

UL Product iQ®
BXUV.L521 - 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.

Fire-resistance Ratings - ANSI/UL 263

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 Variations

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

Design No. L521

February 14, 2022

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Alternate Floor Mat Materials* — (Optional) — Floor mat material 1/4 in. (6 mm) thick adhered to subfloor with Hacker Floor Primer. Primer to be applied to the surface of the mat prior to the placement of the metal lath. When metal lath is used, floor topping thickness a nom 1-1/4 in. over the floor mat.
HACKER INDUSTRIES INC — Type Hacker Sound-Mat II

Metal Lath (Optional) — For use with 3/8 in. (10 mm) floor mat materials, 3/8 in. expanded steel diamond mesh, 3.4 lbs/sq yd placed over the floor mat material. Hacker Floor Primer to be applied prior to the placement of the metal lath. When metal lath is used, floor topping thickness a nom 1-1/4 in. over the floor mat.

Finish Flooring — Floor Topping Mixture* — Min 3/4 in. thickness of floor topping mixture having a min compressive strength of 1100 psi. Mixture shall consist of 6.8 gal of water to 80 lbs of floor topping mixture to 1.9 cu ft of sand. Refer to the manufacturer's instructions accompanying the material and/or contact the manufacturer's technical support for specific mix design and minimum thickness recommended for use with eligible floor mats.

HACKER INDUSTRIES INC — Firm-Fill Gypsum Concrete, Firm-Fill High Strength, Gyp-Span Radiant

Trusses — Parallel chord trusses, spaced a max of 24 in. OC, fabricated from nom 2 by 4 lumber, with lumber oriented vertically or horizontally. Min truss depth is 12 in. when no Ceiling Damper* is used and 18 in. when a Ceiling Damper* is used. Truss members secured together with min 0.0356 in. thick galv steel plates. Plates have 5/16 in. long teeth projecting perpendicular to the plane of the plate. The teeth are in pairs facing each other (made by the same punch), forming a split tooth type plate. Each tooth has a chisel point on its outside edge. These points are diagonally opposite each other for each pair. The top half of each tooth has a twist for stiffness. The pairs are repeated on approx. 7/8 in. centers with four rows of teeth per inch of plate width.

Air Duct* — Any UL Class 0 or Class 1 flexible air duct installed in accordance with the instructions provided by the damper manufacturer.

Ceiling Damper* — For use with min 18 in. deep trusses. Max nom area shall be 324 sq in. with the length not to exceed 24 in. and the width not to exceed 20 in. Max height of damper shall be 14 in. Aggregate damper openings shall not exceed 162 sq in. per 100 sq ft of ceiling area. Damper installed in accordance with the manufacturers installation instructions provided with the damper. A steel grille (item 9) shall be installed in accordance with installation instructions.

C&S AIR PRODUCTS — Model RD-S21

POTTORFF — Model CFD-521

Alternate Ceiling Damper* — For use with min 18 in. deep trusses. Max nom area shall be 196 sq in. with the length not to exceed 26 in. and the width not to exceed 14 in. Max height of damper shall be 7 in. Aggregate damper openings shall not exceed 98 sq in. per 100 sq ft of ceiling area. Damper installed in accordance with the manufacturers installation instructions provided with the damper. A steel grille (item 9) shall be installed in accordance with installation instructions.

C&S AIR PRODUCTS — Model RD-S21-RT

POTTORFF — Model CFD-521-RT

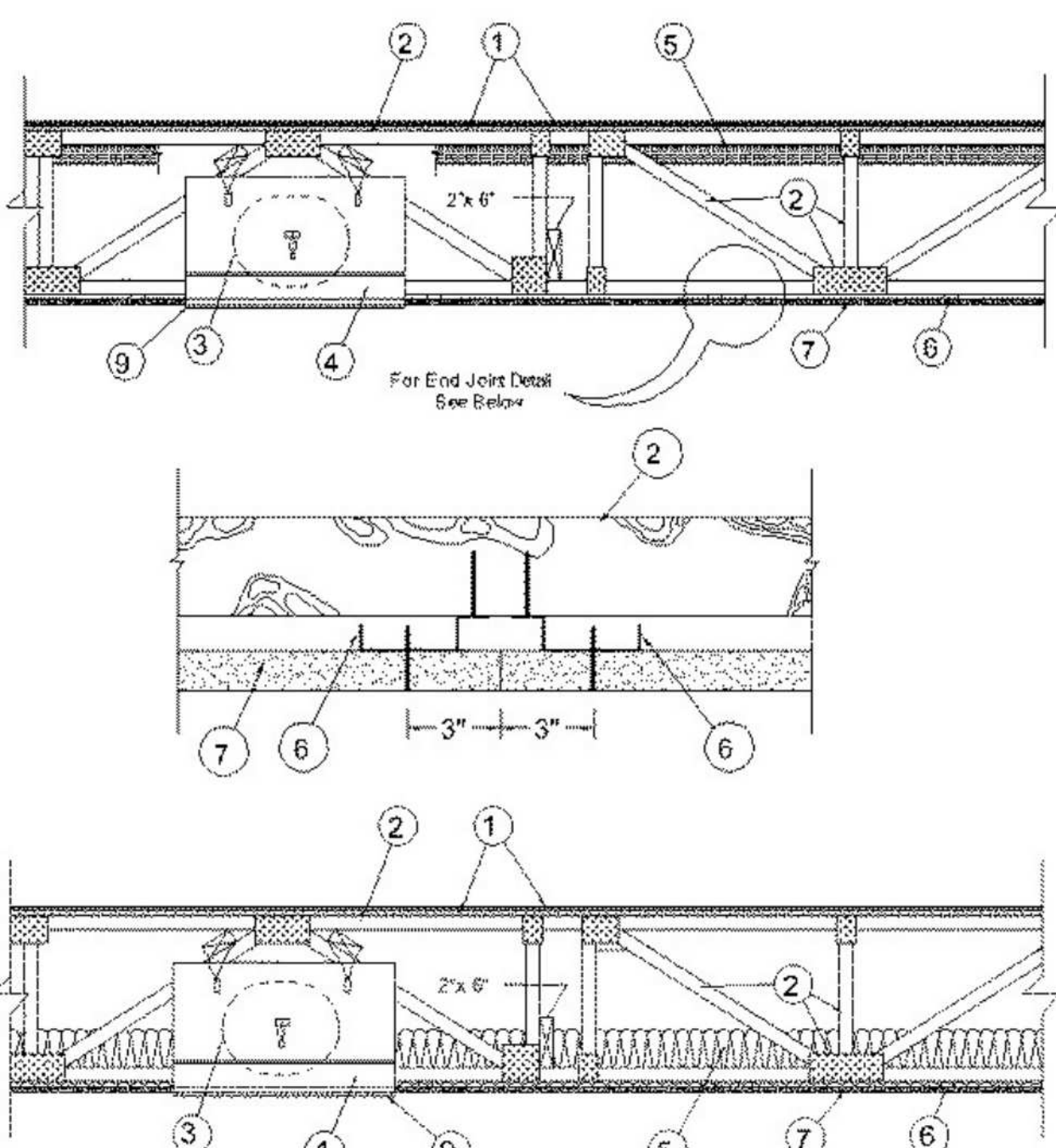
Alternate Ceiling Damper* — For use with min 18 in. deep trusses. Max nom area shall be 256 sq in. with the length not to exceed 24 in. and the width not to exceed 20 in. Max height of damper shall be 17 in. Aggregate damper openings shall not exceed 128 sq in. per 100 sq ft of ceiling area. Damper installed in accordance with the manufacturers installation instructions provided with the damper. A steel grille (item 9) shall be installed in accordance with installation instructions.

C&S AIR PRODUCTS — Models RD-S21-IP, RD-S21-NP

POTTORFF — Models CFD-521-IP, CFD-521-NP

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Alternate Insulation Placement

- 1. Flooring System — The flooring system shall consist of one of the following:
System No. 1
Finish Flooring — Nom 23/32 in. thick wood structural panels installed perpendicular to trusses with end joints staggered. Plywood or panels secured to trusses with construction adhesive and No. 6d ringed shank nails, spaced 12 in. OC along each truss. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails.
Vapor Barrier* — (Optional) — Nom 0.030 in. thick commercial asphalt saturated felt.
Finish Floor* — Min 1 by 4 in. T & G lumber installed perpendicular to trusses, or min 15/32 in. thick wood structural panels, min grade "Underlayment" or "Single-Floor." Face grain of gumber or strength axis of panel to be perpendicular to joists with joints staggered.
Subflooring — Nom 23/32 in. thick wood structural panels installed perpendicular to trusses with end joints staggered. Plywood or panels secured to trusses with construction adhesive and No. 6d ringed shank nails, spaced 12 in. OC along each truss. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails.

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accordance with installation instructions.
BROAN-NUTONE L L C — Model RDWWT

Alternate Ceiling Damper* — Ceiling damper & fan assembly for use with min 18 in. deep trusses. Max nom area shall be 87 sq in. with the length not to exceed 9 in. and the width not to exceed 9-1/16 in. Aggregate damper openings shall not exceed 44 sq in. per 100 sq ft of ceiling area. Damper shall be installed in combination with one of the fan models described in, and in accordance with, the manufacturer's installation instructions provided with the damper. A plastic grille (item 9) shall be installed in accordance with installation instructions.

BROAN-NUTONE L L C — Model RDWWT2

Batts and Blankets* — (Optional) — Glass fiber or mineral wool insulation bearing the UL Classification Marking as to Surface Burning Characteristics and/or Fire Resistance. When the resilient channels (item 6) or furring channels (item 6A) are spaced 24 in. OC, no insulation shall be installed in the concealed space. When the resilient channels (item 6) or furring channels (item 6A) are spaced 16 in. OC, the insulation shall be a max of 3-1/2 in. thick, and shall be secured against the subflooring with staples at 12 in. OC or held suspended in the concealed space with 0.090 in. diam galv steel wires attached to the wood trusses at 12 in. OC. When the resilient channels (item 6) or furring channels (item 6A) are spaced a max of 12 in. OC or when the Steel Framing Members (item 6B) are used, there is no limit in the overall thickness of insulation, and the insulation can be secured against the subflooring, held suspended in the concealed space or draped over the resilient or furring channels (or Steel Framing Members) and gypsum panel membrane. When Steel Framing Members (item 6C) are used, max 3-1/2 in. thick insulation shall be draped over the furring channels (item 6Ca) and gypsum board ceiling membrane, and friction-fitted between trusses and Steel Framing Members (item 6Cb). The finished rating has only been determined when the insulation is secured to the subflooring.

Fiber, Sprayed* — (Dry Dense Packed 100% Borate Formulation) — (Optional) — As an alternate to Item 5. When used, the resilient channel and gypsum board attachment is modified as specified in Items 6 and 7 and wire mesh (item 10) shall be attached to the furring channels to facilitate installation of the material. The finished rating when Fiber, Sprayed is used has not been determined. The fiber is applied without water or adhesive at a nominal dry density of 3.5 lb/ft³, in accordance with the application instructions supplied with the product. When Item 5A (Fiber, Sprayed) is used, two layers of gypsum board required as described in Item 7. Not evaluated for use with Item 6B, 6C, 6E, 6F, 6G, 6H or 6I.
U S GREENFIBER L L C — IN573S, IN574S, IN5750L, IN5765LD, IN5773LD, & SANCTUARY to be used with dry application only.

Fiber, Sprayed* — (Loose Fill 100% Borate Formulation) — (Optional) — As an alternate to Items 5 and 5A. The finished rating when Fiber, Sprayed is used has not been determined. The fiber is applied without water or adhesive at a minimum dry density of 0.5 lb/ft³ and at a max thickness of 3-1/2 in., in accordance with the application instructions supplied with the product. Wire mesh (item 10) shall be attached to the furring channels to facilitate installation of the material. When Item 5B (Fiber, Sprayed) is used, two layers of gypsum board required as described in Item 7. Not evaluated for use with Item 6B, 6C, 6E, 6F, 6G, 6H or 6I.
U S GREENFIBER L L C — IN573S, IN574S, IN5750L, IN5765LD, IN5773LD, & SANCTUARY to be used with dry application only.

Foamed Plastic* — (As alternate to Item 5, 5A, or 5B. Not Shown) — Spray foam insulation applied directly to the underside of the plywood subflooring. Spray foam insulation installed to a maximum thickness of 10 in. at a nominal 0.5 lb/ft³ density, while maintaining a minimum 8-1/2 in. clearance between the spray foam insulation and the gypsum board (item 7). Spray foam insulation is limited for use with minimum 18 in. deep trusses (item 2). When spray foam insulation is installed, resilient channels (item 6) shall be installed maximum 12 in. OC, with channels adjacent to butt joints of gypsum board (item 7) spaced maximum 3 in. away from gypsum butt joints. Gypsum board (item 7) to be installed using minimum 1-1/4 in. long Type 5 screws, spaced maximum 8 in. OC, and butted end joints shall be staggered min. 2 ft within the assembly, and occur midway between the continuous furring channels. If used with a fire damper (Items 4 through 4K) in the concealed space, minimum 1 in. clearance to be maintained between damper housing and spray foam insulation. Not evaluated for use with Items 5 through 5B, or 6A through 6I.
SES FOAM INC — EasySeal5

Cavity Insulation - Batts and Blankets* or Fiber, Sprayed* — (As described above in Items 5 through 5B) — (For Use with Item 7A, Not Shown) — Min. 3-1/2 in. thick insulation with no limit on maximum thickness fitted in the concealed space, draped over the resilient channel (item 6H)/gypsum board (item 7A) ceiling membrane.

Foamed Plastic* — (As alternate to Item 5, 5A, or 5C. Not Shown) — Spray foam insulation applied directly to the underside of the plywood subflooring. Spray foam insulation installed to a maximum thickness of 10 in. at a nominal 0.5 lb/ft³ or 2.0 lb/ft³ density, depending on the product installed. Spray foam insulation is limited to use with minimum 18 in. deep trusses (item 2).

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