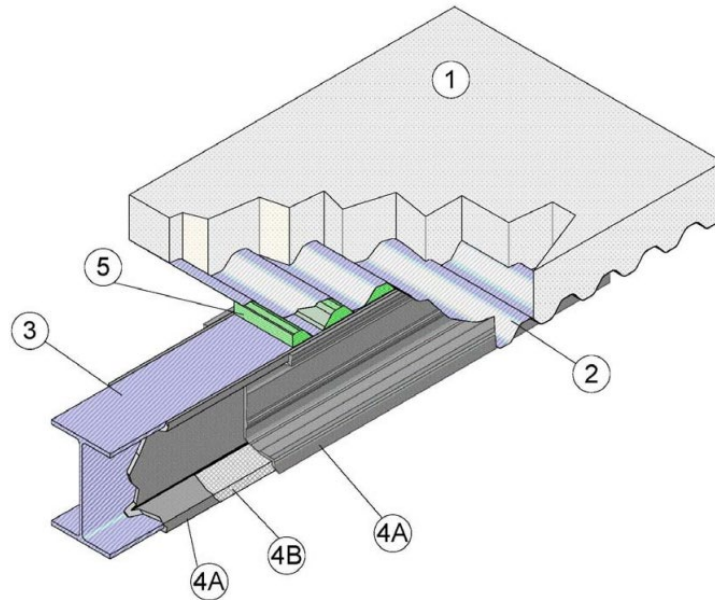


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**Carboline Global Inc.**  
**Design No. CC/BA 180-01**  
**Restrained or Unrestrained Beam**  
**Thermo-Lag 3000**  
**ASTM E119**  
**CAN/ULC S101 Restricted Load Maximum 65% of design load**  
**Rating: See Table CC/BA 180-01**

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- 1. FLOOR/CEILING ASSEMBLY:** Use a fire-rated floor/ceiling assembly consisting of normal weight or lightweight (min. 105 pcf, 1682 kg/m<sup>3</sup>) reinforced concrete. Thickness of concrete floor/ceiling assembly must comply with designated fire resistive rating.
- 2. FLUTED STEEL FLOOR UNITS:** Corrugated steel decking, min. 1-1/2-in. (38 mm) deep, min. 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. INTUMESCENT FIREPROOFING:**

- A. CERTIFIED MANUFACTURER:** Carboline Global Inc.

**CERTIFIED PRODUCT:** Fire-Resistive Coating

**CERTIFIED MODEL:** Thermo-Lag 3000

Spray or paint in one or more coats according to manufacturer's instructions to a nominal 1/2 the required thickness specified in Table CC/BA 180-01 or 0.12-in. (whichever is smaller) before applying the fiberglass mesh (Item 4B). After mesh installation, spray or paint in one or more coats according to manufacturer's instructions to required final thickness.



**B. FIBERGLASS MESH:** For final thickness of the intumescent fireproofing (Item 4A) of 0.24-in. (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-in. (6 mm), install mesh at 0.12-in. from structural steel beam (Item 3). Wrap mesh completely around bottom flange. Overlap mesh at min. 1/2-in. (13 mm) at seams.

**5. 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.

**Listed Manufacturer:** Only use Intertek Certified Mineral Wool and Ceramic Fiber Blanket Manufacturer's products meeting the above minimum requirements.



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
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

Consult the listing report on the Directory of Building Products (<https://bpdirectory.intertek.com>) for the edition of the standard(s) evaluated.

Compliance of the assembly described in this Design Listing with the referenced standard relies on verification that the assembly constructed in the field is consistent with that described herein. Intertek certified products may be verified by the approved Intertek label; other products must be verified by the Authority Having Jurisdiction as meeting the specifications stated herein.