



Design No. P303
BXUV.P303
Fire-resistance Ratings - ANSI/UL 263

[Page Bottom](#)

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

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

[See General Information for Fire-resistance Ratings - ANSI/UL 263](#)

[See General Information for Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada](#)

Design No. P303

September 06, 2016

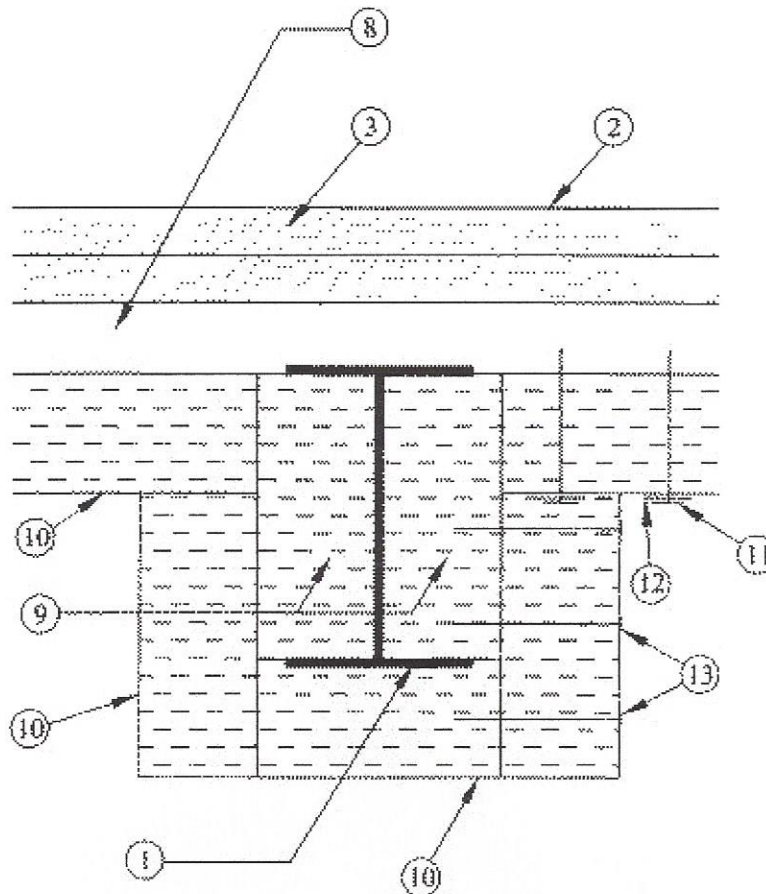
Restrained Assembly Rating - 1 Hr

Unrestrained Assembly Rating - 1 Hr

Unrestrained Beam Rating - 1 Hr

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 Supports** Min size W6x16 beam, or min size 10K1 steel joists.

2. **Roof Covering** Consisting of hot mopped or cold application bituminous materials compatible with the insulation(s) described herein which provide Class A, B or C coverings. See Roofing Materials and Systems Directory-Roof Covering Materials (TEVT).

2A. **In lieu of Item 2, roof covering consisting of single ply Roofing Membrane*** that is ballasted, adhered, or mechanically attached as permitted under the respective manufacturer's Classification. See Fire Resistance Directory-Roofing Membranes (CHCI).

3. **Roof Insulation-Foamed Plastic*** — Polyisocyanurate foamed insulation boards, nominal 48 or 96 in., applied in one or multiple layers. Minimum thickness is 2 in. with no limit on maximum overall thickness. Boards to be installed with end joints staggered a minimum of 6 inches in adjacent rows. When applied in more than one layer, each layer to be offset in both directions from layer below a minimum of 6 inches in order to lap all joints.

ATLAS ROOFING CORP — AC Foam II, AC Foam III, AC Foam-II SL, AC Foam IV.

CARLISLE SYNTEC INCORPORATED — Types HP, HP-H, HP-N, HP-W.

DOW ROOFING SYSTEMS L L C — "Dow Termico Polyisocyanurate Insulation", "Dow Termico ISO 3000 Insulation", "Dow Termico ISO HP-FR".

FIRESTONE BUILDING PRODUCTS CO L L C — "ISO 95+ GL", "ISO 95+ FK", "ISO 95+ CAN", "ISO 95+ GL NH", "ISOGARD HD Composite Board" or "RESISTA".

GAF — Isotherm R

GENFLEX ROOFING SYSTEMS L L C — "GenFlex ISO"

HUNTER PANELS — H Shield.

JOHNS MANVILLE — ENRGY 3 25 psi, ENRGY 3, Tapered ENRGY 3, Tapered ENRGY 3 25 psi, ENRGY 3 AGF, Tapered ENRGY 3 AGF, ENRGY 3 25 psi AGF, Tapered ENRGY 3 25 psi AGF, ENRGY 3 CGF, Tapered ENRGY 3 CGF, ENRGY 3 25 psi CGF, Tapered ENRGY 3 25 psi CGF, ISO-3, Tapered ISO-3, ValuTherm, Tapered ValuTherm, ValuTherm 25 psi, Tapered ValuTherm 25 psi, ValuTherm AGF, Tapered ValuTherm AGF, ValuTherm 25 psi AGF, Tapered ValuTherm 25 psi AGF, ValuTherm CGF, Tapered ValuTherm CGF, ValuTherm 25 psi CGF, Tapered ValuTherm 25 psi CGF.

LOADMASTER SYSTEMS INC — Loadmaster Polyisocyanurate Insulation.

MARTIN FIREPROOFING CORP — "Perform-A-Deck I"

RMAX OPERATING L L C — Multi-Max-3, Multi-Max FA-3, Ultra-Max, Ultra-Max Plus, Tapered Ultra-Max Plus, Tapered Thermarof-3, Tapered Thermarof FA-3, Tapered Ultra-Max.

SIKA SARNAFIL INC — Sarnatherm r, Sarnatherm r Ultra, Sarnatherm r Tapered, Sarnatherm r Ultra Tapered.

SOPREMA INC — Sopra-ISO s, Sopra-ISO s Tapered, Sopra-ISO+ s, Sopra-ISO+ s Tapered, Sopra-ISO H+ s and Sopra-ISO H+ s Tapered.

3A. **Foamed Plastic*** — Optional - (Not Shown) - Maximum 1 in. thick polyisocyanurate foamed plastic insulation boards, nom 48 by 48 or 96 in. Boards may be applied as the top layer in addition to the specified minimum thickness of any roofing system described herein, as long as the roofing system states that there is no limit on maximum thickness. Joints offset in both directions from layer below.

FIRESTONE BUILDING PRODUCTS CO L L C — "ISOGARD HD"

3B. **Roof Insulation — Foamed Plastic* — As an alternate to Items 3 and 3A** — Polyurethane foamed plastic roof insulation. Formed by the simultaneous spraying of two liquid components applied over gypsum wallboard (item 3C) in accordance with the manufacturer's instructions. Minimum nominal thickness is 2.0 in. No limit on max overall thickness.

BASF CORP — Types FE 303 2.7, FE-348, FE348-2.5, FE348-2.7, FE348-2.8, FE348-3.0, ELASTOSPRAY 81255, ELASTOSPRAY 81275, ELASTOSPRAY 81285 or ELASTOSPRAY 81305..

BASF CORP — Elastospray 5100-2.0, Elastospray 5100-2.5, Elastospray 81302, Elastospray 81272, Elastospray Alpha System, Elastospray 81252

3C. **Gypsum Board** — Not Shown - (Classified or Unclassified) — Supplied in sheets nom 2 by 4 ft to 4 by 12 ft by nom 5/8 in. thick. Min weight 2 lb per sq ft. Applied perpendicular to steel roof deck direction with adhesive or laid loosely. End joints to occur over crests of steel roof deck with end joints staggered 2 ft in adjacent rows.

See **Gypsum Board** (CKNX) Category for names of manufacturers.

4. **Vapor Retarder-Sheathing Material* (Optional-Not Shown)** — Vinyl film or paper scrim vapor barrier, applied to steel roof deck with adhesive (Item 5), asphalt (Item 6) or laid loosely, overlapped approximately 2 inches on adjacent sheets. See Sheathing Material (CHIZ) category for names of manufacturers.

5. **Adhesive* (Optional-Not Shown)** — The vapor retarder or the first layer of roof insulation may be secured with adhesive to the steel crest surfaces. Also used to attach the first layer of insulation to vapor barrier and each additional layer of insulation. Applied in 1/2 in. wide ribbons 6 inches OC at 0.4 gal per 100 sq. ft. See Adhesive (GYWR) category for names of manufacturers.

6. **Asphalt or Coal Tar Pitch* (Optional-Not Shown)** — The vapor retarder or the first layer of roof insulation may be secured with asphalt or coal tar pitch to the steel crest surfaces at a maximum rate of 15 lbs per 100 sq. ft. Also used to attach the first layer of insulation to vapor retarder and each additional layer of roof insulation applied at a maximum rate of 25 lbs per 100 sq. ft.

7. **Mechanical Fasteners (Optional-Not Shown)** — Mechanical screw-type fastener with metal or plastic washer designed for the purpose may be used to attach one or more layers of insulation to the steel roof deck.

8. **Steel Roof Deck (Unclassified)** — Minimum 1-1/2 in. deep and 36 in. wide galvanized fluted steel deck. Minimum gauge is No. 22 MSG. Ends overlapped at supports minimum 4 in. and welded to supports 12 in. OC and at side laps. Side laps fastened with 1/2 long hex head, self-drilling, self-tapping steel screws placed a max of 21 in. OC.

Classified Steel Floor and Form Units* — Noncomposite 1-1/2 to 3 in. deep, 24 to 36 in. wide, min 22 MSG galvanized steel fluted units. Ends overlapped at supports a min 4 in. and welded to supports 12 in. OC and at side laps. Side laps fastened with 1/2 in. long No. 10 self-drilling, self-tapping steel screws spaced a maximum of 21 inches OC. As an alternate to screw fasteners adjacent units may be button-punched or welded together 21 in. OC along side joints.

CANAM STEEL CORP — 36 in. wide Type P-3606 or P-3615 or 24 in. wide P-2436 or P-2404

VULCRAFT, DIV OF NUCOR CORP — Types B High Strength, BW High Strength.

9. **Noggings** — 2-1/2 in. thick pieces of mineral and fiber board (See Item 10). Cut to 4 in. wide and to length to friction fit between beam flanges or joist angles, with or without a 1 in. wide by 2-1/2 in. deep notch to accommodate deck protection (Item 10). Spaced 24 in. OC or at horizontal butted joints of adjacent mineral and fiber board sections (Item 10) on the web sides of the beam.

10. **Mineral and Fiber Boards*** — Minimum nominal thickness of 2-1/2 in. applied in one or multiple layers. For deck application, attached with self-drilling screws (Item 11). Butt joints spaced maximum of 72 in. OC perpendicular to the flutes. For multiple layer applications, staggered joints are not required. Adjacent butt joints are to be offset 24 in. As an alternate to self drilling screws the board may be secured to the steel deck using XZF powder actuated pins provided with 1 in. square or round clinch shields or 10 gauge capacitor discharge weld pins with 1 in. long gauge square or round self-locking washers. Pins shall be spaced nominally 24 inches OC parallel to the flute and spaced nominally 12 inches OC and perpendicular to the flute. Pins shall also be nominally 2 inches from the butt joints and nominally 2 inches from the lap joints. For beam and joist application, boards cut in various widths to be compatible with the size of member being protected. Boards placed parallel with the web are cut the depth of the beam or the joist. Boards placed parallel with the flange of the beams or the angles of the joist are cut to the larger of the width of the flange or angles, or the width of the opening between the boards that are parallel to the web. Boards attached to members at noggings (Item 9).

ALBI MFG, DIV OF STANCHEM INC — Type Albi Dri-Clad

11. **Fasteners** — Used to secure Item 10 to steel deck. Bugle head self-drilling No. 8 x 3 screw. Spaced nominally 24 inches OC and nominally 2 inches from the butt joints parallel to the flute. Spaced nominally 12 inches OC and nominally 2 inches from the lap joints perpendicular to the flute.

12. **Washers** — For use with Item 11. 1-1/4 inch diameter steel plate insulation washers. One washer is required per insulation screw.

13. **Fasteners** — Used to secure Item 10 to structural supports. The boards are fastened to the noggings by means of spiral screw type fasteners, spaced a max of 4 in. OC along the depth of the structural member. The fasteners are installed on both sides of the horizontal joints. The boards are fastened to each other by means of the same spiral screw type fasteners, spaced a max of 6 in. OC along the length of the structural member.

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

Last Updated on 2016-09-06

[Questions?](#)

[Print this page](#)

[Terms of Use](#)

[Page Top](#)

© 2016 UL LLC

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.

UL permits the reproduction of the material contained in the Online Certification Directory subject to the following conditions: 1. The Guide Information, Assemblies, Constructions, Designs, Systems, and/or Certifications (files) must be presented in their entirety and in a non-misleading manner, without any manipulation of the data (or drawings). 2. The statement "Reprinted from the Online Certifications Directory with permission from UL" must appear adjacent to the extracted material. In addition, the reprinted material must include a copyright notice in the following format: "© 2016 UL LLC".