            | 70  | 112  | 0.064  | 0.138      | 0.212  | NR     |
| 22 x 22     | 5/8      | 0.61 | 559 x 559 x 15.9 | 116 | 68   | 0.047  | 0.093      | 0.147  | 0.288  |
|             | 1/2      | 0.49 | x 12.7           | 93  | 85   | 0.047  | 0.093      | 0.147  | 0.288  |
|             | 3/8      | 0.37 | x 9.5            | 70  | 112  | 0.064  | 0.138      | 0.212  | NR     |
| 20 x 20     | 5/8      | 0.61 | 508 x 508 x 15.9 | 116 | 68   | 0.047  | 0.093      | 0.147  | 0.288  |
|             | 1/2      | 0.49 | x 12.7           | 93  | 85   | 0.047  | 0.093      | 0.147  | 0.288  |
|             | 3/8      | 0.37 | x 9.5            | 70  | 112  | 0.064  | 0.138      | 0.212  | NR     |
| 18 x 18     | 5/8      | 0.60 | 457 x 457 x 15.9 | 114 | 69   | 0.047  | 0.093      | 0.147  | 0.288  |
|             | 1/2      | 0.49 | x 12.7           | 93  | 85   | 0.047  | 0.093      | 0.147  | 0.288  |
|             | 3/8      | 0.37 | x 9.5            | 70  | 112  | 0.064  | 0.138      | 0.212  | NR     |
| 16 x 16     | 5/8      | 0.60 | 406 x 406 x 15.9 | 114 | 69   | 0.047  | 0.093      | 0.147  | 0.288  |
|             | 1/2      | 0.48 | x 12.7           | 91  | 87   | 0.047  | 0.093      | 0.147  | 0.288  |
|             | 3/8      | 0.37 | x 9.5            | 70  | 112  | 0.064  | 0.138      | 0.212  | NR     |
|             | 5/16     | 0.31 | x 7.9            | 59  | 134  | 0.076  | 0.164      | 0.253  | NR     |
| 14 x 14     | 5/8      | 0.60 | 356 x 356 x 15.9 | 114 | 69   | 0.047  | 0.093      | 0.147  | 0.288  |
|             | 1/2      | 0.48 | x 12.7           | 91  | 87   | 0.047  | 0.093      | 0.147  | 0.288  |
|             | 3/8      | 0.36 | x 9.5            | 68  | 116  | 0.065  | 0.142      | 0.218  | NR     |
|             | 5/16     | 0.31 | x 7.9            | 59  | 134  | 0.076  | 0.164      | 0.253  | NR     |
| 12 x 12     | 5/8      | 0.59 | 305 x 305 x 15.9 | 112 | 71   | 0.047  | 0.093      | 0.147  | 0.288  |
|             | 1/2      | 0.48 | x 12.7           | 91  | 87   | 0.047  | 0.093      | 0.147  | 0.288  |
|             | 3/8      | 0.36 | x 9.5            | 68  | 116  | 0.065  | 0.142      | 0.218  | NR     |
|             | 5/16     | 0.30 | x 7.9            | 57  | 139  | 0.078  | 0.170      | 0.261  | NR     |
|             | 1/4      | 0.24 | x 6.4            | 46  | 173  | 0.098  | 0.212      | 0.327  | NR     |
| 10 x 10     | 5/8      | 0.59 | 254 x 254 x 15.9 | 112 | 71   | 0.047  | 0.093      | 0.147  | 0.288  |
|             | 1/2      | 0.48 | x 12.7           | 91  | 87   | 0.047  | 0.093      | 0.147  | 0.288  |
|             | 3/8      | 0.36 | x 9.5            | 68  | 116  | 0.065  | 0.142      | 0.218  | NR     |
|             | 5/16     | 0.30 | x 7.9            | 57  | 139  | 0.078  | 0.170      | 0.261  | NR     |
|             | 1/4      | 0.24 | x 6.4            | 46  | 173  | 0.098  | 0.212      | 0.327  | NR     |
|             | 3/16     | 0.18 | x 4.8            | 34  | 231  | NR     | NR         | NR     | NR     |
| 8 x 8       | 5/8      | 0.58 | 203 x 203 x 15.9 | 110 | 72   | 0.047  | 0.093      | 0.147  | 0.288  |
|             | 1/2      | 0.47 | x 12.7           | 89  | 89   | 0.047  | 0.093      | 0.147  | 0.288  |
|             | 3/8      | 0.36 | x 9.5            | 68  | 116  | 0.065  | 0.142      | 0.218  | NR     |
|             | 5/16     | 0.30 | x 7.9            | 57  | 139  | 0.078  | 0.170      | 0.261  | NR     |
|             | 1/4      | 0.24 | x 6.4            | 46  | 173  | 0.098  | 0.212      | 0.327  | NR     |
|             | 3/16     | 0.18 | x 4.8            | 34  | 231  | NR     | NR         | NR     | NR     |
| 7 x 7       | 5/8      | 0.57 | 178 x 178 x 15.9 | 108 | 73   | 0.047  | 0.093      | 0.147  | 0.288  |
|             | 1/2      | 0.46 | x 12.7           | 87  | 90   | 0.051  | 0.111      | 0.171  | NR     |
|             | 3/8      | 0.35 | x 9.5            | 67  | 119  | 0.067  | 0.145      | 0.224  | NR     |
|             | 5/16     | 0.30 | x 7.9            | 57  | 139  | 0.078  | 0.170      | 0.261  | NR     |
|             | 1/4      | 0.24 | x 6.4            | 46  | 173  | 0.098  | 0.212      | 0.327  | NR     |
|             | 3/16     | 0.18 | x 4.8            | 34  | 231  | NR     | NR         | NR     | NR     |

Note: A/P, M/D & Hp/A ratios based on design formula.

Note: All thicknesses are expressed in inches. To convert to Mills, multiply by 1000. To convert to mm, multiply by 25.4

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**Structural Steel Square Tube Columns**

**CAFCO® SprayFilm® WB 5 & ISOLATEK® Type WB 5**

| ASTM Desig. | Wall Thk | A/P  | Metric Desig.    | M/D | Hp/A | 1-Hour | 1-1/2 Hour | 2-Hour | 3-Hour |
|-------------|----------|------|------------------|-----|------|--------|------------|--------|--------|
| 6 x 6       | 5/8      | 0.56 | 152 x 152 x 15.9 | 106 | 74   | 0.047  | 0.093      | 0.147  | 0.288  |
|             | 1/2      | 0.46 | x 12.7           | 87  | 90   | 0.051  | 0.111      | 0.171  | NR     |
|             | 3/8      | 0.35 | x 9.5            | 67  | 119  | 0.067  | 0.145      | 0.224  | NR     |
|             | 5/16     | 0.30 | x 7.9            | 57  | 139  | 0.078  | 0.170      | 0.261  | NR     |
|             | 1/4      | 0.24 | x 6.4            | 46  | 173  | 0.098  | 0.212      | 0.327  | NR     |
|             | 3/16     | 0.18 | x 4.8            | 34  | 231  | NR     | NR         | NR     | NR     |
| 5.5 x 5.5   | 1/2      | 0.45 | 127 x 127 x 12.7 | 86  | 92   | 0.052  | 0.113      | 0.174  | NR     |
|             | 3/8      | 0.35 | x 9.5            | 67  | 119  | 0.067  | 0.145      | 0.224  | NR     |
|             | 5/16     | 0.29 | x 7.9            | 55  | 143  | 0.081  | 0.175      | 0.270  | NR     |
|             | 1/4      | 0.24 | x 6.4            | 46  | 173  | 0.098  | 0.212      | 0.327  | NR     |
|             | 3/16     | 0.18 | x 4.8            | 34  | 231  | NR     | NR         | NR     | NR     |
| 5 x 5       | 1/2      | 0.45 | 127 x 127 x 12.7 | 86  | 92   | 0.052  | 0.113      | 0.174  | NR     |
|             | 3/8      | 0.35 | x 9.5            | 67  | 119  | 0.067  | 0.145      | 0.224  | NR     |
|             | 5/16     | 0.29 | x 7.9            | 55  | 143  | 0.081  | 0.175      | 0.270  | NR     |
|             | 1/4      | 0.24 | x 6.4            | 46  | 173  | 0.098  | 0.212      | 0.327  | NR     |
|             | 3/16     | 0.18 | x 4.8            | 34  | 231  | NR     | NR         | NR     | NR     |
| 4.5 x 4.5   | 1/2      | 0.44 | 114 x 114 x 12.7 | 84  | 95   | 0.053  | 0.115      | 0.178  | NR     |
|             | 3/8      | 0.34 | x 9.5            | 65  | 122  | 0.069  | 0.150      | 0.231  | NR     |
|             | 5/16     | 0.29 | x 7.9            | 55  | 143  | 0.081  | 0.175      | 0.270  | NR     |
|             | 1/4      | 0.24 | x 6.4            | 46  | 173  | 0.098  | 0.212      | 0.327  | NR     |
|             | 3/16     | 0.18 | x 4.8            | 34  | 231  | NR     | NR         | NR     | NR     |
| 4 x 4       | 1/2      | 0.44 | 102 x 102 x 12.7 | 84  | 95   | 0.053  | 0.115      | 0.178  | NR     |
|             | 3/8      | 0.34 | x 9.5            | 65  | 122  | 0.069  | 0.150      | 0.231  | NR     |
|             | 5/16     | 0.29 | x 7.9            | 55  | 143  | 0.081  | 0.175      | 0.270  | NR     |
|             | 1/4      | 0.23 | x 6.4            | 44  | 181  | 0.102  | 0.221      | 0.340  | NR     |
|             | 3/16     | 0.18 | x 4.8            | 34  | 231  | NR     | NR         | NR     | NR     |
| 3.5 x 3.5   | 3/8      | 0.34 | 89 x 89 x 9.5    | 65  | 122  | 0.069  | 0.150      | 0.231  | NR     |
|             | 5/16     | 0.29 | x 7.9            | 55  | 143  | 0.081  | 0.175      | 0.270  | NR     |
|             | 1/4      | 0.23 | x 6.4            | 44  | 181  | 0.102  | 0.221      | 0.340  | NR     |
| 3 x 3       | 3/8      | 0.33 | 76 x 76 x 9.5    | 63  | 126  | 0.071  | 0.154      | 0.238  | NR     |
|             | 5/16     | 0.28 | x 7.9            | 53  | 149  | 0.084  | 0.182      | 0.280  | NR     |
|             | 1/4      | 0.23 | x 6.4            | 44  | 181  | 0.102  | 0.221      | 0.340  | NR     |
| 2 x 2       | 1/4      | 0.22 | 51 x 51 x 6.4    | 42  | 189  | NR     | NR         | NR     | NR     |

Note: A/P, M/D & Hp/A ratios based on design formula.

Note: All thicknesses are expressed in inches. To convert to Mils, multiply by 1000. To convert to mm, multiply by 25.4