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## **BXUVC.I800 Fire Resistance Ratings**

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## **Fire Resistance Ratings**

[See General Information for Fire Resistance Ratings](#)

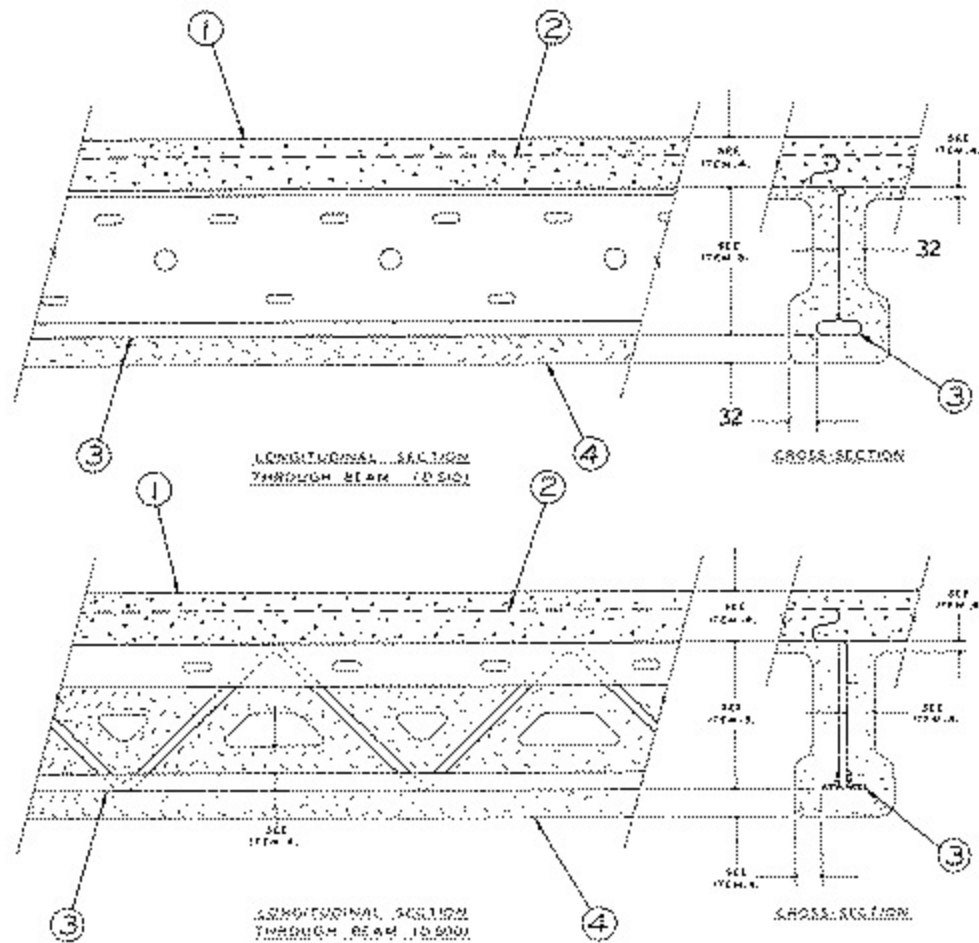
**Design No. I800**

October 03, 2002

**Restrained Assembly Rating - See Item No. 4**

**Unrestrained Assembly Rating - See Item No. 4**

**Unrestrained Beam Rating - See Table 1**



1. **Sand-Gravel Concrete** —  $2400 \pm 50 \text{ kg/m}^3$ , 24 MPa nominal compressive strength.

2. **Wire Fabric** — 152x152 P13.3/P13.3 steel wire.

• 3. **Structural Component** — (Guide No. 40 U18.20C). Steel Joist. H1004 or H675, 6 kg/m minimum size joists. Profiles as indicated in drawing details. As an option to the H1004 and H675 joists, MD2000 (minimum weight of 9.75 kg/m) and Mini 2000 (minimum weight of 5.7 kg/m) joists may be used for long and short spans respectively.

When the MD2000 or Mini 2000 joists are used, Canam Murox Type M-156R fluted steel floor units or equivalent (minimum 24 gauge - nominal 0.61 mm) shall be used as permanent forms for the concrete floor. The same thickness of spray-applied fire-resistive material as applied to the concrete slab and as specified in Table 2 shall be applied to the deck underside.

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• 4. **Spray-Applied Fire-Resistive Material** — (see table 2) - (Guide No. 40 U18.6).

Applied with or without adhesive to steel and concrete surfaces to thicknesses indicated below. Fibre to have a minimum average dry density of  $165 \text{ kg/m}^3$  with no minimum individual value less than  $144 \text{ kg/m}^3$ . Fibre may be tamped or untamped. Where the 89 mm thick concrete slab is not required to be sprayed, the slab shall be oversprayed a

minimum width of 300 mm either side of beam or joist with a minimum fibre thickness of 7 mm. For method of density determination, refer to General Information Section, under heading "Fire Resistance Ratings". Concrete and steel surfaces to be clean and free of dirt, loose scale and oily deposits.

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| <b>Unrestrained Beam Rating, h</b> | <b>Description of Beam</b>   |
|------------------------------------|--|
| 1                                  | H1004 ("D500") or H675, 6 kg/m (D"510") minimum size, or MD2000 (minimum weight of 9.75 kg/m), designed in accordance with the relevant provisions of Chapter 4 of the Supplement to the National Building Code of Canada. |
| 1 and 1-1/2 (See Item No. 4)       | H1004 ("D500") minimum size, or MD2000 (minimum weight of 9.75 kg/m), designed in accordance with the relevant provisions of Chapter 4 of the Supplement to the National Building Code of Canada.                          |

|                                      |  |                                    |                       | <b>Thickness of Spray-Applied Fire-Resistive Material on</b> |  |
|--------------------------------------|--|------------------------------------|-----------------------|--|--|
| <b>Restrained Assembly Rating, h</b> | <b>Unrestrained Assembly Rating, h</b> | <b>Unrestrained Beam Rating, h</b> | <b>D510 Joist, mm</b> | <b>D500, MD2000, or Mini 2000 Joist, mm</b>                  | <b>Concrete Slab or Steel Floor Units*</b> |
| 2                                    | —                                      | 1                                  | 32                    | 29   | See Table Below                            |
| 1-1/2                                | —                                      | 1                                  | 32                    | 29   | See Table Below                            |
| —                                    | 1-1/2                                  | 1-1/2                              | —                     | 38   | See Table Below                            |
| 1                                    | 1                                      | 1                                  | 32                    | 29   | See Table Below                            |

|  |   |
|--|---|
|  | <b>Min Spray-Applied Fire-Resistive Material Thickness on Slab, mm Assembly Rating:</b> |
|--|---|

| Concrete Slab<br>Thickness, mm |     |         |     |
|--------------------------------|-----|---------|-----|
|                                | 1 h | 1-1/2 h | 2 h |
| 63                             | 13  | 14      | 22  |
| 70                             | 13  | 13      | 21  |
| 76                             | 13  | 13      | 16  |
| 89                             | 0   | 13      | 13  |

\* See Item 3.

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