

BXUV.D601 - FIRE-RESISTANCE RATINGS - ANSI/UL 263

Design/System/Construction/Assembly Usage Disclaimer

- Authorities Having Jurisdiction should be consulted in all cases as to the particular requirements covering the installation and use of UL Certified products, equipment, system, devices, and materials.
- Authorities Having Jurisdiction should be consulted before construction.
- Fire resistance assemblies and products are developed by the design submitter and have been investigated by UL for compliance with applicable requirements. The published information cannot always address every construction nuance encountered in the field.
- When field issues arise, it is recommended the first contact for assistance be the technical service staff provided by the product manufacturer noted for the design. Users of fire resistance assemblies are advised to consult the general Guide Information for each product category and each group of assemblies. The Guide Information includes specifics concerning alternate materials and alternate methods of construction.
- Only products which bear UL's Mark are considered Certified.

BXUV - Fire Resistance Ratings - ANSI/UL 263 Certified for United States

BXUV7 - Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

See General Information for Fire-resistance Ratings - ANSI/UL 263 Certified for United States Design Criteria and Allowable Variances

See General Information for Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada Design Criteria and Allowable Variances

Design No. D601

September 22, 2016

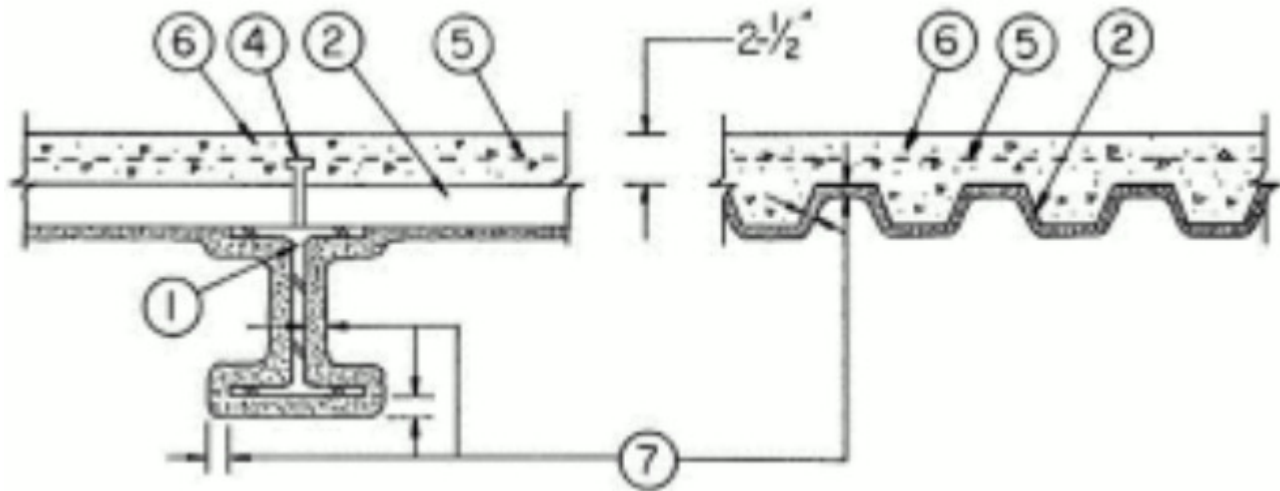
Restrained Assembly Rating — 1, 2 and 3 Hr. (See Item 7).

Unrestrained Assembly Rating — 1, 1-1/2, and 2 Hr. (See Items 7).

Unrestrained Beam Rating — 1, 1-1/2, and 2 Hr. (See Item 7).

This design was evaluated using a load design method other than the Limit States Design Method (e.g., Working Stress Design Method). For jurisdictions employing the Limit States Design Method, such as Canada, a load restriction factor shall be used — See Guide BXUV or BXUV7

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



1. **Steel Beam** — Minimum steel beam size as described in Item 7. Beams shall be primed with a metal alkyd or epoxy primer at a nominal thickness of 1 mil.
2. **Steel Floor And Form Units*** — 1-1/2, 2 or 3 in. deep, min 20 MSG galv fluted units. Spacing of welds attaching units to supports shall be 12 in. OC max. Adjacent units button-punched or welded together at side joints and shall not exceed 36 in. OC. Steel Floor And Form Units shall be primed with an acrylic primer at a nominal thickness of 1 mil.
VULCRAFT, DIV OF NUCOR CORP — 36 in. wide Types 1.5 VL, 1.5 VLI and 24 or 36 in. wide Types 2 VLI, 3 VLI fluted units; 36 in. wide Type 1.5VLP, and 24 or 36 in.
3. **Joint Cover** — (Not Shown) — Nom. 2 in. wide, pressure-sensitive tape, applied following the contour of floor units when butted over beams.
4. **Shear Connector Studs** — Optional — (Not Shown) — Studs, 3/4 in. diam, by 3 in. long for 1-1/2 in. deep form units to 5-1/4 in. for 3 in. deep units, headed type or equivalent per AISC specifications. Welded to top beam flange through steel form units.
5. **Welded Wire Fabric** — 6x6-W1.4xW1.4.
6. **Normal Weight Or Lightweight Concrete** — Normal weight concrete: carbonate or siliceous aggregate, 147 plus or minus 3 pcf unit weight, 3000 psi compressive strength, vibrated. Lightweight aggregate concrete: expanded shale, clay or slate aggregate by rotary-kiln method, 109 plus or minus 3 pcf unit weight, 3000 psi compressive strength, vibrated, 4 to 7 percent entrained air. Min thickness as measured to crests of steel floor and form units, 2-1/2 in.
7. **Mastic and Intumescent Coatings*** — Coating spray, or brush applied directly from containers to desired thickness over primers. See tables below for appropriate final dry thickness and applicable rating. When mineral wool (Item 9) is used, the top surface of the beam need not be protected with coating.

Types SprayFilm WB3, WB3, SprayFilm WB4, or WB4
Min. Dry Film Thickness On Steel Deck

Restrained Assembly Rating, Hr.	Unrestrained Assembly Rating, Hr.	mils	
		mm	
1	1	99	2.51
2	1	99	2.51
3	1-1/2	99	2.51
3	2	99	2.51

Types SprayFilm WB3, WB3, SprayFilm WB4, or WB4

Restrained Assembly Rating, Hr.	Unrestrained Assembly Rating, Hr.	Unrestrained Beam Rating, Hr.	W8 x 24		W8 x 28	
			Min. Dry Film Thickness On Beam		Min. Dry Film Thickness On Beam	

			mils	mm	mils	mm
1	1	1	53	1.34	43	1.10
2	1	1	53	1.34	43	1.10
3	1-1/2	1-1/2	66	1.67	66	1.67
3	2	2	115	2.92	115	2.92

Types SprayFilm WB5 or WB5

Restrained Assembly Rating, Hr.	Unrestrained Assembly Rating, Hr.	Unrestrained Beam Rating, Hr.	W8 x 24		W8 x 28	
			Min. Dry Film Thickness On Beam		Min. Dry Film Thickness On Beam	
			mils	mm	mils	mm
1	1	1	35	0.88	35	0.88
2	1	1	35	0.88	35	0.88
3	1-1/2	1-1/2	60	1.52	49	1.23
3	2	2	100	2.53	100	2.53

GREENTECH THERMAL INSULATION PRODUCTS MFG CO L L C — Type WB 3, Investigated for Interior General Purpose. Type WB 4, Investigated for Interior General Purpose. Type WB 4, Investigated for Exterior Use with top coat as described in Item 8. Type WB 5, Investigated for Interior Conditioned Space and Interior General Purpose

ISOLATEK INTERNATIONAL — Type SprayFilm-WB 3 and Type WB 3, Investigated for Interior General Purpose. Type SprayFilm-WB 4 and Type WB 4, Investigated for Interior General Purpose. Type SprayFilm-WB 4 and Type WB 4, Investigated for Exterior Use with top coat as described in Item 8. Type SprayFilm-WB 5 and Type WB 5, Investigated for Interior Conditioned Space and Interior General Purpose

8. **Top Coat** — (Not Shown) — Type SprayFilm - TOPSEAL and Type TOPSEAL required for Exterior Use with Type SprayFilm-WB 4 and Type WB 4, applied at a minimum dry thickness of 14 mils (0.34 mm) over the intumescent material. See Classification information in the Mastic and Intumescent Coating (CDWZ) category, Isolatek International, for mixing requirements.

9. **Mineral Wool Insulation** — (Not Shown) — Min 6 pcf mineral wool insulation cut into pieces and firmly packed into, and completely filling the spaces between the flutes of the steel floor and form units and the top flange of the beam. Mineral wool is not required when the top flange of the beam is protected with intumescent coating at the same thickness shown in the table in Item 7.

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The appearance of a company's name or product in this database does not in itself assure that products so identified have been manufactured under UL's Follow-Up Service. Only those products bearing the UL Mark should be considered to be Certified and covered under UL's Follow-Up Service. Always look for the Mark on the product.

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