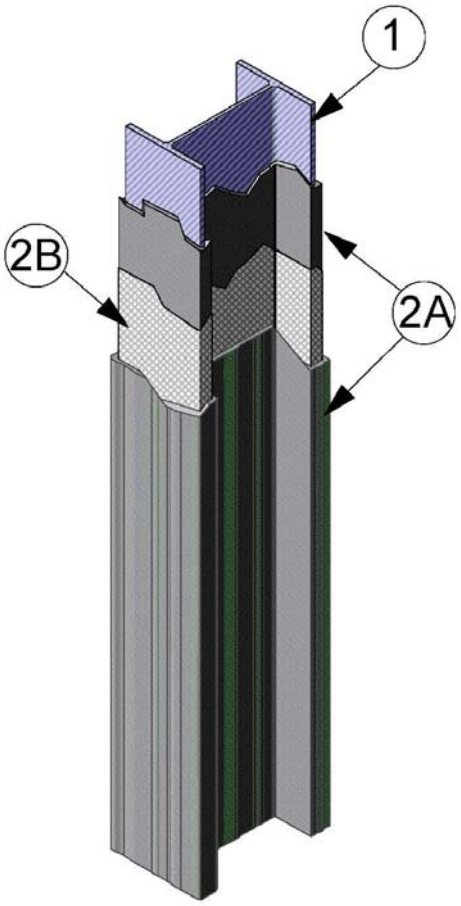
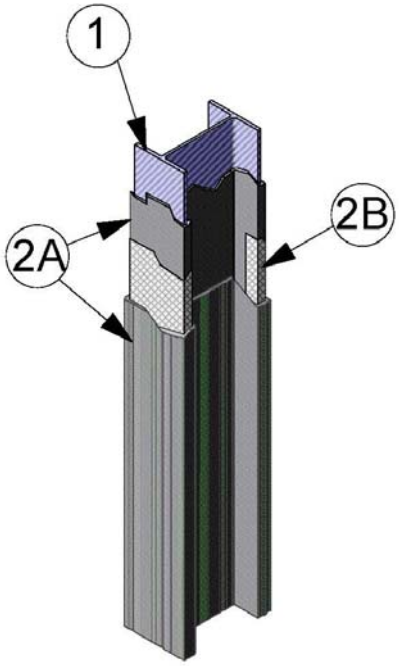
**Carboline Company**
**CC/CA 180-02**
**(Formerly NUC/CA 180-02 and OPL Design No. C 301)**
**Column**
**Thermo-Lag 3000**
**ASTM E119-09c**
**CAN/ULC S101-07**
**Assembly Rating – See Table CC/CA 180-02**




Installation Method 2Bi




Installation Method 2Bii

1. **SOLID STRUCTURAL STEEL COLUMN -** Use solid steel sections, I-shape or W-shape, having nominal Hp/A, W/D, or A/P section factors based on four sided exposure. Refer to Table CC/CA 180-02 for specific application thickness of intumescent fireproofing (Item 2A) based on nominal Hp/A, W/D, or A/P section factors.

2. **FIRE-RESISTIVE COATING –** Refer to Table CC/CA 180-02 for specific application thickness of fire resistive coating.

   A. CERTIFIED MANUFACTURER: Carboline Company

   CERTIFIED PRODUCT: Fire-resistive Coating

   MODEL: Thermo-Lag 3000

**Intumescent Fireproofing -** Spray or paint in one or more coats according to manufacturer's instructions to a nominal 1/2 the required thickness before applying fiberglass mesh (Item 2B). Spray or paint in one or more coats according to manufacture's instructions to required final thickness after installing fiberglass mesh (Item 4B).

B. **Fiberglass Mesh** – For final thickness of the intumescent fireproofing (Item 2A) of 0.24 inches (6 mm) or less install mesh at middle depth of the intumescent fireproofing (Item 2A). For final thickness of the intumescent fireproofing (Item 2A) greater than 0.24 inches (6 mm), install fiberglass mesh at 0.12 inches (3 mm) from solid structural steel column (Item 1). Overlap fiberglass mesh a minimum 1/2-inch (13 mm) at seams.

i) **Method for solid structural steel columns with a depth of 11-4/5-inch (300 mm) or greater -** Wrap fiberglass mesh completely around steel structural column (Item 1).

ii) **Method for solid structural steel columns with a depth of less than 11-4/5-inch (300 mm) -** Wrap fiberglass mesh completely around steel structural column (Item 1) flange faces allowing a nominal 2 inches of the fiberglass mesh to wrap around the inner flange of the solid structural steel column (Item 1).

| Table CC/CA 180-02 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **HP/A** | **W/D** | **60 min.** | | **90 min.** | | **120 min.** | | **150 min.** | | **180 min.** | |
| **1/m** | **lb/ft/in** | **mm** | **in** | **mm** | **in** | **mm** | **in** | **mm** | **in** | **mm** | **in** |
| 30 | 4.46 | 3.0 | 0.12 | 3.0 | 0.12 | 3.0 | 0.12 | 3.0 | 0.12 | 3.3 | 0.13 |
| 40 | 3.34 | 3.0 | 0.12 | 3.0 | 0.12 | 3.0 | 0.12 | 3.5 | 0.14 | 4.2 | 0.17 |
| 50 | 2.67 | 3.0 | 0.12 | 3.0 | 0.12 | 3.3 | 0.13 | 4.2 | 0.17 | 5.0 | 0.20 |
| 60 | 2.23 | 3.0 | 0.12 | 3.0 | 0.12 | 3.8 | 0.15 | 4.8 | 0.19 | 5.8 | 0.23 |
| 70 | 1.91 | 3.0 | 0.12 | 3.2 | 0.13 | 4.3 | 0.17 | 5.4 | 0.21 | 6.5 | 0.26 |
| 75 | 1.78 | 3.0 | 0.12 | 3.3 | 0.13 | 4.5 | 0.18 | 5.7 | 0.22 | 6.8 | 0.27 |
| 80 | 1.67 | 3.0 | 0.12 | 3.5 | 0.14 | 4.7 | 0.19 | 5.9 | 0.23 | 7.2 | 0.28 |
| 85 | 1.57 | 3.0 | 0.12 | 3.7 | 0.15 | 4.9 | 0.19 | 6.2 | 0.24 | 7.5 | 0.30 |
| 90 | 1.49 | 3.0 | 0.12 | 3.8 | 0.15 | 5.1 | 0.20 | 6.5 | 0.26 | 7.8 | 0.31 |
| 95 | 1.41 | 3.0 | 0.12 | 3.9 | 0.15 | 5.3 | 0.21 | 6.7 | 0.26 | 8.1 | 0.32 |
| 100 | 1.34 | 3.0 | 0.12 | 4.1 | 0.16 | 5.5 | 0.22 | 6.9 | 0.27 | 8.4 | 0.33 |
| 110 | 1.22 | 3.0 | 0.12 | 4.3 | 0.17 | 5.9 | 0.23 | 7.4 | 0.29 | 8.9 | 0.35 |
| 120 | 1.11 | 3.0 | 0.12 | 4.6 | 0.18 | 6.2 | 0.24 | 7.8 | 0.31 | 9.4 | 0.37 |
| 130 | 1.03 | 3.1 | 0.12 | 4.8 | 0.19 | 6.5 | 0.26 | 8.2 | 0.32 | 9.9 | 0.39 |
| 140 | 0.95 | 3.3 | 0.13 | 5.0 | 0.20 | 6.8 | 0.27 | 8.6 | 0.34 | 10.3 | 0.41 |
| 150 | 0.89 | 3.4 | 0.13 | 5.2 | 0.20 | 7.1 | 0.28 | 8.9 | 0.35 | 10.7 | 0.42 |
| 160 | 0.84 | 3.6 | 0.14 | 5.4 | 0.21 | 7.3 | 0.29 | 9.2 | 0.36 | 11.2 | 0.44 |
| 170 | 0.79 | 3.7 | 0.15 | 5.6 | 0.22 | 7.4 | 0.29 | 9.5 | 0.37 | 11.6 | 0.46 |
| 180 | 0.74 | 3.9 | 0.15 | 5.8 | 0.23 | 7.7 | 0.30 | 9.8 | 0.39 | 12.0 | 0.47 |
| 190 | 0.7 | 4.0 | 0.16 | 6.0 | 0.24 | 8.0 | 0.31 | 10.1 | 0.40 | 12.3 | 0.48 |
| 200 | 0.67 | 4.1 | 0.16 | 6.2 | 0.24 | 8.2 | 0.32 | 10.4 | 0.41 | 12.7 | 0.50 |
| 210 | 0.64 | 4.2 | 0.17 | 6.3 | 0.25 | 8.5 | 0.33 | 10.6 | 0.42 | 13.0 | 0.51 |
| 220 | 0.61 | 4.3 | 0.17 | 6.5 | 0.26 | 8.7 | 0.34 | 10.9 | 0.43 | 13.4 | 0.53 |
| 230 | 0.58 | 4.5 | 0.18 | 6.7 | 0.26 | 8.9 | 0.35 | 11.1 | 0.44 | 13.7 | 0.54 |
| 240 | 0.56 | 4.6 | 0.18 | 6.9 | 0.27 | 9.1 | 0.36 | 11.4 | 0.45 | 14.0 | 0.55 |
| 250 | 0.53 | 4.7 | 0.19 | 7.0 | 0.28 | 9.3 | 0.37 | 11.7 | 0.46 | 14.3 | 0.56 |
| 260 | 0.51 | 4.8 | 0.19 | 7.2 | 0.28 | 9.5 | 0.37 | 11.9 | 0.47 | 14.6 | 0.57 |
| 270 | 0.5 | 4.9 | 0.19 | 7.3 | 0.29 | 9.7 | 0.38 | 12.2 | 0.48 | 14.9 | 0.59 |
| 280 | 0.48 | 5.0 | 0.20 | 7.4 | 0.29 | 9.9 | 0.39 | 12.4 | 0.49 | 15.1 | 0.59 |
| 290 | 0.46 | 5.0 | 0.20 | 7.6 | 0.30 | 10.1 | 0.40 | 12.6 | 0.50 | 15.1 | 0.59 |
| 300 | 0.45 | 5.1 | 0.20 | 7.7 | 0.30 | 10.3 | 0.41 | 12.8 | 0.50 | 15.4 | 0.61 |
| 302 | 0.44 | 5.2 | 0.20 | 7.7 | 0.30 | 10.3 | 0.41 | 12.9 | 0.51 | 15.5 | 0.61 |