

Carboline Global Inc.
Design No. CC/IF 90-01
Floor and Beam
FireFilm IV
ASTM E119

Restrained Assembly Rating: See Table 1
Load Condition: Up to 100% of Maximum Design Load (See Item 5)

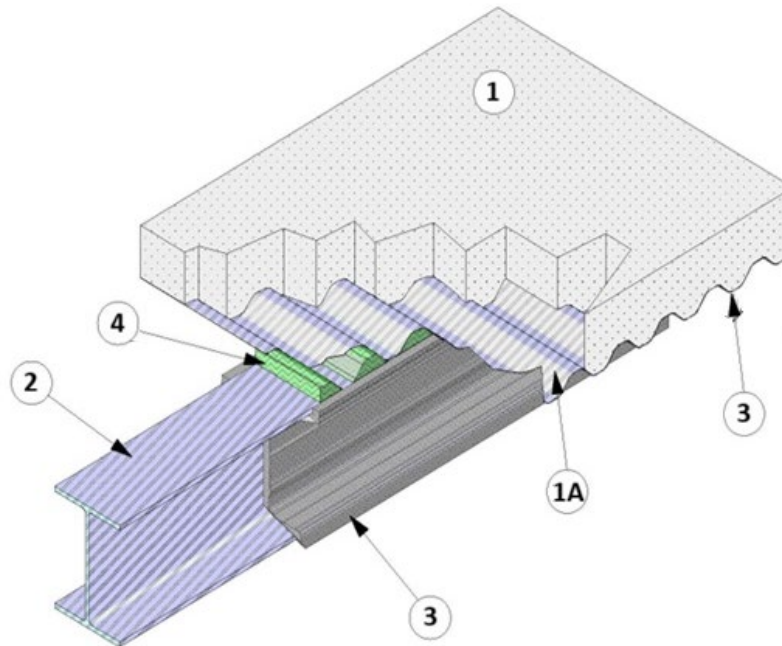


Figure 1

1. FLOOR/CEILING ASSEMBLY:

- A. **FLUTED STEEL FLOOR UNITS:** – Fluted steel decking, min. 1-1/2 in. deep (38 mm), min. 20 GA.
- B. **SHEAR CONNECTORS** – (Optional, Not Shown) When used, install shear connectors, min. 3/4 in. diameter, through the steel deck (Item 1A) and welded onto the top flange of each beam (Item 2).
- C. **WELDED WIRE MESH** – (Not Shown) Install min. 6x6-W1.4xW.14, 10 GA wire mesh.

- D. **CONCRETE** – Use lightweight (min. 105 pcf, 3000 psi) concrete. Min. concrete thickness to the crests of steel floor and form units shall be 2-1/2 in.

- 2. STRUCTURAL STEEL BEAM:** Use solid steel W8x24 section. W-shaped steel sections with lower 3-sided Hp/A section factor may also be used.

3. FIRE RESISTIVE COATING:

CERTIFIED PRODUCT: Carboline Global Inc.,
Intumescent Fireproofing, FireFilm IV



Galvanized deck surfaces shall be clean of contaminants and primed with Carboline Sanitile 120 (not shown) to a nominal 1-mil dry film thickness (DFT). Structural steel shall be blast-cleaned per manufacturer's instructions and primed with Carboline Carbocoat 150UP primer (not shown) at a 2-4 mil DFT. Spray-apply Firefilm IV coating onto primed steel to the required final thicknesses per the manufacturer's instructions.

Table 1. Ratings and Coating Thicknesses (DFT)

Rating	Under Deck	Beam
60	101 mils	55 mils
90	101 mils	99 mils

- 4. INSULATION:** Use non-combustible mineral wool fiber insulation to completely fill the voids created between the fluted steel floor units (Item 1A) and the structural steel beam (Item 2). Use min. 4 pcf density insulation, determined to be non-combustible in accordance with one of the following standards:
 - ASTM E136
 - CAN/ULC-S114
 - EN ISO 1182
- 5. LOAD CONDITION:** Load is determined based on the Allowable Stress Design (ASD) Method as published by the American Institute of Steel Construction (AISC), up to 100% of the max. load condition.

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.