

UL Product iQ®
BXUV.L521 - Fire-resistance Ratings - ANSI/UL 263

Design/System/Construction/Assembly Usage Disclaimer

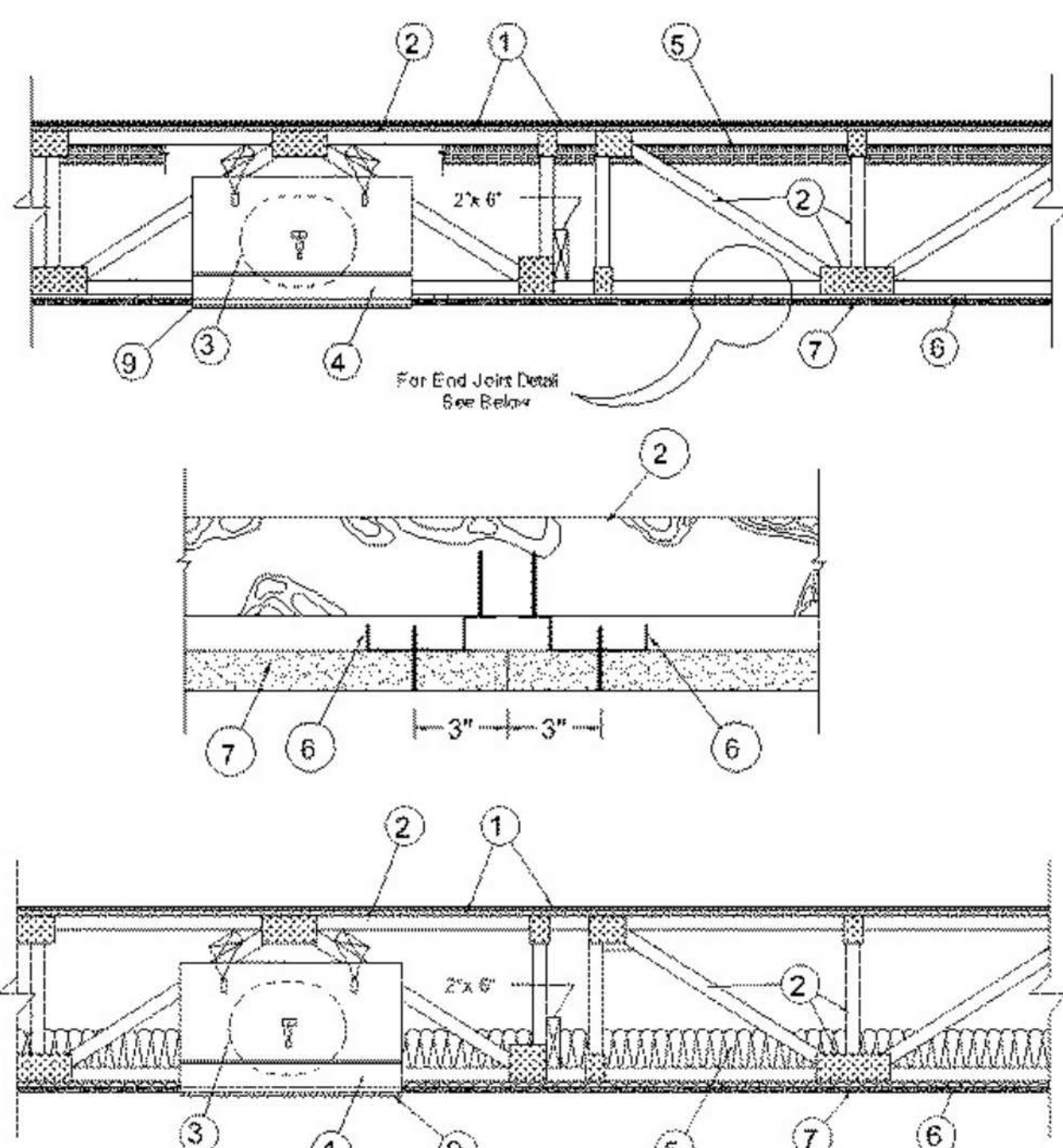
- Authorities Having Jurisdiction should be consulted in all cases as to the particular requirements covering the installation and use of UL Certified products, equipment, systems, devices, and materials.
Authorities Having Jurisdiction should be consulted before construction.
Fire resistance assemblies 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



- 1. Flooring System - The flooring system shall consist of one of the following:
System No. 1
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.
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 plywood or strength axis of panel to be perpendicular to joints with joints staggered.
System No. 2
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.

- Vapor Barrier - (Optional) - Nom 0.030 in. thick commercial asphalt saturated felt.
Finish Flooring - Floor Topping Mixture - Min 3/4 in. thickness of floor topping mixture having a minimum compressive strength of 1800 psi. Refer to manufacturer's instructions accompanying the material for specific mix design.
UNITED STATES GYPSUM CO - Types LRK, HSLRK, CSD
LATICRETE SUPERCAP L L C - Types LRK, HSLRK
USG MEXICO S A D E V C O - Types LRK, HSLRK, CSD
Floor Mat Materials* - (Optional) - Floor mat material loose laid over the subfloor. Refer to manufacturer's instructions regarding the minimum thickness of floor topping over each floor mat material.
UNITED STATES GYPSUM CO - Types SAM, LEVERLOCK® Brand Sound Reduction Board, LEVERLOCK® Brand Floor Underlayment SRM-25
Alternate Floor Mat Materials* - (Optional) - Floor mat material loose laid over the subfloor. Refer to manufacturer's instructions regarding minimum thickness of floor topping over floor mat.
GRASSWORX L L C - SC Types
System No. 3 (For Use with Item 7A Only)
Finish Floor - 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 2-1/2 in. long nails, spaced 12 in. OC along each truss and 8 in. OC at the perimeter.

- System No. 4
Structural Cement-Fiber Units* - Nom 3/4 in. thick, with long edges tongue and grooved. Long dimension of panels to be perpendicular to wood trusses with end joints staggered a min of 2 ft and centered over the trusses. Panels secured to wood trusses with 1-5/8 in. long, No. 8, self-countersinking wood screw spaced a max of 12 in. OC in the field with a screw located 1 in. and 2 in. from each edge, and 8 in. OC on the perimeter with a screw located 2 in. from each edge, located 1/2 in. from the end edges of the panel.
UNITED STATES GYPSUM CO - Types STRUCTO-CRETE, USGSP
Finish Flooring - Floor Topping Mixture* - Min 3/4 in. thickness of floor topping mixture having a minimum compressive strength of 1800 psi. Refer to manufacturer's instructions accompanying the material for specific mix design.
UNITED STATES GYPSUM CO - Types LRK, HSLRK, CSD
LATICRETE SUPERCAP L L C - Types LRK, HSLRK
USG MEXICO S A D E V C O - Types LRK, HSLRK, CSD
Floor Mat Materials* - (Optional) - Floor mat material loose laid over the subfloor. Refer to manufacturer's instructions regarding the minimum thickness of floor topping over each floor mat material.
UNITED STATES GYPSUM CO - Types SAM, LEVERLOCK® Brand Sound Reduction Board, LEVERLOCK® Brand Floor Underlayment SRM-25
System No. 5
Structural Cement-Fiber Units* - Nom 3/4 in. thick, with long edges tongue and grooved. Long dimension of panels to be perpendicular to wood trusses with end joints staggered a min of 2 ft and centered over the trusses. Panels secured to wood trusses with 1-5/8 in. long, No. 8, self-countersinking wood screw spaced a max of 12 in. OC in the field with a screw located 1 in. and 2 in. from each edge, and 8 in. OC on the perimeter with a screw located 2 in. from each edge, located 1/2 in. from the end edges of the panel.
UNITED STATES GYPSUM CO - Types STRUCTO-CRETE, USGSP

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Alternate Floor Mat Materials* - (Optional) - Floor mat material nominal 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 mineral 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 manufacturer's 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-521-RT

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 manufacturer's installation instructions provided with the damper. A steel grille (Item 9) not to exceed 144 in² shall be installed in accordance with installation instructions.

C&S AIR PRODUCTS - Model RD-521-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 manufacturer's 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-521-IP, RD-521-NP

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

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

Alternate Ceiling Damper* - Ceiling damper & fan assembly for use with min 18 in. deep trusses. Max nom area shall be 79 sq in. with the length not to exceed 9 in. and the width not to exceed 9-3/4 in. Max height of damper shall be 9-7/8 in. Aggregate damper openings shall not exceed 40 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 - Models RD1N and RDN

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 9-11/16 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.

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Alternate Ceiling Damper* - For use with min 18 in. deep trusses. Max nom area shall be 144 sq in. with the length not to exceed 14 in. and the width not to exceed 12 in. Max height of damper shall be 17-7/8 in. Aggregate damper openings shall not exceed 74 sq in. per 100 sq ft of ceiling area. Damper installed in accordance with the manufacturer's 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-521-90, RD-521-NP90

POTTORFF - Models CFD-521-90, CFD-521-90NP

Alternate Ceiling Damper* - Ceiling damper & fan assembly for use with min 18 in. deep trusses. Max nom area shall be 75 sq in. with the length not to exceed 9-1/4 in. and the width not to exceed 9-11/16 in. Aggregate damper openings shall be 9-7/8 in. Aggregate damper openings shall not exceed 38 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.

DELTA ELECTRONICS INC - Models CRD2, G8R-CRD, IIG-CRD

Alternate Ceiling Damper* - Ceiling damper & fan assembly for use with min 18 in. deep trusses. Max nom area shall be 75 sq in. with the length not to exceed 9-1/4 in. and the width not to exceed 9-3/4 in. Max height of damper shall be 9-7/8 in. Aggregate damper openings shall not exceed 45 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.

DELTA ELECTRONICS INC - Model SIG-CRD

Alternate Ceiling Damper* - Ceiling damper & fan assembly for use with min 18 in. deep trusses. Max nom area shall be 131 sq in. with the length not to exceed 11-1/16 in. and the width not to exceed 11-7/8 in. Aggregate damper openings shall not exceed 65 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.

DELTA ELECTRONICS INC - Model SMT-CRD

Alternate Ceiling Damper* - Ceiling damper & fan assembly for use with min 18 in. deep trusses. Max nom area shall be 103 sq in. with the length not to exceed 10-1/8 in. and the width not to exceed 10-1/8 in. Aggregate damper openings shall not exceed 52 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.

PANASONIC CORPORATION, PANASONIC CORPORATION OF NORTH AMERICA - Model PC-RD05C3

Alternate Ceiling Damper* - Ceiling damper & fan assembly for use with min 18 in. deep trusses. Max nom area shall be 113 sq in. with the length not to exceed 10-1/8 in. and the width not to exceed 11-1/8 in. Aggregate damper openings shall not exceed 57 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 RD1FWT

Alternate Ceiling Damper* - Ceiling damper & fan assembly for use with min 18 in. deep trusses. Max nom area shall be 79 sq in. with the length not to exceed 10 in. and the width not to exceed 7-15/16 in. Aggregate damper openings shall not exceed 40 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 metallic grille (Item 9) shall be installed in accordance with installation instructions.

BROAN-NUTONE L L C - Models RD1N and RDN

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 9-11/16 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.

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accordance with installation instructions.

BROAN-NUTONE L L C - Model RD4WT

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 9-11/16 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 RD4WT2

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 6C) and gypsum board ceiling membrane, and friction-fitted between trusses and Steel Framing Members (Item 6C). 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 - INS73S, INS74S, INS75LD, INS76SLD, INS773LD, & 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 - INS73S, INS74S, INS75LD, INS76SLD, INS773LD, & 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 - Sucraeal

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. thickness 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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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.

Vapor Barrier - (Optional) - Nom 0.030 in. thick commercial asphalt saturated felt.

Floor Mat Materials* - (Optional) - Floor mat material nominal 1/8 in. (3 mm) thick loose laid over the subfloor. Floor topping thickness shall be a min of 3/4 in. (19 mm). HACKER INDUSTRIES INC - FIRM-FILL SCM 125

Alternate Floor Mat Materials* - (Optional) - Floor mat material nominal 1/4 in. (6 mm) thick loose laid over the subfloor. Floor topping thickness shall be a min of 1-1/2 in. (38 mm). HACKER INDUSTRIES INC - Type FIRM-FILL SCM 250

Alternate Floor Mat Materials* - (Optional) - Floor mat material nominal 3/8 in. (10 mm) thick loose laid over the subfloor. Floor topping thickness shall be a min of 1-1/4 in. (32 mm). HACKER INDUSTRIES INC - FIRM-FILL SCM 400

Alternate Floor Mat Materials* - (Optional) - Floor mat material nominal 3/4 in. (19 mm) thick loose laid over the subfloor. Floor topping thickness shall be a min of 1-1/2 in. (38 mm). HACKER INDUSTRIES INC - Type FIRM-FILL SCM 750

Metal Lath (Optional) - (Optional) - For use with 3/8 in. (10 mm), or greater, 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 mat thickness a nom 1 in. (25 mm) 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 2010, Firm-Fill 3310, Firm-Fill 4010, Gyp-Span Radiant

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.

Vapor Barrier - (Optional) - Nom 0.030 in. thick commercial asphalt saturated felt.

Finish Floor* - Mineral and Fiber Board - Min 1/2 in. thick, supplied in sizes ranging from 3 ft by 4 ft to 8 ft by 12 ft. HOMASOTE CO - Type 440-32 Mineral and Fiber Board

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.

Vapor Barrier - (Optional) - Nom 0.030 in. thick commercial asphalt saturated felt.

Floor Mat Materials* - (Optional) - Floor mat material nominal 5/64 in. (2 mm) thick adhered to subfloor with Hacker Floor Primer. Primer to be applied to the surface of the mat prior to the placement of floor-topping mixture. Floor topping thickness a min 1 in. over the floor mat.

HACKER INDUSTRIES INC - Type Hacker Sound-Mat

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.

Basal Core® - EnerLite® NM, EnerLite® G, FE178®, SprayLite® 178, SprayLite® 81206, WalLite® 200, WalLite® US, WalLite® US-N, and WalLite® HP

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 4H) 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

Foamed Plastic* - (As alternate to Item 5, 5A, 5B, 5C or 5E, Not Shown) - Spray foam insulation applied directly to the underside of the plywood subflooring. Spray foam insulation installed to a maximum thickness of 17 in. at a nominal 0.5 lb/ft³ density, while maintaining a minimum 1-1/2 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

Foamed Plastic* - (As alternate to Item 5 - not to be used in combination with any alternates to Item 5) - Spray foam insulation applied directly to the underside of the plywood subflooring. Spray foam insulation installed to a maximum thickness of 11 in. at a nominal 0.5 lb/ft³ - 2.5 lb/ft³ density, while maintaining a minimum 7 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 spaced maximum 3 in. away from gypsum butt joints. Gypsum board 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, no clearance is necessary between damper housing and spray foam insulation. Only for use with Item 6 not evaluated for use with alternates to Item 6.

CARLISLE SPRAY FOAM INSULATION - Types SealTite Pro Closed Cell (CC), SealTite Pro Open Cell (OC), SealTite Pro OCK, SealTite Pro Tri-Ton 21, SealTite Pro One Zero, Foamulate Closed Cell, Foamulate OCK, Foamulate 70, and Foamulate HFO.

Resilient Channels - Formed from min 25 MSG galv steel installed perpendicular to trusses. When there is no insulation installed in the concealed space the resilient channels are spaced 24 in. OC. When insulation (Item 5) is secured to the underside of the subfloor the resilient channels are spaced 16 in. OC. When insulation, Items 5, 5A or 5B is applied over the resilient channel/gypsum panel ceiling membrane, or when Item 5C, 5E or 5F is applied to underside of subflooring, the resilient channels are spaced 12 in. OC. Channels secured to each truss with 1-1/4 in. long Type 5 bugle head steel screws. Channels overlapped 4 in. at splices. Two channels, spaced 6 in. OC, oriented opposite each gypsum panel end joint as shown in the above illustration. Additional channels shall extend min 6 in. beyond each side edge of panel.

6A. Steel Framing Members* - (Not Shown) - As an alternate to Item 6.

a. Furring Channels - Formed of No. 25 MSG galv steel, 2-9/16 in. or 2-23/32 in. wide by 7/8 in. deep, spaced 16 in. OC perpendicular to wood structural members. When insulation, Items 5, 5A or 5B is applied over the furring channel/gypsum panel ceiling membrane, the furring channel spacing shall be reduced to 12 in. OC. Channels secured to trusses as described in Item b. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 AWG galv steel wire near each end of overlap.

b. Steel Framing Members* - Used to attach furring channels (Item a) to trusses (Item 2). Clips spaced 48 in. OC. R3C-1 and R3C-1 (2.75) clips secured to alternating trusses with No. 8 x 1-1/2 in. coarse drywall screw through the center grommet. R3C-V and R3C-V (2.75) clips secured to alternating trusses with No. 8 x 1-1/2 in. coarse drywall screw through the center hole. R3C-Si-X secured to alternating trusses with No. 10, X 3-1/2 in. coarse screw. Furring channels are friction fitted into clips. R3C-1, R3C-V and R3C-Si-X clips for use with 2-9/16 in. wide furring channels. R3C-1 (2.75) and R3C-V (2.75) clips for use with 2-23/32 in. wide furring channels. Adjoining channels are overlapped as described in Item a. As an alternate, ends of adjoining channels may be overlapped 6 in. and secured together with two self-tapping No. 6 framing screws, min 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel. Additional clips required to hold furring channel that

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