

# BXUVC.D500 - FIRE-RESISTANCE RATINGS

## BXUVC - Fire-resistance Ratings

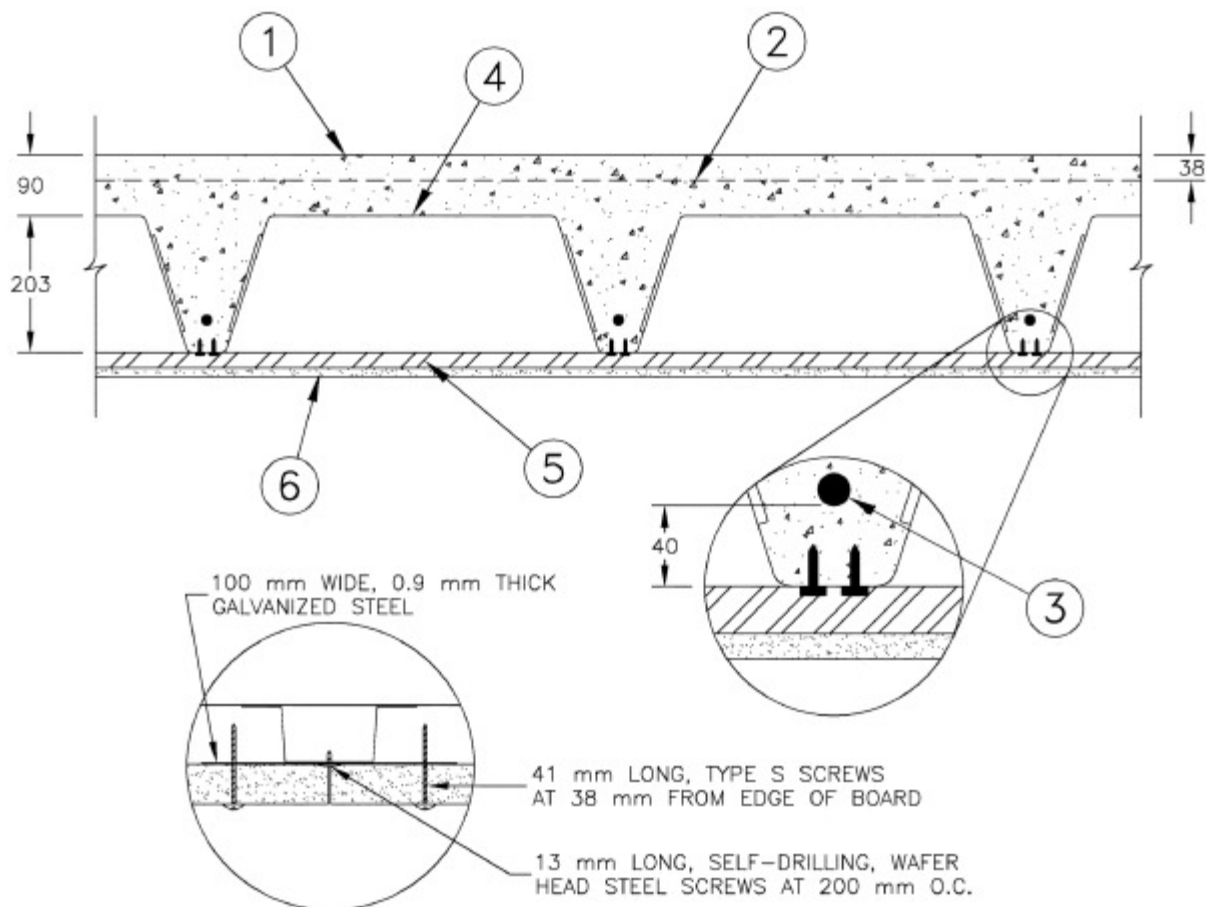
See General Information for Fire-resistance Ratings

### Design No. D500

April 11, 2019

#### Restrained Assembly Rating - 2 h

#### Unrestrained Assembly Rating - 1-1/2 h or 2 h (See Item 4)



#### BUTT-END JOINT DETAIL

- 1. Normal-Density Concrete** — Normal-density concrete of  $2400 \pm 50 \text{ kg/m}^3$  density and nominal 30 MPa compressive strength. Minimum concrete topping of 90 mm as measured from the top plane of the Steel Floor Units.
- 2. Wire Fabric** — 152 by 152 Min wire thickness MW18.7/MW18.7 welded steel wire mesh.
- 3. Rib Reinforcement** — Steel reinforcing bar having a minimum yield strength of 400 MPa sized in accordance with deck manufacturer's load tables to meet structural requirements. Rebars to be adequately supported during construction to provide a minimum 40 mm concrete cover.

- **4. Steel Floor Units** — (CHWXC). Composite, galvanized steel fluted units, with minimum design thickness of 0.953 mm and yield strength of 280 MPa. Adjacent units fastened at the bottom of common flute at 350 mm OC with side lap washers and 32 mm long self-drilling fasteners as per manufacturer's instructions. Shoring of the units during construction and end connection to independently fire rated structural supports as per manufacturer's instructions. Loading of the units to be in accordance with manufacturer's load tables based on simply supported conditions. For unit clear span of 10 m or less the unrestrained assembly rating is 2 h; for span greater than 10 m the unrestrained assembly rating is 1-1/2 h. "Please consult the below-listed deck manufacturer for comprehensive load tables and design parameters associated with this assembly."

**BAILEY METAL PRODUCTS LTD** — Type COMSLAB™ 210 and COMSLAB™ 225

**5. Furring Channels** — 0.5 mm galvanized steel top hat sections, nominally 22 mm deep, 70 mm overall width with 13 mm brim, spaced at 406 mm OC running perpendicular to the deck flutes. Channels fixed to underside of deck flutes, prior to concrete placement (Item 1), with No.10, 19 mm long, wafer head, self-drilling screws. Channels shall be fixed to the steel floor units at each flute with 2 screws, one on each brim of the channel and staggered by at least 6 mm from the opposite side.

- **6. Gypsum Board** — (CKNXC). One layer of 15.9 mm thick, 1220 mm wide. Wallboard installed with long dimensions perpendicular to furring channels and fastened to every channel with 32 mm long Type S, bugle-head steel screws spaced at maximum 300 mm OC. Screws along the long edges of the boards shall be located 38 mm from the edges of the boards. Each butt end joint shall be centred on a furring channel and backed, for the length of the butt end joint and for a distance of 76 mm beyond the joint in both directions, with a continuous 100 mm wide strip of 0.9 mm thick galvanized sheet steel. The sheet steel strip shall be fixed, prior to the attachment of the wallboard, to the furring channel with No. 8, 13 mm long, self-drilling, wafer head steel screws spaced at 200 mm OC. The butt ends shall be attached to the sheet steel backing using 41 mm long Type S, bugle-head steel screws located 38 mm from the butt end edges and spaced at maximum 300 mm OC. The butt end joints in adjacent boards shall be staggered 1220 mm. All joints shall be covered with paper tape and 2 coats of joint compound. Paper tape shall be embedded in the first layer of the joint compound. All screw heads shall be covered with 2 coats of joint compound.

**CERTAINTED GYPSUM INC** — Type C

**CGC INC** — Types C, IP-X2

**UNITED STATES GYPSUM CO** — Types C, IP-X2

**THAI GYPSUM PRODUCTS PCL** — Type C

- Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

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