



Classified by
Underwriters Laboratories, Inc.
to UL 263 and CAN/ULC-S101

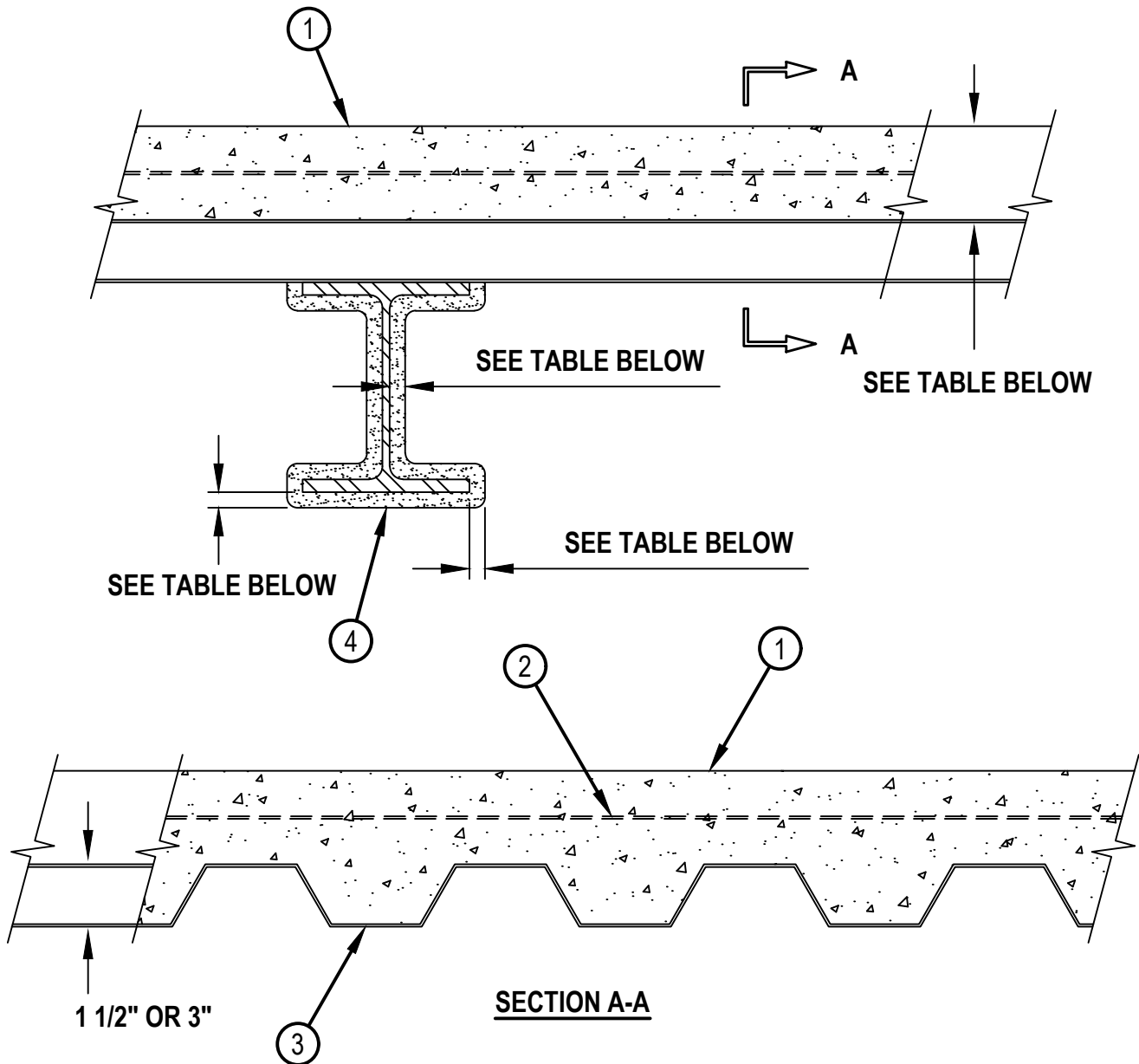
Design No. D990

D990

Restrained Assembly Ratings - 1, 1-1/2 and 2 Hr. (See Item 4)

Unrestrained Assembly Ratings - 0 Hr. (See Item 3)

Unrestrained Beam Ratings - 1 Hr. (See Item 4)



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

Beam — W6 x 25, minimum size.

1. Normal-Weight or Lightweight Concrete — Normal-weight concrete, carbonate or siliceous aggregate, 3500 psi nominal compressive strength. Low-density concrete, expanded shale, clay or slate aggregate by rotary kiln method, 110 ± 3 lb/ft³ density, 3500 psi nominal compressive strength.
2. Welded Wire Fabric — 6 x 6-W1.4 x W1.4.
3. Steel Floor Units* — Composite or noncomposite floor units. 22 MSG thick fluted sections, welded to supports with 3/4 in. puddle welds spaced 12 in. OC. Adjacent units button punched or welded 12 in. OC along side joints. When the maximum clear span of the steel floor units is less than or equal to the tested span of 9 ft - 6 in., the unrestrained assembly rating is increased to 1 Hr and 1-1/2 Hr to match the unrestrained beam rating.
DECK WEST INC — 36 in. wide Type 3-DW
INTSEL STEEL EAST LLC — 36 in. wide Type 3" COMPOSITE/FLOOR
KAM INDUSTRIES LTD, DBA CORDECK — Types QL-99, QL-WKX
VULCRAFT, DIV OF NUCOR CORP — 24 or 36 in. wide Types 3VLI and 3VLP. Phos/ptd Type 3VLI units
4. Mastic and Intumescent Coating* — Mastic coating spray or brush applied in accordance with manufacturer's instructions to the minimum dry film thicknesses shown below: The thickness shown does not include primer thickness.

| Restrained Assembly Rating, Hr. | Unrestrained Assembly Rating, Hr. | Unrestrained Beam Rating, Hr. | Min Concrete Cover Thickness, in | | Min Dry Thickness of | Min Dry Thickness of |
|--|--|--|--|-------------------------|--|--|
| | | | Normal-Weight Concrete | Lightweight Concrete | Fire Finish 120+ CFP-SP WB on Beam, inches | Fire Finish 120+ CFP-SP WB on Beam, mm |
| 1 | 0 (see item 3) | 1 | 3-1/4 | 2-1/2 | 0.052 | 1.33 |
| 1-1/2 | 0 (see item 3) | 1 | 4 | 2-3/4 | 0.052 | 1.33 |
| 2 | 0 (see item 3) | 1 | 4-1/2 | 3-1/4 | 0.052 | 1.33 |

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — Fire Finish 120+ CFP-SP WB investigated for Conditioned Interior Space Purpose and Interior General Purpose and UL2431 CLASSIFICATION CATEGORY II- A-3

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — Fire Finish 120+ CFP-SP WB investigated for exterior environmental purpose and UL2431 CLASSIFICATION CATEGORY I- A WITH TOPCOAT - TYPE HENSOTOP 2K PU or TYPE HI SOLIDS POLYURETHANE 250

5. Primer Coating — (Not Shown) — 60 micron (2 mil) thickness of a two component epoxy primer or 60 micron (2 mil) thickness of an alkyd primer or 60 micron (2 mil) thickness of an acrylic primer or 60 micron (2 mil) thickness of a polyurethane primer.
6. Top Coat (not shown) — The following topcoats shall be used for compliance with Exterior Environmental Exposure requirement. Solvent Based 2 pack topcoat Type Hensotop 2K PU applied at a dry film thickness of 100 microns (4 mil) or Acrylic polyurethane topcoat Type Hi Solids Polyurethane 250 applied at a dry film thickness of 100 microns (4 mil) or Waterbased Urethane topcoat Type Acrolon 100HS at a dry film thickness of 100 microns (4 mil).
7. Shear Connectors — (Optional) (Not Shown) — Studs, 3/4 in. diam by 4-1/2 in. long, headed type or equivalent per AISC specification. Welded to the top flange of the beam, through the deck.

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