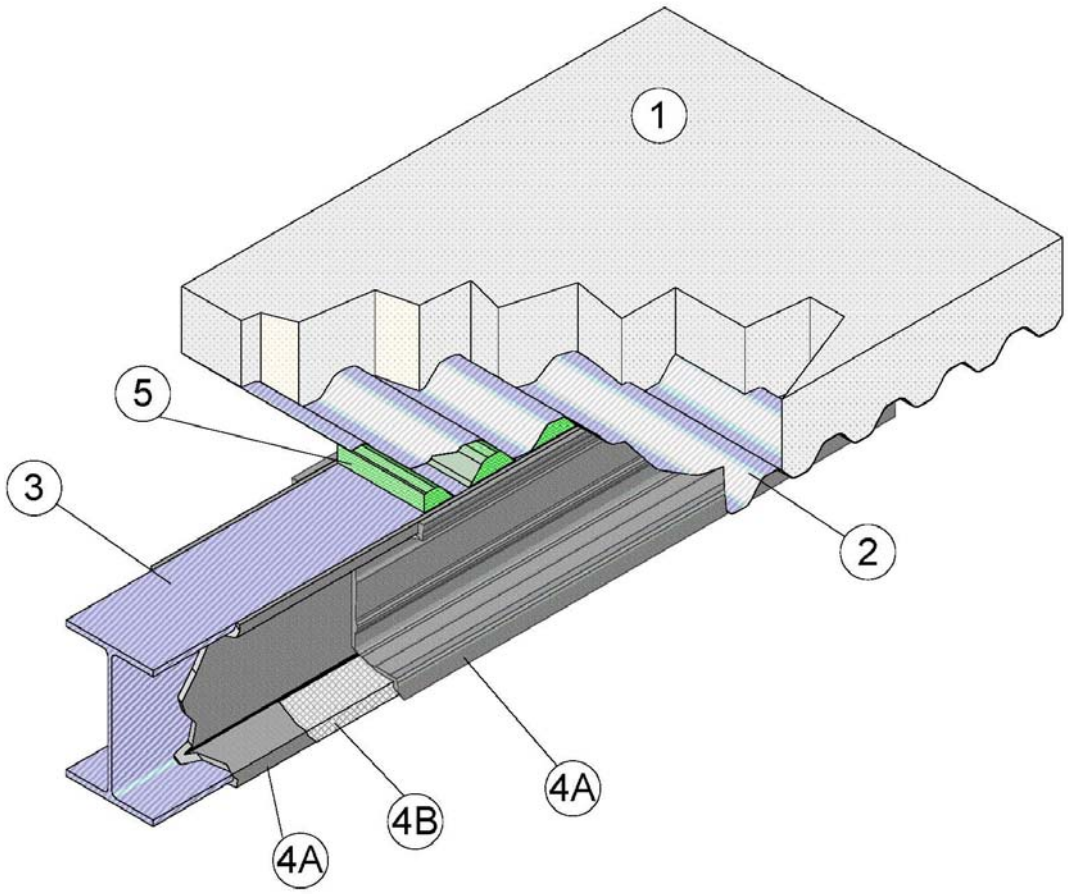
Carboline Company
CC/BA 180-01
(Formerly NUC/BA 180-01 and OPL B303)
Restrained or Unrestrained Beam
Thermo-Lag 3000
ASTM E119-09c
CAN/ULC S101-07 Restricted Load Maximum 65% of design load
Assembly Rating – See Table CC/BA 180-01



1. **FLOOR/CEILING ASSEMBLY** - Use a fire-rated floor/ceiling assembly consisting of normal weight or lightweight (minimum 105 pcf, 1682 kg/m^3) reinforced concrete. Thickness of concrete Floor ceiling assembly must comply with designated fire resistive rating.
2. **FLUTED STEEL FLOOR UNITS** – Corrugated steel decking, minimum 1-1/2 inch deep (38 mm), minimum 20 Ga.
3. **STEEL STRUCTURAL BEAM –** Use steel sections, I-beam or W-beam, sized in accordance with the Table CC/BA 180-01.
4. **FIRE-RESISTIVE COATING –** Refer to Table CC/BA 180-01 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 or 0.12 inches (3 mm) (whichever is smaller) before applying fiberglass mesh (Item 4B). 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 4A) of 0.24 inches (6 mm) or less install mesh at middle depth of the intumescent fireproofing (Item 4A). For final thickness of the intumescent fireproofing (Item 4A) greater than 0.24 inches (6 mm), install fiberglass mesh at 0.12 inches from structural steel beam (Item 3). Wrap fiberglass mesh completely around bottom flange. Overlap fiberglass mesh a minimum 1/2-inch (13 mm) at seams.

5. LISTED MANUFACTURER: Any Intertek certified mineral wool or ceramic fiber blanket manufacturer that meets the criteria below.

   CERTIFIED PRODUCT: Insulation

6. MODEL: Any Intertek certified mineral wool or ceramic fiber blanket model that meets the criteria below.

FLUTE FILLER – Completely fill the flutes between steel structural beam (Item 3) and the fluted steel floor unit (Item 2) with 4 pcf mineral wool or 4 pcf ceramic fiber blanket.

Table CC/BA 180-01											
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	0.70	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	0.50	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