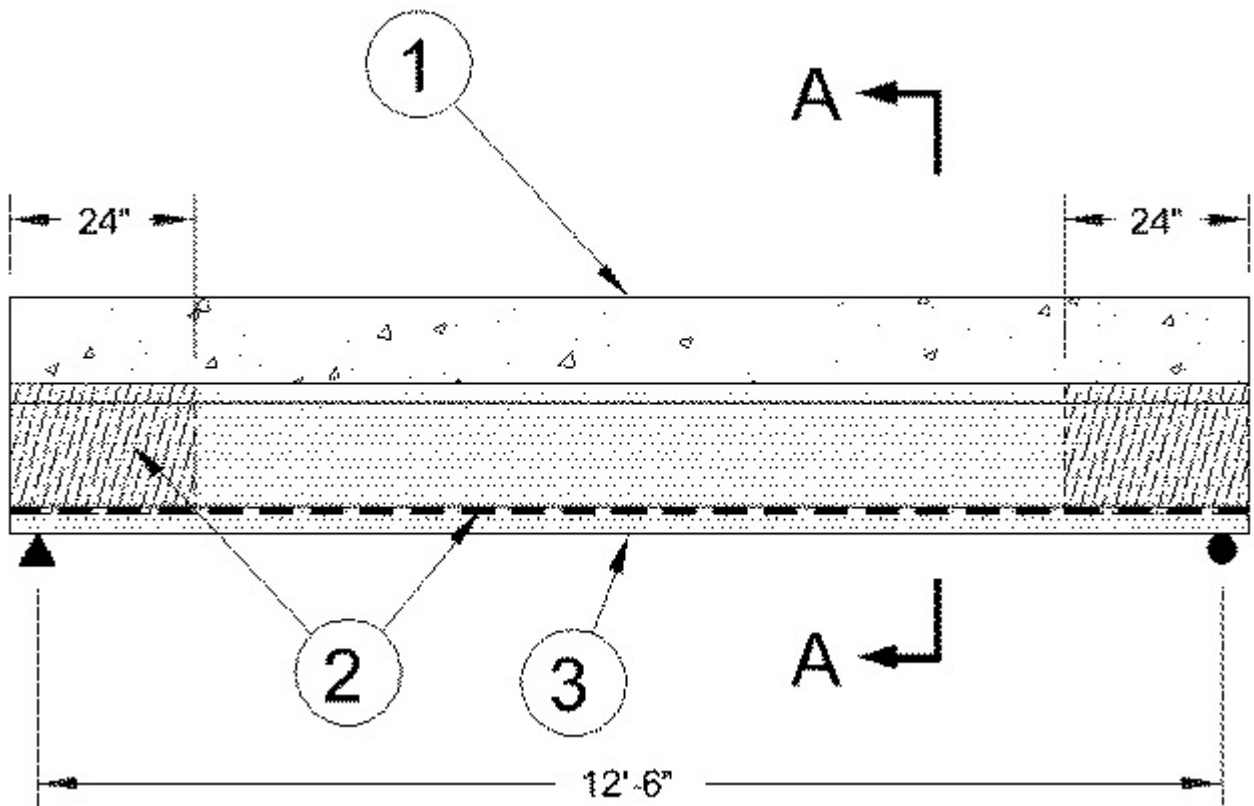
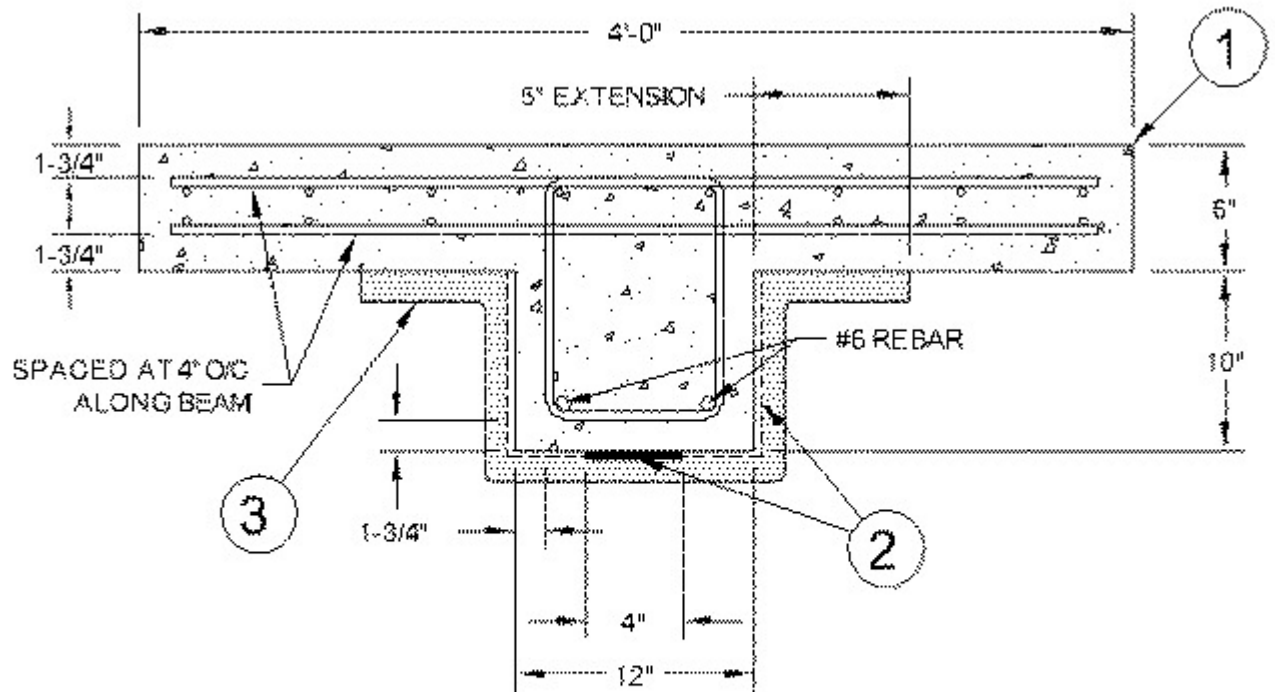

BXUV.N790
Fire Resistance Ratings - ANSI/UL 263

Fire Resistance Ratings - ANSI/UL 263

Design No. N790
June 14, 2004

Restrained Beam Rating-4 Hr





ALL REBARS #3 UNLESS OTHERWISE SPECIFIED

CLEAR CONCRETE COVER 1-3/4" TO STIRRUPS

SECTION 'A-A'

1. Concrete beam — Concrete tee beam with 12 in. web width, 10 in. web depth, 6 in. flange thickness, 4ft. flange width. Reinforced with 2 #6. bottom longitudinal reinforcing steel in the web. Flange (slab) reinforcement #3 at 6 in. OC top and bottom in both directions. Stirrups #3 at 6in. OC The minimum 28 day compressive strength of the concrete shall be 6 ksi. The external edges of the concrete shall be rounded and those sections of the concrete that are to receive the composite material (Item 2) shall be lightly sand blasted. The applied load for the beam assembly shall be calculated in accordance with the Minimum Acceptable Design Criteria published in ACI 440.2R-02.

2. Structural Concrete Fiber-Reinforced Composite System* — Installed in accordance with the manufacturer's instructions, and shall include the following construction:

- (a) Tyfo® S Primer applied to sections of concrete that will be covered with Item 2b. and 2c. The primed areas shall be treated

with a Tyfo® TC mixed with Tyfo® FS to remove pitting, inundations and other surface defects in the concrete. Tyfo® TC mixed with Tyfo® FS in the ratio of 1 part of Tyfo FS with 14.6 parts Tyfo®TC. Items 2a and 2c shall be applied before Tyfo® TC is dry.

(b) Tyfo®SCH carbon fibre mesh 4 in. wide, area density equivalent to 644 g/m² saturated with Tyfo® S at minimum 0.27 lb/ft². The saturated Tyfo®SCH applied to the bottom web of the concrete tee beam (Item 1).

(c) Tyfo® SEH fiberglass mesh, 24 in. wide with area density equivalent to 915 g/m² saturated with minimum 0.17lb/ft² of Tyfo® S. The saturated fiberglass mesh applied as U wrap at the ends of the beam to anchor Tyfo® SCH Carbon fibre mesh. The first layer to be treated with Tyfo® TC tack coat and before the tack coat is dry a second layer of saturated Tyfo® SEH fiberglass mesh to be applied as U wrap over the first layer.

FYFE CO L L C — Type Tyfo® S Primer, Tyfo® TC, Tyfo® FS, Tyfo® SCH, and Tyfo® SEH.

3. Spray-Applied Fire Resistive Materials* — Tyfo® VG Primer applied over the composite system and concrete. Before the primer is dry Tyfo® VG Dash Coat applied as a skim coat over the primer. Tyfo® VG mixed with water and spray applied in one or more coats to minimum average thickness of 1-3/8 in. to concrete and Structural Concrete Fiber-Reinforced Composite System surfaces which must be clean and free of dirt, loose scale and oil. Min avg and min individual dry density of 23.2/22.5 lb/ft³, respectively. For method of density determination, refer to General Information Section under heading "Fire Resistance Ratings". Tyfo®EI-R applied as a topcoat over Tyfo®VG. For extent of application of Spray-Applied Fire Resistive Material see illustration above.

FYFE COLLC — Type Tyfo® VG Primer. Tyfo® VG Dash Coat, Tyfo® VG and Tyfo® EI-R.

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