



ICC-ES Listing Report ESL-1388

Reissued December 2024

This listing is subject to renewal December 2025.

CSI: DIVISION: 06 00 00—WOOD, PLASTICS AND COMPOSITES
Section: 06 17 00—Shop-Fabricated Structural Wood
Section: 06 17 36—Metal-Web Wood Joists
Section: 06 17 53—Shop-Fabricated Wood Trusses

Product Certification System:

The ICC-ES product-certification system includes evaluating reports of tests of standard manufactured product, prepared by accredited testing laboratories and provided by the listee, to verify compliance with applicable codes and standards. The system also involves factory inspections, and assessment and surveillance of the listee's quality system.

Product: TRUSS DESIGNS UTILIZING METAL TRUSS CONNECTOR PLATES AND POSI-STRUT® METAL WEB SYSTEM

Listee: MITEK® INC.

Evaluation: Wood truss designs using MiTek Metal Truss Connector Plates (MII16, TL18, MT18, MT18HS™, M18SHS™, TL20, MT20™, MT20HS™, and M18AHS) and POSI-STRUT® Metal Web System were evaluated based on tested load bearing floor/ceiling and roof/ceiling assemblies consisting of building-material components described in the Design Listings, tested in accordance with the following standards:

- ASTM E119-20 (-18B for the 2021 IBC and IRC), Standard Test Methods for Fire Tests of Building Construction and Materials, ASTM International.
- UL 263-2011 with revisions through August 2021 (-2011 with Revisions through March 2018 for the 2021 IBC and IRC), Standard for Fire Tests of Building Construction and Materials, UL LLC

Findings: Evaluation of wood truss designs using MiTek Metal Truss Connector Plates (MII16, TL18, MT18, MT18HS™, M18SHS™, TL20, MT20™, MT20HS™, and M18AHS) and POSI-STRUT® Metal Web System as components of the assembly is based on testing in accordance with the applicable test method as referenced in each ICC Design No., and as referenced in the applicable sections of the following code editions:

- 2024 and 2021 *International Building Code*® (IBC)
Applicable Section: 703.2
- 2024 and 2021 *International Residential Code*® (IRC)
Applicable Section: R302

Identification:

1. Each metal truss connector plate is identified by a stamp or imprint of the plate name embossed into the surface of the plate (for example, the MT20™ plate is embossed "MT20"). Additionally, boxes containing the connector plates must be labeled with the name of the report holder (MiTek Inc.), the metal connector plate model, and either the ICC-ES listing report number ([ESL-1388](#)), the evaluation report number ([ESR-1988](#)) or the number of the ICC-ES index evaluation report for MiTek ([ESR-2685](#)).

Each POSI-STRUT® Metal Web is identified by an imprint of "PS" embossed into the surface of each leg of the V-shaped strut followed by the size of the specific metal web. Additionally, boxes containing the POSI-STRUT® Metal Webs must be labeled with the name of the report holder (MiTek Inc.), the POSI-STRUT® Metal Web model number, and either the ICC-ES listing report number ([ESL-1388](#)), the evaluation report number ([ESR-4722](#)) or the number of the ICC-ES index evaluation report for MiTek ([ESR-2685](#)).

- The report holder's contact information is the following:

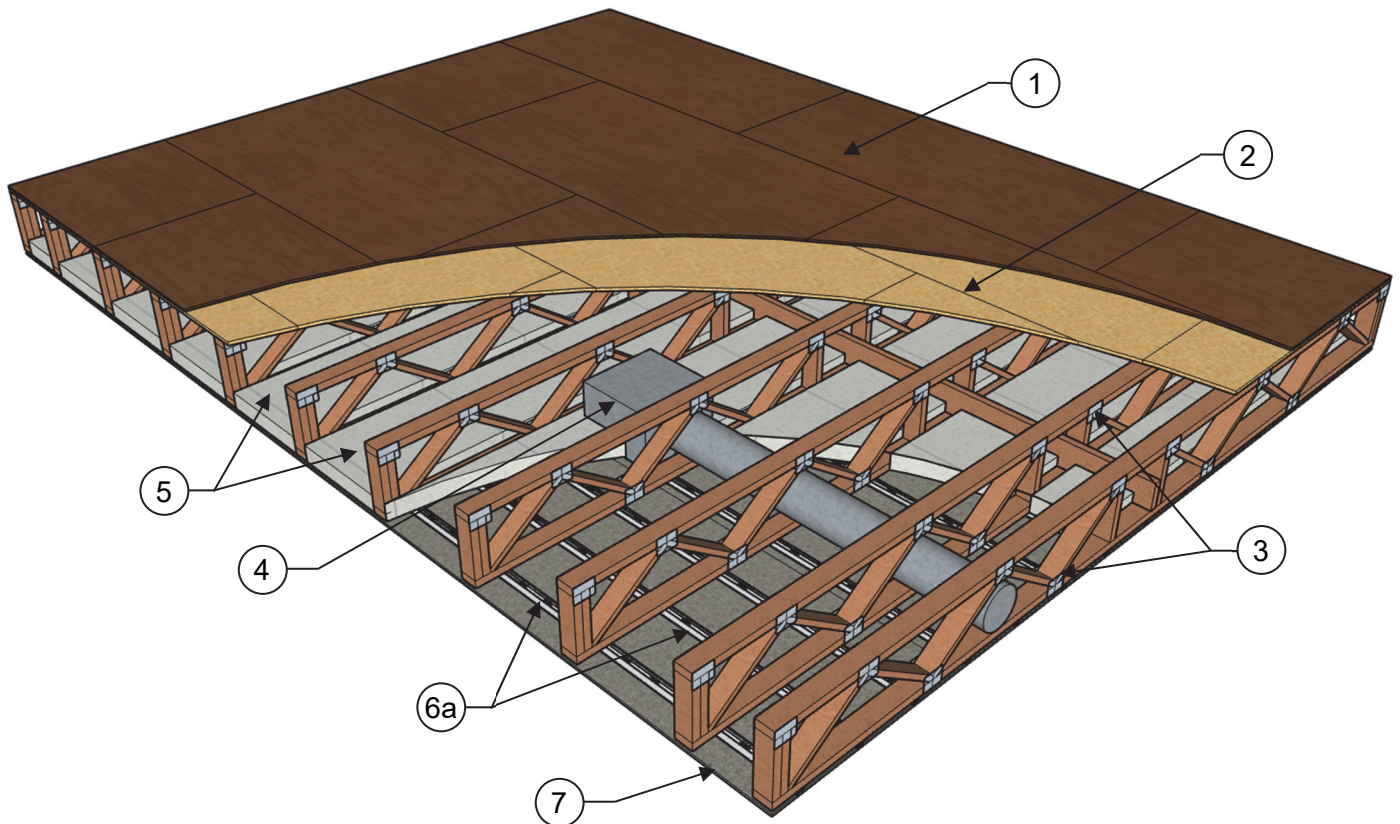
MITEK INC
16023 SWINGLEY RIDGE ROAD
CHESTERFIELD, MISSOURI 63017
(800) 328-5934
www.mitek-us.com

Installation: MiTek Metal Truss Connector Plates and POSI-STRUT® Metal Web System used in wood truss designs must be installed in accordance with the MiTek Inc. published installation instructions and applicable codes.

Conditions of Listing:

- The listing report addresses only conformance with the standards and code sections noted above.
- Approval of the product's use is the sole responsibility of the local code official.
- The listing applies only to the materials tested and as submitted for review by ICC-ES. Design of wood chord open-web trusses (wood or metal web) and installation of the trusses into a complete structural system is beyond the scope of this report.
- The design loads (ASD) used in testing for the wood-framed load-bearing floor/ceiling or roof/ceiling assemblies are based on the allowable bending moment and allowable shear of the floor or roof truss member, calculated in accordance with the *International Building Code*® (IBC) Section 2306.1, unless noted otherwise. The design loads consider the capacity of the metal truss plates and POSI-STRUT® Metal Web System used in the construction of the wood chord open-web trusses (wood or metal web) and floor/ceiling or roof/ceiling assembly, in accordance with ANSI/TPI 1 (National Design Standard for Metal Plate Connected Wood Truss Construction).
- Increasing the depth of the space between the underside of the floor or joist and the protective ceiling membrane does not reduce the fire resistance rating in accordance with Section 7.3.6 of ASTM E2032 (Standard Guide for Extension of Data from Fire Resistance Tests Conducting in Accordance with ASTM E119) and the principles pertaining to the fire resistance rating of floor assemblies.
- MiTek Metal Truss Connector Plates and POSI-STRUT® Metal Web System are manufactured under a quality control program with inspections by ICC-ES.

Applicant: MITEK® INC.
Product: TRUSS DESIGN UTILIZING MITEK METAL TRUSS CONNECTOR PLATES
Standard: ASTM E119 (UL 263)
Assembly Type: Floor/Ceiling
Assembly Rating: 1-Hour (Unrestrained)
Load: Load Bearing
SFSW = Shop-Fabricated Structural Wood



COMPONENTS OF CONSTRUCTION:**1. Finish Flooring (either option may be used) –**

- a. Finish Floor Sheathing - Minimum $1\frac{5}{32}$ -inch (11.9 mm) thick wood structural panels installed with long edges perpendicular to the trusses with side and end joints staggered from the subfloor sheathing layer. Panel ends shall be butt jointed together and must be secured to the framing through the subfloor sheathing using 2 $\frac{3}{8}$ -inch (60.3 mm) long 8D ring shank nails, spaced maximum 12-inches (304.8 mm) on center along the edges and in the field of the panel, with the underlayment layer fasteners staggered from the subfloor layer fasteners.
- b. Cementitious Gypsum Underlayment - Minimum $\frac{3}{4}$ -inch (19.1 mm) thick cementitious gypsum underlayment specified in an ICC-ES evaluation report or ICC-ES listing report for use as a component of a fire-resistance-rated floor/ceiling assembly.

2. Subfloor Sheathing – Minimum $2\frac{3}{32}$ -inch (18.3 mm) thick wood structural panels installed with long edges perpendicular to the trusses with end joints staggered. Sheathing must be secured to the framing using 2-inch (50.8 mm) long 6D ring shank nails, spaced maximum 12-inches (304.8 mm) on center along the edges and in the field of the panel.**3. Floor Framing –** Open Web Trusses consisting of nominal 2-inch by 4-inch wood members and connected with MiTek Metal Truss Plates ([ESR-1988](#)), spaced at a maximum of 24-inches (610 mm) on center. Where constructed with the optional ceiling radiation damper (Item 4), the minimum depth for the trusses must be 14-inches (355.6 mm). Where constructed without the optional ceiling radiation damper (Item 4), the minimum depth for the trusses must be 10-inches (254 mm). The MiTek Metal Truss Plates must be installed in accordance with the manufacturer's published installation instructions.

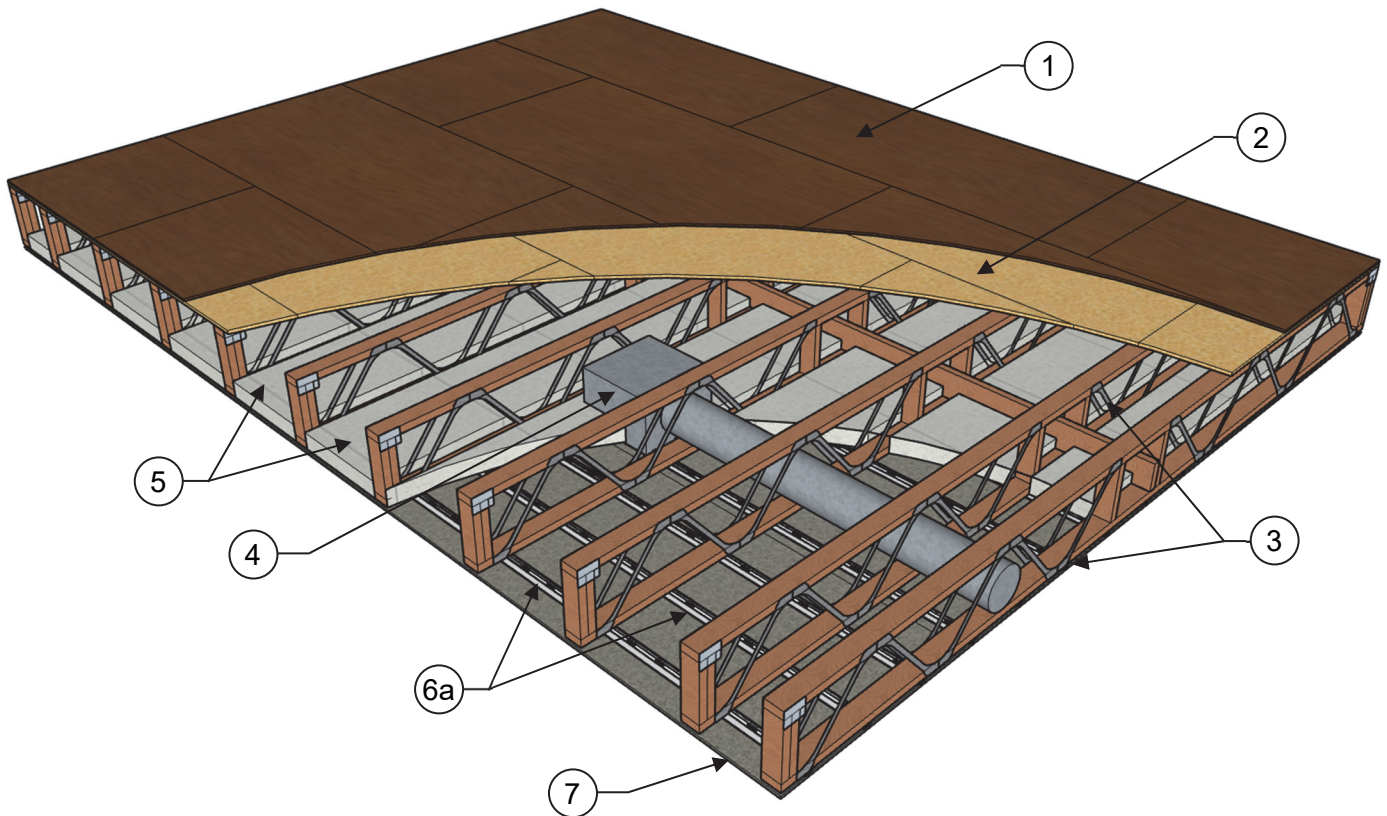
Note: See Conditions of Listing Items 4 and 5 of [ESL-1388](#).

4. Ceiling Radiation Damper (Optional) – For use with minimum 14-inch (355.6 mm) deep open web trusses. Damper must be UL 555C listed. Damper must not exceed a maximum height of 11-inches (279.4 mm), with a maximum nominal area of 256-inches² (1651 cm²). The maximum dimension for any width must not exceed 16-inches (406.4 mm). A steel grille is installed per the damper manufacturer's installation instructions. The ceiling damper is to be connected to a UL 181 listed, Class 0 or Class 1, air duct installed per the duct manufacturer's installation instructions.**5. Insulation (Optional) –** Any Class A fiberglass batt insulation or non-combustible mineral wool insulation batts, complying with Type I per ASTM C665, may be installed in the cavity between framing members. The insulation may be draped over the resilient channel and gypsum board ceiling membrane, suspended within the concealed space, or secured to the underside of the subfloor. The thickness of insulation is not limited.**6. Furring Type (Resilient Channel) –** $\frac{1}{2}$ -inch (12.7 mm) deep, minimum 18 mils (0.46 mm) thick, galvanized steel Resilient Channel, with a minimum $\frac{1}{2}$ -inch (12.7 mm) leg on the framing side and a minimum $\frac{1}{4}$ -inch (31.8 mm) leg on the gypsum board side, must be installed perpendicular to framing members and secured using $1\frac{1}{4}$ -inch (31.8 mm) long No. 6 Type W bugle-head screws. The channels must be overlapped a minimum of 4-inches (101.6 mm) at splices. The gypsum board end joints are attached to additional channels spaced 6-inches (152.4 mm) on center and oriented opposite each end joint and shall extend a minimum of 6-inches (152.4 mm) beyond each side edge of the gypsum wallboard panel. Spacing of the channels must be at the following intervals based on the location of the plenum insulation:

- a. Channels spaced a maximum of 12-inches (304.8 mm) on center with insulation draped over the resilient channel and gypsum board ceiling membrane.
- b. Channels spaced a maximum of 16-inches (406.4 mm) on center with insulation suspended within the concealed space or secured to the underside of the subfloor sheathing.
- c. Channels spaced a maximum of 24-inches (609.6 mm) on center when there is no insulation within the concealed space.

7. Gypsum Board – One layer of minimum $\frac{5}{8}$ -inch (15.9 mm) thick Type C gypsum wallboard, complying with ASTM C1396, must be secured perpendicular to resilient channels using $1\frac{1}{4}$ -inch (31.8 mm) long No. 6 Type S bugle-head steel drywall screws spaced 8-inches (203.2 mm) on center. Fasteners along the long edge of the panel are spaced 1 inch (25.4 mm) away from the edge, and 3-inches (76.2 mm) from the butt joints into the resilient channels at the end of the panel. All panel edge joints must be treated with two coats of joint compound with nominal 2-inch (50.8 mm) wide paper tape embedded in the first layer of compound over all joints. All fastener heads must be covered with two layers of joint compound.

Applicant: MITEK® INC.
Product: TRUSS DESIGN UTILIZING MITEK POSI-STRUT® METAL WEB SYSTEM
Standard: ASTM E119 (UL 263)
Assembly Type: Floor/Ceiling
Assembly Rating: 1-Hour (Unrestrained)
Load: Load Bearing
SFSW = Shop-Fabricated Structural Wood



COMPONENTS OF CONSTRUCTION:**1. Finish Flooring (either option may be used) –**

- a. Finish Floor Sheathing - Minimum $1\frac{5}{32}$ -inch (11.9 mm) thick wood structural panels installed with long edges perpendicular to the trusses with side and end joints staggered from the subfloor sheathing layer. Panel ends shall be butt jointed together and must be secured to the framing through the subfloor sheathing using 2 $\frac{3}{8}$ -inch (60.3 mm) long 8D ring shank nails, spaced maximum 12-inches (304.8 mm) on center along the edges and in the field of the panel, with the underlayment layer fasteners staggered from the subfloor layer fasteners.
- b. Cementitious Gypsum Underlayment - Minimum $\frac{3}{4}$ -inch (19.1 mm) thick cementitious gypsum underlayment specified in an ICC-ES evaluation report or ICC-ES listing report for use as a component of a fire-resistance-rated floor/ceiling assembly.

2. Subfloor Sheathing – Minimum $2\frac{3}{32}$ -inch (18.3 mm) thick wood structural panels installed with long edges perpendicular to the trusses with end joints staggered. Sheathing must be secured to the framing using 2-inch (50.8 mm) long 6D ring shank nails, spaced maximum 12-inches (304.8 mm) on center along the edges and in the field of the panel.**3. Floor Framing –** Open Web Trusses consisting of nominal 2-inch by 4-inch wood members and the MiTek POSI-STRUT® Metal Web System ([ESR-4722](#)), spaced at a maximum of 24-inches (610 mm) on center. Where constructed with the optional ceiling radiation damper (Item 4), the minimum depth for the trusses must be 14-inches (355.6 mm). Where constructed without the optional ceiling radiation damper (Item 4), the minimum depth for the trusses must be 9 $\frac{1}{4}$ -inches (235 mm). The MiTek POSI-STRUT® Metal Web System must be installed in accordance with the manufacturer's published installation instructions.

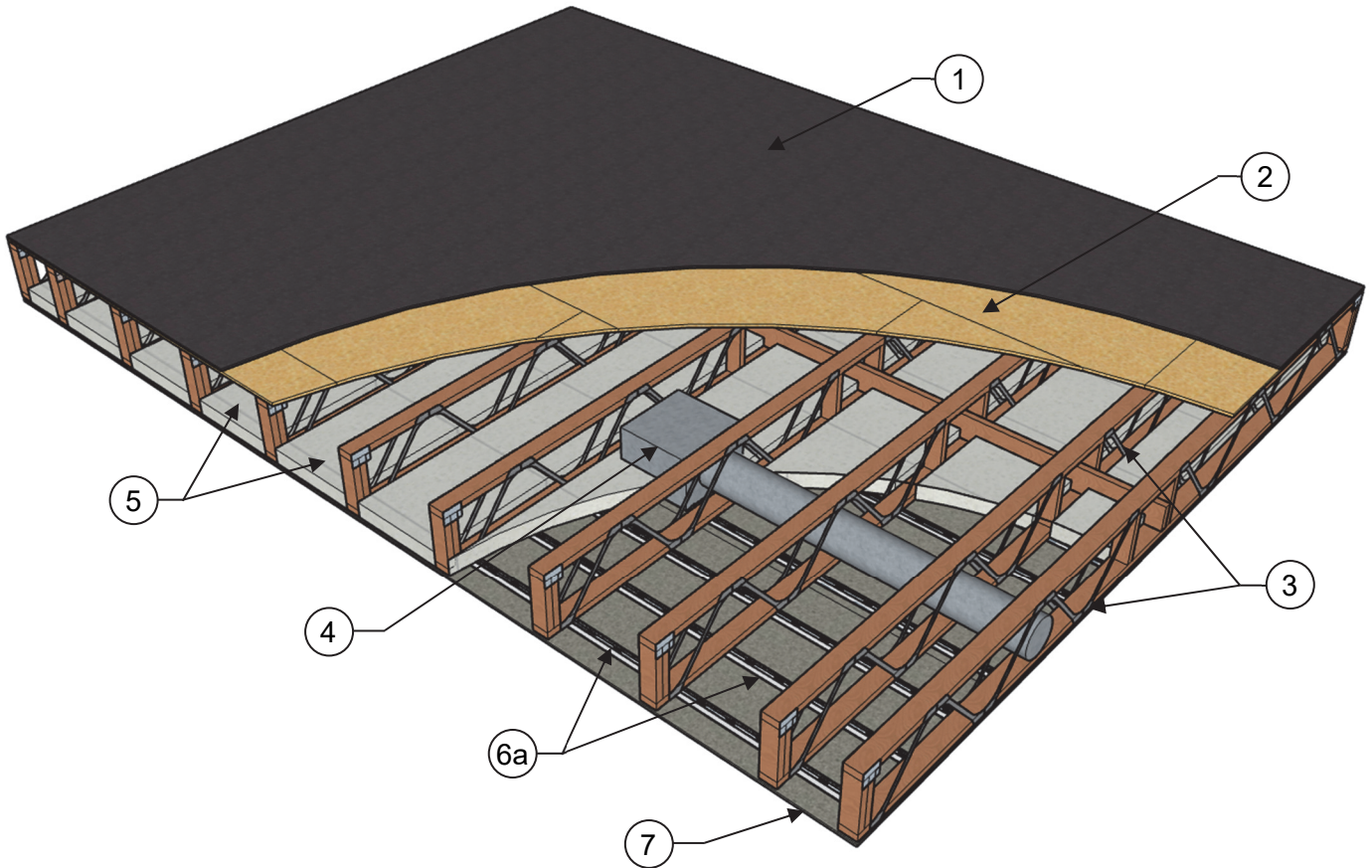
Note: See Conditions of Listing Items 4 and 5 of [ESL-1388](#).

4. Ceiling Radiation Damper (Optional) – For use with minimum 14-inch (355.6 mm) deep open web trusses. Damper must be UL 555C listed. Damper must not exceed a maximum height of 11-inches (279.4 mm), with a maximum nominal area of 256-inches² (1651 cm²). The maximum dimension for any width must not exceed 16-inches (406.4 mm). A steel grille is installed per manufacturer installation instructions. The ceiling damper is to be connected to a UL 181 listed, Class 0 or Class 1, air duct installed per the duct manufacturer's installation instructions.**5. Insulation (Optional) –** Any Class A fiberglass batt insulation or non-combustible mineral wool insulation batts complying with Type I per ASTM C665, may be installed in the cavity between framing members. The insulation may be draped over the resilient channel and gypsum board ceiling membrane, suspended within the concealed space, or secured to the underside of the subfloor. The thickness of insulation is not limited.**6. Furring Type (Resilient Channel) –** $\frac{1}{2}$ -inch (12.7 mm) deep, minimum 18 mils (0.46 mm) thick, galvanized steel Resilient Channel, with a minimum $\frac{1}{2}$ -inch (12.7 mm) leg on the framing side and a minimum $\frac{1}{4}$ -inch (31.8 mm) leg on the gypsum board side, must be installed perpendicular to framing members and secured using $1\frac{1}{4}$ -inch (31.8 mm) long No. 6 Type W bugle-head screws. The channels must be overlapped a minimum of 4-inches (101.6 mm) at splices. The gypsum board end joints are attached to additional channels spaced 6-inches (152.4 mm) on center and oriented opposite each end joint and shall extend a minimum of 6-inches (152.4 mm) beyond each side edge of the gypsum wallboard panel. Spacing of the channels must be at the following intervals based on the location of the plenum insulation:

- a. Channels spaced a maximum of 12-inches (304.8 mm) on center with insulation draped over the resilient channel and gypsum board ceiling membrane.
- b. Channels spaced a maximum of 16-inches (406.4 mm) on center with insulation suspended within the concealed space or secured to the underside of the subfloor sheathing.
- c. Channels spaced a maximum of 24-inches (609.6 mm) on center when there is no insulation within the concealed space.

7. Gypsum Board – One layer of minimum $\frac{5}{8}$ -inch (15.9 mm) thick Type C gypsum wallboard, complying with ASTM C1396, must be secured perpendicular to resilient channels using $1\frac{1}{4}$ -inch (31.8 mm) long No. 6 Type S bugle-head steel drywall screws spaced 8-inches (203.2 mm) on center. Fasteners along the long edge of the panel are spaced 1 inch (25.4 mm) away from the edge, and 3-inches (76.2 mm) from the butt joints into the resilient channels at the end of the panel. All panel edge joints must be treated with two coats of joint compound with nominal 2-inch (50.8 mm) wide paper tape embedded in the first layer of compound over all joints. All fastener heads must be covered with two layers of joint compound.

Applicant: MITEK® INC.
Product: TRUSS DESIGN UTILIZING MITEK POSI-STRUT® METAL WEB SYSTEM
Standard: ASTM E119 (UL 263)
Assembly Type: Roof/Ceiling
Assembly Rating: 1-Hour (Unrestrained)
Load: Load Bearing
SFSW = Shop-Fabricated Structural Wood



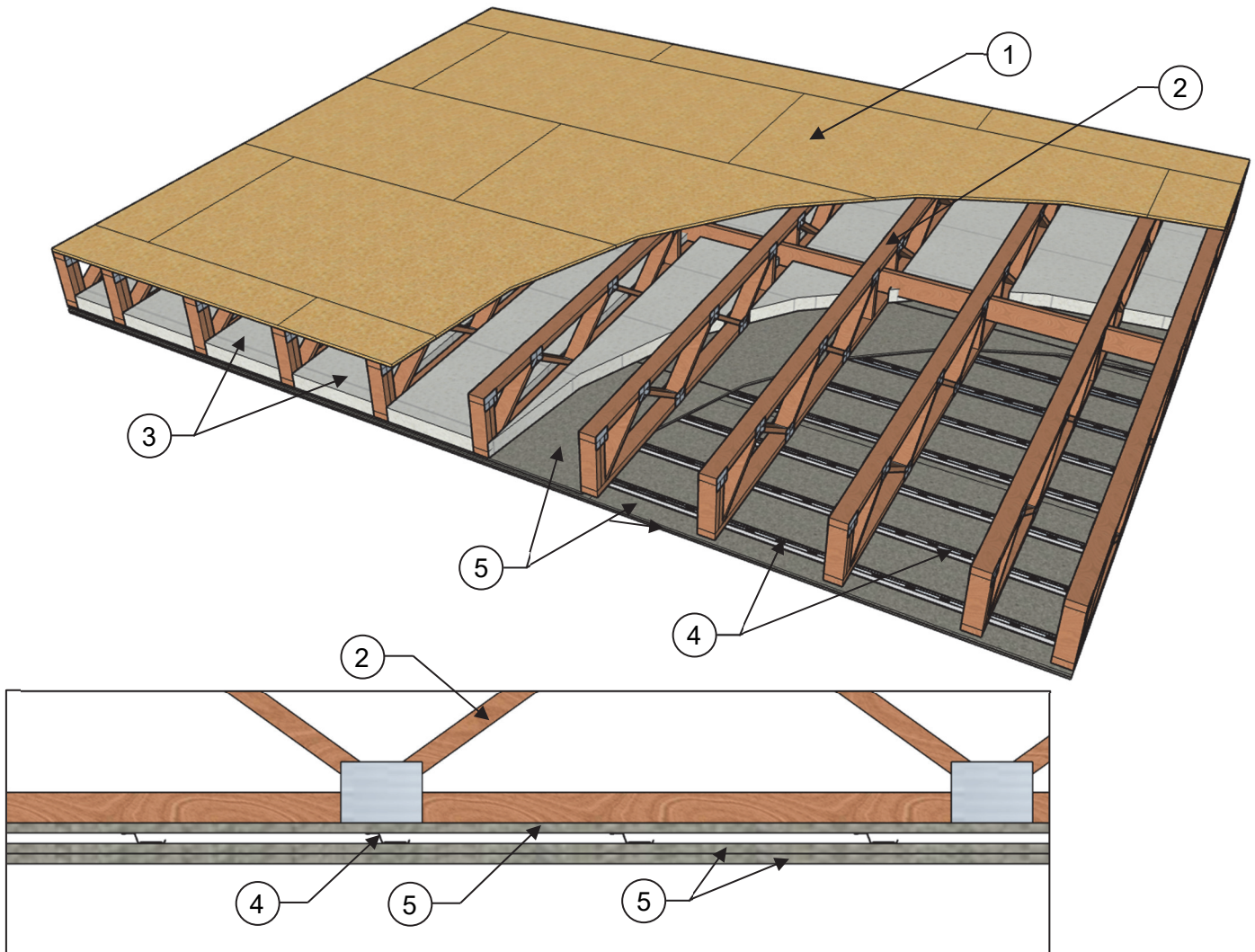
COMPONENTS OF CONSTRUCTION:

1. **Roof Covering** – Any Class A, B, or C roof covering installed in accordance with manufacturer's published installation instructions.
2. **Roof Sheathing (Underlayment)** – Minimum $\frac{5}{8}$ -inch (15.9 mm) thick wood structural panels installed with long edges perpendicular to the trusses with end joints staggered. Sheathing must be secured to the framing using 2-inch (50.8 mm) long 6D ring shank nails, spaced maximum 12-inches (304.8 mm) on center along the edges and in the field of the panel.
3. **Roof Framing** – Open Web Trusses consisting of nominal 2-inch by 4-inch wood members and the MiTek POSI-STRUT® Metal Web System ([ESR-4722](#)), spaced at a maximum of 24-inches (610 mm) on center. Where constructed with the optional ceiling radiation damper (Item 4), the minimum depth for the trusses must be 14-inches (355.6 mm). Where constructed without the optional ceiling radiation damper (Item 4), the minimum depth for the trusses must be 9 $\frac{1}{4}$ -inches (235 mm). The MiTek POSI-STRUT® Metal Web System must be installed in accordance with the manufacturer's published installation instructions.

Note: See Conditions of Listing Items 4 and 5 of [ESL-1388](#).

4. **Ceiling Radiation Damper (Optional)** – For use with minimum 14-inch (355.6 mm) deep open web trusses. Damper must be UL 555C listed. Damper must not exceed a maximum height of 11-inches (279.4 mm), with a maximum nominal area of 256-inches² (1651 cm²). The maximum dimension for any width must not exceed 16-inches (406.4 mm). A steel grille is installed per manufacturer installation instructions. The ceiling damper is to be connected to a UL 181 listed, Class 0 or Class 1, air duct installed per the duct manufacturer's installation instructions.
5. **Insulation (Optional)** – Any Class A fiberglass batt insulation or non-combustible mineral wool insulation batts complying with Type I per ASTM C665, may be installed in the cavity between framing members. The insulation may be draped over the resilient channel and gypsum board ceiling membrane, suspended within the concealed space, or secured to the underside of the roof sheathing. The thickness of insulation is not limited.
6. **Furring Type (Resilient Channel)** – $\frac{1}{2}$ -inch (12.7 mm) deep, minimum 18 mils (0.46 mm) thick, galvanized steel Resilient Channel, with a minimum $\frac{1}{2}$ -inch (12.7 mm) leg on the framing side and a minimum $\frac{1}{4}$ -inch (31.8 mm) leg on the gypsum board side, must be installed perpendicular to framing members and secured using $\frac{1}{4}$ -inch (31.8 mm) long No. 6 Type W bugle-head screws. The channels must be overlapped a minimum of 4-inches (101.6 mm) at splices. The gypsum board end joints are attached to additional channels spaced 6-inches (152.4 mm) on center and oriented opposite each end joint and shall extend a minimum of 6-inches (152.4 mm) beyond each side edge of the gypsum wallboard panel. Spacing of the channels must be at the following intervals based on the location of the plenum insulation:
 - a. Channels spaced a maximum of 12-inches (304.8 mm) on center with insulation draped over the resilient channel and gypsum board ceiling membrane.
 - b. Channels spaced a maximum of 16-inches (406.4 mm) on center with insulation suspended within the concealed space or secured to the underside of the roof sheathing.
 - c. Channels spaced a maximum of 24-inches (609.6 mm) on center when there is no insulation within the concealed space.
7. **Gypsum Board** – One layer of minimum $\frac{5}{8}$ -inch (15.9 mm) thick Type C gypsum wallboard, complying with ASTM C1396, must be secured perpendicular to resilient channels using $\frac{1}{4}$ -inch (31.8 mm) long No. 6 Type S bugle-head steel drywall screws spaced 8-inches (203.2 mm) on center. Fasteners along the long edge of the panel are spaced 1 inch (25.4 mm) away from the edge, and 3-inches (76.2 mm) from the butt joints into the resilient channels at the end of the panel. All panel edge joints must be treated with two coats of joint compound with nominal 2-inch (50.8 mm) wide paper tape embedded in the first layer of compound over all joints. All fastener heads must be covered with two layers of joint compound.

Applicant: MITEK® INC.
Product: TRUSS DESIGN UTILIZING MITEK METAL TRUSS CONNECTOR PLATES
Standard: ASTM E119 (UL 263)
Assembly Type: Floor/Ceiling
Assembly Rating: 2-Hour (Unrestrained)
Load: Load Bearing
SFSW = Shop-Fabricated Structural Wood



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COMPONENTS OF CONSTRUCTION:

1. **Floor Sheathing** – Minimum $2\frac{3}{32}$ -inch (18.3 mm) thick tongue-and-groove wood structural panels installed with long edges perpendicular to the trusses with end joints staggered. Sheathing must be secured to the framing using construction adhesive and 2-inch (50.8 mm) long 6D ring shank nails, spaced maximum 12-inches (304.8 mm) on center along the edges and in the field of the panel.
2. **Floor Framing** – Minimum $1\frac{1}{4}$ -inch (285.8 mm) deep, Open Web Trusses consisting of nominal 2-inch by 4-inch wood members and connected with MiTek Metal Truss Plates ([ESR-1988](#)), spaced at a maximum of 24-inches (610 mm) on center. The MiTek Metal Truss Plates must be installed in accordance with the manufacturer's published installation instructions.

Note: See Conditions of Listing Items 4 and 5 of [ESL-1388](#).

3. **Insulation (Optional)** – Any Class A fiberglass batt insulation or non-combustible mineral wool insulation batts, complying with Type I per ASTM C665, may be installed in the cavity between framing members. The insulation may be draped over the gypsum board ceiling membrane, suspended within the concealed space, or secured to the underside of the subfloor. The thickness of insulation is not limited.

In lieu of Class A fiberglass batt insulation or non-combustible mineral wool insulation batts, complying with Type I per ASTM C665, any Class A loose-fill insulation may be used in the cavity between framing members. The thickness of insulation is not limited.

4. **Furring Channel** – $\frac{1}{2}$ -inch (12.7 mm) deep, minimum 22 mils (0.56 mm) thick, galvanized steel resilient channel or inverted hat type furring channel, with a minimum $\frac{5}{8}$ -inch (15.9 mm) leg on the framing side and a minimum $1\frac{1}{2}$ -inch (38.1 mm) leg on the gypsum board side, must be installed perpendicular to framing members and secured through the base layer of gypsum wallboard using 2-inch (50.8 mm) long No. 6 Type W bugle-head screws spaced at a maximum of 12-inches (304.8 mm) on center. The channels must be overlapped a minimum of 4-inches (101.6 mm) at splices.
5. **Gypsum Board** – Three layers of minimum $\frac{5}{8}$ -inch (15.9 mm) thick Type C gypsum wallboard, complying with ASTM C1396.

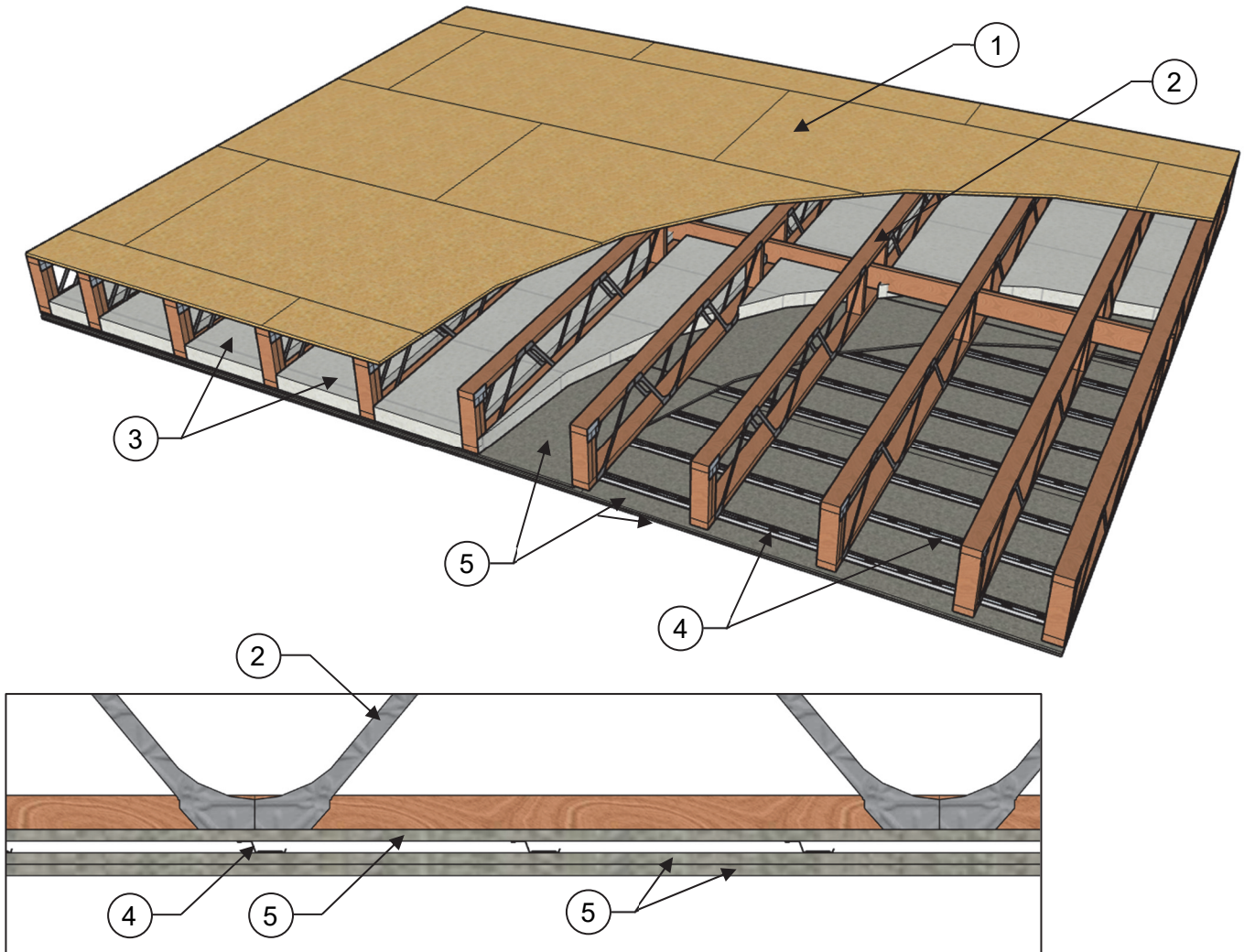
Base Layer of Gypsum Board must be installed with long dimensions perpendicular to framing members with end joints centered on the framing members. End joints in adjacent rows must be staggered on adjacent trusses. Base layer must be secured directly to the underside of the framing members using $1\frac{5}{8}$ -inch (41.3 mm) long No. 6 Type W bugle-head steel drywall screws spaced 8-inches (203.2 mm) on center. Fasteners along the long edge of the panel must be spaced $1\frac{1}{2}$ -inch (38.1 mm) away from the edge, and $\frac{3}{4}$ -inch (19.1 mm) from the butt joints into the framing members at the end of the panel.

Middle Layer of Gypsum Board must be installed with long dimensions perpendicular to the furring channels with end joints centered on the furring channels. End joints in adjacent rows must be staggered a minimum of 12-inches (304.8 mm) from adjacent panels. Middle layer must be secured to the furring channels using $1\frac{1}{4}$ -inch (31.8 mm) long No. 6 Type S bugle-head steel drywall screws spaced 8-inches (203.2 mm) on center. Fasteners along the long edge of the panel must be spaced $1\frac{1}{2}$ -inch (38.1 mm) away from the edge, and $\frac{3}{4}$ -inch (19.1 mm) from the butt joints into the resilient channels at the end of the panel.

Face Layer of Gypsum Board must be installed with long dimensions perpendicular to the furring channels with end joints in adjacent rows staggered a minimum of 12-inches (304.8 mm) from adjacent panels. Face layer end joints must be staggered a minimum of 12-inches (304.8 mm) from middle layer end joints, and face layer side joints must be staggered a minimum of 16-inches (406.4 mm) from middle layer side joints. Face layer must be secured through the middle layer to the furring channels using $1\frac{5}{8}$ -inch (41.3 mm) long No. 6 Type S bugle-head steel drywall screws spaced 8-inches (203.2 mm) on center. The end joints must be secured to the middle layer using $1\frac{1}{2}$ -inch (38.1 mm) long No. 10 Type G laminating screws spaced 8-inches (203.2 mm) on center. Fasteners along the long edge of the panel must be spaced $1\frac{1}{2}$ -inch (38.1 mm) away from the panel edge, and $1\frac{1}{2}$ -inch (38.1 mm) from the butt joints at the end of the panel. All panel edge joints on the face layer must be treated with two coats of joint compound with nominal 2-inch (50.8 mm) wide paper tape embedded in the first layer of compound over all joints. All fastener heads must be covered with two layers of joint compound.

(Optional) The face layer end joints may be centered over the furring channels.

Applicant: MITEK® INC.
Product: TRUSS DESIGN UTILIZING MITEK POSI-STRUT® METAL WEB SYSTEM
Standard: ASTM E119 (UL 263)
Assembly Type: Floor/Ceiling
Assembly Rating: 2-Hour (Unrestrained)
Load: Load Bearing
SFSW = Shop-Fabricated Structural Wood



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COMPONENTS OF CONSTRUCTION:

1. **Floor Sheathing** – Minimum $2\frac{3}{32}$ -inch (18.3 mm) thick tongue-and-groove wood structural panels installed with long edges perpendicular to the trusses with end joints staggered. Sheathing must be secured to the framing using construction adhesive and 2-inch (50.8 mm) long 6D ring shank nails, spaced maximum 12-inches (304.8 mm) on center along the edges and in the field of the panel.
2. **Floor Framing** – Minimum 1 $\frac{1}{4}$ -inch (285.8 mm) deep, Open Web Trusses consisting of nominal 2-inch by 4-inch wood members and the MiTek POSI-STRUT® Metal Web System ([ESR-4722](#)), spaced at a maximum of 24-inches (610 mm) on center. The MiTek POSI-STRUT® Metal Web System must be installed in accordance with the manufacturer's published installation instructions.

Note: See Conditions of Listing Items 4 and 5 of [ESL-1388](#).

3. **Insulation (Optional)** – Any Class A fiberglass batt insulation or non-combustible mineral wool insulation batts, complying with Type I per ASTM C665, may be installed in the cavity between framing members. The insulation may be draped over the gypsum board ceiling membrane, suspended within the concealed space, or secured to the underside of the subfloor. The thickness of insulation is not limited.
In lieu of Class A fiberglass batt insulation or non-combustible mineral wool insulation batts, complying with Type I per ASTM C665, any Class A loose-fill insulation may be used in the cavity between framing members. The thickness of insulation is not limited.
4. **Furring Channel** – $\frac{1}{2}$ -inch (12.7 mm) deep, minimum 22 mils (0.56 mm) thick, galvanized steel resilient channel or inverted hat type furring channel, with a minimum $\frac{5}{8}$ -inch (15.9 mm) leg on the framing side and a minimum $1\frac{1}{2}$ -inch (38.1 mm) leg on the gypsum board side, must be installed perpendicular to framing members and secured through the base layer of gypsum wallboard using 2-inch (50.8 mm) long No. 6 Type W bugle-head screws spaced at a maximum of 12-inches (304.8 mm) on center. The channels must be overlapped a minimum of 4-inches (101.6 mm) at splices.
5. **Gypsum Board** – Three layers of minimum $\frac{5}{8}$ -inch (15.9 mm) thick Type C gypsum wallboard, complying with ASTM C1396.

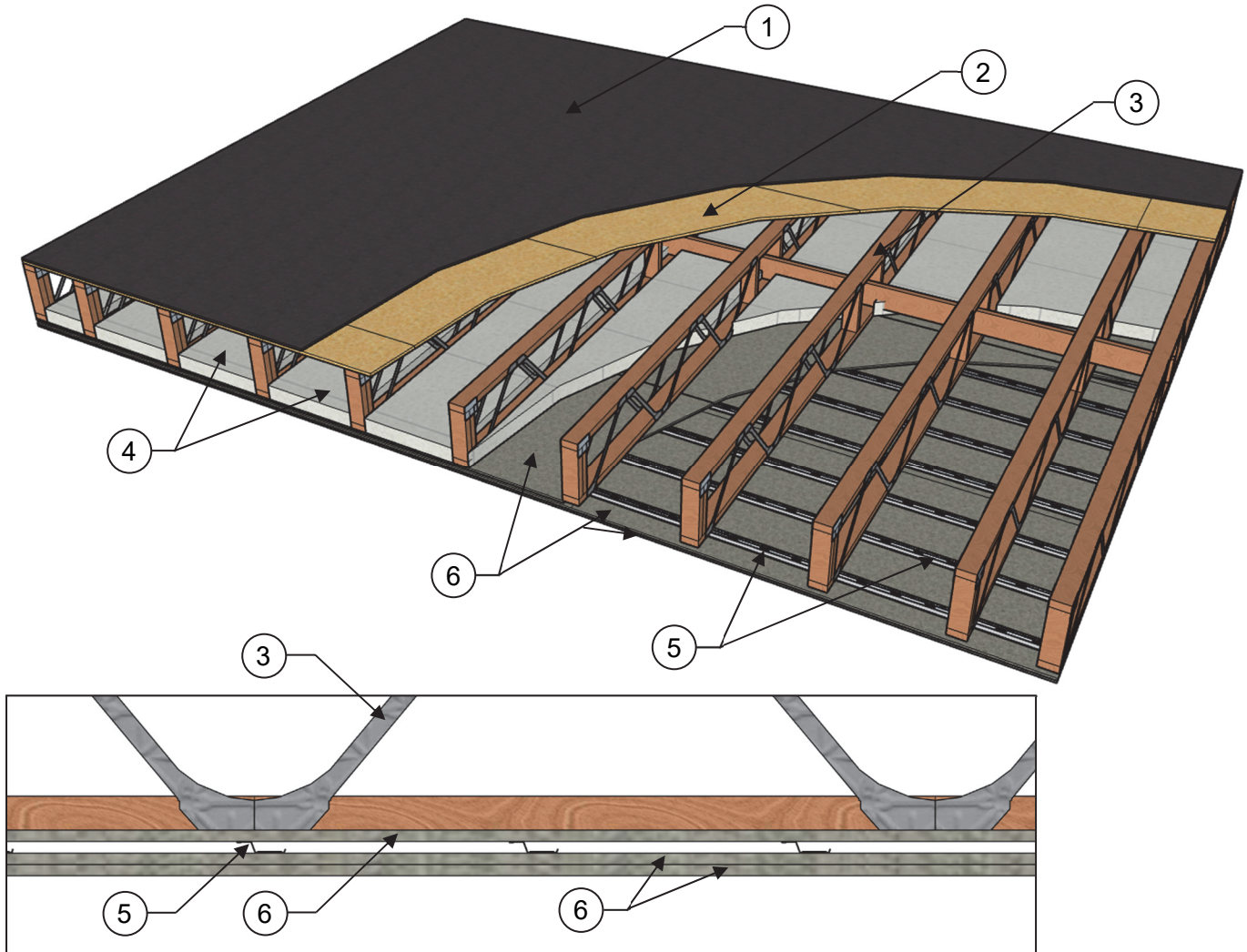
Base Layer of Gypsum Board must be installed with long dimensions perpendicular to framing members with end joints centered on the framing members. End joints in adjacent rows must be staggered on adjacent trusses. Base layer must be secured directly to the underside of the framing members using $1\frac{5}{8}$ -inch (41.3 mm) long No. 6 Type W bugle-head steel drywall screws spaced 8-inches (203.2 mm) on center. Fasteners along the long edge of the panel must be spaced $1\frac{1}{2}$ -inch (38.1 mm) away from the edge, and $\frac{3}{4}$ -inch (19.1 mm) from the butt joints into the framing members at the end of the panel.

Middle Layer of Gypsum Board must be installed with long dimensions perpendicular to the furring channels with end joints centered on the furring channels. End joints in adjacent rows must be staggered a minimum of 12-inches (304.8 mm) from adjacent panels. Middle layer must be secured to the furring channels using $1\frac{1}{4}$ -inch (31.8 mm) long No. 6 Type S bugle-head steel drywall screws spaced 8-inches (203.2 mm) on center. Fasteners along the long edge of the panel must be spaced $1\frac{1}{2}$ -inch (38.1 mm) away from the edge, and $\frac{3}{4}$ -inch (19.1 mm) from the butt joints into the resilient channels at the end of the panel.

Face Layer of Gypsum Board must be installed with long dimensions perpendicular to the furring channels with end joints in adjacent rows staggered a minimum of 12-inches (304.8 mm) from adjacent panels. Face layer end joints must be staggered a minimum of 12-inches (304.8 mm) from middle layer end joints, and face layer side joints must be staggered a minimum of 16-inches (406.4 mm) from middle layer side joints. Face layer must be secured through the middle layer to the furring channels using $1\frac{5}{8}$ -inch (41.3 mm) long No. 6 Type S bugle-head steel drywall screws spaced 8-inches (203.2 mm) on center. The end joints must be secured to the middle layer using $1\frac{1}{2}$ -inch (38.1 mm) long No. 10 Type G laminating screws spaced 8-inches (203.2 mm) on center. Fasteners along the long edge of the panel must be spaced $1\frac{1}{2}$ -inch (38.1 mm) away from the panel edge, and $1\frac{1}{2}$ -inch (38.1 mm) from the butt joints at the end of the panel. All panel edge joints on the face layer must be treated with two coats of joint compound with nominal 2-inch (50.8 mm) wide paper tape embedded in the first layer of compound over all joints. All fastener heads must be covered with two layers of joint compound.

(Optional) The face layer end joints may be centered over the furring channels.

Applicant: MITEK® INC.
Product: TRUSS DESIGN UTILIZING MITEK POSI-STRUT® METAL WEB SYSTEM
Standard: ASTM E119 (UL 263)
Assembly Type: Roof/Ceiling
Assembly Rating: 2-Hour (Unrestrained)
Load: Load Bearing
SFSW = Shop-Fabricated Structural Wood



COMPONENTS OF CONSTRUCTION:

1. **Roof Covering** – Any Class A, B, or C roof covering installed in accordance with manufacturer's published installation instructions.
2. **Roof Sheathing (Underlayment)** – Minimum $\frac{5}{8}$ -inch (15.9 mm) thick wood structural panels installed with long edges perpendicular to the trusses with end joints staggered. Sheathing must be secured to the framing using 2-inch (50.8 mm) long 6D ring shank nails, spaced maximum 12-inches (304.8 mm) on center along the edges and in the field of the panel.
3. **Roof Framing** – Minimum 11 $\frac{1}{4}$ -inch (285.8 mm) deep, Open Web Trusses consisting of nominal 2-inch by 4-inch wood members and the MiTek POSI-STRUT® Metal Web System ([ESR-4722](#)), spaced at a maximum of 24-inches (610 mm) on center. The MiTek POSI-STRUT® Metal Web System must be installed in accordance with the manufacturer's published installation instructions.

Note: See Conditions of Listing Items 4 and 5 of [ESL-1388](#).

4. **Insulation (Optional)** – Any Class A fiberglass batt insulation or non-combustible mineral wool insulation batts, complying with Type I per ASTM C665, may be installed in the cavity between framing members. The insulation may be draped over the gypsum board ceiling membrane, suspended within the concealed space, or secured to the underside of the subfloor. The thickness of insulation is not limited.

In lieu of Class A fiberglass batt insulation or non-combustible mineral wool insulation batts, complying with Type I per ASTM C665, any Class A loose-fill insulation may be used in the cavity between framing members. The thickness of insulation is not limited.

5. **Furring Channel** – $\frac{1}{2}$ -inch (12.7 mm) deep, minimum 22 mils (0.56 mm) thick, galvanized steel resilient channel or inverted hat type furring channel, with a minimum $\frac{5}{8}$ -inch (15.9 mm) leg on the framing side and a minimum 1 $\frac{1}{2}$ -inch (38.1 mm) leg on the gypsum board side, must be installed perpendicular to framing members and secured through the base layer of gypsum wallboard using 2-inch (50.8 mm) long No. 6 Type W bugle-head screws spaced at a maximum of 12-inches (304.8 mm) on center. The channels must be overlapped a minimum of 4-inches (101.6 mm) at splices.
6. **Gypsum Board** – Three layers of minimum $\frac{5}{8}$ -inch (15.9 mm) thick Type C gypsum wallboard, complying with ASTM C1396.

Base Layer of Gypsum Board must be installed with long dimensions perpendicular to framing members with end joints centered on the framing members. End joints in adjacent rows must be staggered on adjacent trusses. Base layer must be secured directly to the underside of the framing members using 1 $\frac{5}{8}$ -inch (41.3 mm) long No. 6 Type W bugle-head steel drywall screws spaced 8-inches (203.2 mm) on center. Fasteners along the long edge of the panel must be spaced 1 $\frac{1}{2}$ -inch (38.1 mm) away from the edge, and $\frac{3}{4}$ -inch (19.1 mm) from the butt joints into the framing members at the end of the panel.

Middle Layer of Gypsum Board must be installed with long dimensions perpendicular to the furring channels with end joints centered on the furring channels. End joints in adjacent rows must be staggered a minimum of 12-inches (304.8 mm) from adjacent panels. Middle layer must be secured to the furring channels using 1 $\frac{1}{4}$ -inch (31.8 mm) long No. 6 Type S bugle-head steel drywall screws spaced 8-inches (203.2 mm) on center. Fasteners along the long edge of the panel must be spaced 1 $\frac{1}{2}$ -inch (38.1 mm) away from the edge, and $\frac{3}{4}$ -inch (19.1 mm) from the butt joints into the resilient channels at the end of the panel.

Face Layer of Gypsum Board must be installed with long dimensions perpendicular to the furring channels with end joints in adjacent rows staggered a minimum of 12-inches (304.8 mm) from adjacent panels. Face layer end joints must be staggered a minimum of 12-inches (304.8 mm) from middle layer end joints, and face layer side joints must be staggered a minimum of 16-inches (406.4 mm) from middle layer side joints. Face layer must be secured through the middle layer to the furring channels using 1 $\frac{5}{8}$ -inch (41.3 mm) long No. 6 Type S bugle-head steel drywall screws spaced 8-inches (203.2 mm) on center. The end joints must be secured to the middle layer using 1 $\frac{1}{2}$ -inch (38.1 mm) long No. 10 Type G laminating screws spaced 8-inches (203.2 mm) on center. Fasteners along the long edge of the panel must be spaced 1 $\frac{1}{2}$ -inch (38.1 mm) away from the panel edge, and 1 $\frac{1}{2}$ -inch (38.1 mm) from the butt joints at the end of the panel. All panel edge joints on the face layer must be treated with two coats of joint compound with nominal 2-inch (50.8 mm) wide paper tape embedded in the first layer of compound over all joints. All fastener heads must be covered with two layers of joint compound.

(Optional) The face layer end joints may be centered over the furring channels.