

ICC-ES Evaluation Report

ESR-5136

Reissued October 2024

This report also contains:

Revised June 2025

- [CA Supplement w/ DSA and OSHPD](#)

Subject to renewal October 2025

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<p>DIVISION: 09 00 00 — FINISHES</p> <p>Section: 09 22 26 — Suspension Systems</p>	<p>REPORT HOLDER:</p> <p>USG INTERIORS, LLC</p>	<p>EVALUATION SUBJECT:</p> <p>USG DONN® ADVANCESPAN SUSPENSION SYSTEM</p>	
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1.0 EVALUATION SCOPE

Compliance with the following codes:

- 2024, 2021, 2018, 2015 and 2012 [International Building Code® \(IBC\)](#)
- 2024, 2021, 2018, 2015 and 2012 [International Residential Code® \(IRC\)](#)

Properties evaluated:

- Structural
- Interior Finish

2.0 USES

The USG Donn® AdvanceSpan Suspension System described in this report are suspended ceiling assemblies used in interior and/or corridor applications as noted in this report. For structures regulated under the IRC, the suspension system may be used where an engineered design is submitted in accordance with IRC Section R301.1.3.

3.0 DESCRIPTION

The USG Donn Advance Suspension System consists of main tees, cross runners and accessories as described in Sections 3.1, 3.2 and 3.3.

3.1 DXAS and DXTAS AdvanceSpan Main Runners:

DXAS and DXTAS main runners are double-webbed T-shape profiles, available in DXAS 15/16-inch (23.81 mm) and DXTAS 9/16-inch (14.28 mm) profiles, as shown in [Figure 1](#). The main runners are cold-formed steel meeting ASTM A653 CS Type B, having a thickness of 0.021-inch (0.533 mm).

3.2 Cross Runners:

Information regarding cross runners, USG models – DX216/424 and DXT222/424 used in this system is described in assemblies in Section 4.2 and can be found in ESR-1222.

3.3 Accessories:

The USG Donn AdvanceSpan Suspension System suspended ceiling system is available with US44 AdvanceSpan Reversible Structural Wall Channel Molding ([Figure 1](#)), US44CC AdvanceSpan Channel Clip ([Figure 2](#)), ASMTTP AdvanceSpan Main Tee Splice Plate ([Figure 3](#)), and ASCBC Cross Brace Clips.

3.4 Materials:

The steel body of the suspension system members are hot-dipped galvanized in accordance with ASTM A653 with a coating designation G30, except for the US44CC AdvanceSpan Channel Clips and ASMTMP AdvanceSpan Main Tee Splice Plates which have G90 galvanized coating. The steel has a minimum yield strength of 30 ksi (206.8 MPa).

4.0 DESIGN AND INSTALLATION

4.1 General:

The suspension systems must be designed and installed in accordance with 2024, 2021, 2018, 2015 and 2012 IBC Section 808, 1613 and 2506.2.1.

4.1.1 Main Tees: The maximum design loads for main runners must be less than or equal to the allowable capacities noted in [Table 1](#) of this report.

4.1.2 Seismic Design: Seismic design and installation details of the suspension systems must be in accordance with this report and as determined by registered design professional in Seismic Design Categories C, D, E and F. Where applicable, the provisions in accordance with Section 13.5.6 of ASCE 7-22 under the 2024 IBC (ASCE 7-16 for the 2021 and 2018 IBC, ASCE 7-10 for the 2015 and 2012 IBC) as referenced IBC Section 1613 should be followed as determined by registered design professional. The suspension system connections comply with the connection requirements described in ASTM E580 Section 5. The following assemblies are based on shake table testing in accordance with AC156:

4.1.2.1 Alternate Installation No. 1 for Seismic Design Categories D, E and F: Suspension systems under this installation may be in Seismic Design Categories D, E and F (maximum design spectral response acceleration at short period, S_{ds} , 2.0 g) supporting a maximum combined weight of 4 psf (19.53 kg/m²). The main runners must be installed at a maximum spacing of 24 inches on center with maximum clear span of 102 inches. The maximum design loads on main runners must comply with Section 4.1.1 of this report. The maximum spacing of cross runners (USG models - DX216 and DX424) must not exceed 48 inches. The main and cross runners are supported by the wall moldings and clips which must be attached to the supporting wall system as determined by registered design professional (without the use of hanger wires, perimeter wire, or splay wires). The US44 AdvanceSpan Reversible Structural Wall Channel Moldings and the US44CC AdvanceSpan Channel Clips are used to secure the main and cross runners to the wall closure (angle) on two adjacent walls (fixed ends) and to allow free movement of the runners on the two opposing walls (floating ends). On the walls where runners are not fixed (or runners are unrestrained), the US44CC AdvanceSpan Channel Clips allow the terminal runner end to move $\frac{3}{4}$ inch (19.1 mm) towards and away from the wall (See [Figure 4](#)). On the walls where runners are fixed (or runners are restrained), the runner ends must be attached to the US44CC AdvanceSpan Channel Clips as shown in [Figure 5](#).

4.1.2.2 Alternate Seismic Installation No. 2 Seismic Design Categories D, E and F: Suspension systems under this installation may be in Seismic Design Categories D, E and F (maximum design spectral response acceleration at short period, S_{ds} , 2.0 g) supporting a maximum combined weight of 4 psf (19.53 kg/m²). The maximum spacing of cross runners (USG models - DX216 or DX424) must not exceed 24 inches. The main runners must be installed at a maximum spacing of 48 inches on center with maximum clear span of 84 inches. The maximum design loads on main runners must comply with Section 4.1.1 of this report. The main and cross runners are supported by the wall moldings and clips which must be attached to the supporting wall system as determined by registered design professional (without the use of hanger wires, perimeter wire, or splay wires). The US44 AdvanceSpan Reversible Structural Wall Channel Moldings and the US44CC AdvanceSpan Channel Clips are used to secure the main cross runners to the wall closure (angle) on two adjacent walls (fixed ends) and to allow free movement of the runners on the two opposing walls (floating ends). On the walls where runners are not fixed (or runners are unrestrained), the US44CC AdvanceSpan Channel Clips allow the terminal runner end to move $\frac{3}{4}$ inch (19.1 mm) towards and away from the wall (See [Figure 4](#)). On the walls where runners are fixed (or runners are restrained), the runner ends must be attached to the US44CC Advance Span Channel Clips as shown in [Figure 5](#).

4.1.2.3 Alternate Seismic Installation No. 3 Seismic Design Categories C: Suspension systems under this installation may be in Seismic Design Categories C (maximum design spectral response acceleration at short period, S_{ds} , 1.83 g) supporting a maximum combined weight of 3 psf (14.65 kg/m²). The main runners must be installed at a maximum spacing of 48 inches on center with maximum unsupported length of 96 inches. The maximum design loads on main runners must comply with Section 4.1.1 of this report. The maximum spacing of cross runners (USG models - DX216 or DX424) must not exceed 24 inches. The main and cross

runners are supported by the wall moldings and clips which must be attached to the supporting wall system as determined by registered design professional (without the use of hanger wires, perimeter wire, or splay wires). The US44 AdvanceSpan Reversible Structural Wall Channel Moldings and the US44CC AdvanceSpan Channel Clips are used to secure the main and cross runners to the wall closure (angle) to allow free movement of the runners on the two opposing walls (floating ends). The US44CC AdvanceSpan Channel Clips allow the terminal runner end to move 3/8 inch (9.5 mm) towards and away from the wall (See [Figure 6](#)). On the walls where runners are fixed (or runners are restrained), the runner ends must be attached to the US44CC Advance Span Channel Slips as shown in [Figure 5](#).

4.1.2.4 Alternative Seismic Installation No. 4 Seismic Design Categories D, E and F: Suspension systems under this installation may be in Seismic Design Categories D, E and F (maximum design spectral response acceleration at short period, S_{ds} , 2.0 g) supporting a maximum of combined weight of 4 psf (19.53 kg/m²). The main runners must be installed at a maximum spacing of 24 inches on center with maximum unsupported length of 102 inches. The maximum design loads on main runners must comply with Section 4.1.1 of this report. The maximum spacing of cross runners (USG models – DXT222 and DXT424) must not exceed 48 inches. The main and cross runners are supported by the wall moldings and clips which must be attached to the supporting wall system as determined by registered design professional (without the use of hanger wires, perimeter wire, or splay wires). The US44 AdvanceSpan Reversible Structural Wall Channel Moldings and the US44CC AdvanceSpan Channel Clips are used to secure the main and runners to the wall closure (angle) on two adjacent walls (fixed ends) and to allow free movement of the runners on the two opposing walls (floating ends). On the walls where runners are not fixed (or runners are unrestrained), the US44CC AdvanceSpan Channel Clips allow the terminal runner end to move 3/4 inch (19.1 mm) towards and away from the wall (See [Figure 4](#)). On the walls where runners are fixed (or runners are restrained), the runner ends must be attached to the US44CC AdvanceSpan Channel Clips as shown in [Figure 5](#).

4.1.2.5 Alternate Seismic Installation No. 5 Seismic Design Categories D, E and F: Suspension systems under this installation may be in Seismic Design Categories D, E and F (maximum design spectral response acceleration at short period, S_{ds} , 2.0 g) supporting a maximum combined weight of 4 psf (19.53 kg/m²). The main runners must be installed at a maximum spacing of 48 inches on center with maximum unsupported length of 84 inches. The maximum design loads on main runners must comply with Section 4.1.1 of this report. The maximum spacing of cross runners (USG models - DXT222 or DXT424) must not exceed 24 inches. The main and cross runners are supported by the wall moldings and clips which must be attached to the supporting wall system as determined by registered design professional (without the use of hanger wires, perimeter wire, or splay wires). The US44 AdvanceSpan Reversible Structural Wall Channel Moldings and the US44CC AdvanceSpan Channel Clips are used to secure the main runners and cross runners to the wall closure (angle) on two adjacent walls (fixed ends) and to allow free movement of the runners on the two opposing walls (floating ends). On the walls where runners are not fixed (or runners are unrestrained), the US44CC AdvanceSpan Channel Clips allow the terminal runner end to move 3/4 inch (19.1 mm) towards and away from the wall (See [Figure 4](#)). On the walls where runners are fixed (or runners are restrained), the runner ends must be attached to the US44CC AdvanceSpan Channel Clips as shown in [Figure 5](#).

4.1.2.6 Alternate Seismic Installation No. 6 Seismic Design Categories C: Suspension systems under this installation may be in Seismic Design Categories C (maximum design spectral response acceleration at short period, S_{ds} , 1.83 g) supporting a maximum combined weight of 3 psf (14.65 kg/m²). The main runners must be installed at a maximum spacing of 48 inches on center with maximum unsupported length of 96 inches. The maximum design loads on main runners must comply with Section 4.1.1 of this report. The maximum spacing of cross runners (USG models – DXT222 or DXT424) must not exceed 24 inches. The main and cross runners are supported by the wall moldings and clips which must be attached to the supporting wall system as determined by registered design professional (without the use of hanger wires, perimeter wire, or splay wires). The US44 AdvanceSpan Reversible Structural Wall Channel Moldings and the US44CC AdvanceSpan Channel Clips are used to secure the main runners and cross runners to the wall closure (angle) to allow free movement of the runners on the two opposing walls (floating ends). The US44CC AdvanceSpan Channel Clips allow the terminal runner end to move 3/8 inch (9.5 mm) towards and away from the wall (See [Figure 6](#)). On the walls where runners are fixed (or runners are restrained), the runner ends must be attached to the US44CC AdvanceSpan Channel Clips as shown in [Figure 5](#).

4.2 Installation:

Installation of the USG Donn® AdvanceSpan Suspension System must be in accordance with this report, the approved plans and the manufacturer's printed installation instructions. The manufacturer's printed installation instructions must always be available at the jobsite during installation.

4.3 Special Inspection:

Where special inspections are required by the building official, suspended ceilings in Seismic Categories C, D, E and F, shall be subjected to periodic special inspections during the installation of the suspended ceiling systems and their anchorage, in accordance with the following requirements: For installations in accordance with Section 4.2 of this report, special inspection must be conducted as required by the building official during enforcement of the 2024 and 2021 IBC Sections 1705.1.1, 1704.5 and 1705.14.2 (2018 and 2015 IBC Sections 1705.1.1, 1704.5 and 1705.13.2; 2012 IBC Sections 1705.1.1, 1705.11.4 and Section 1705.12), as applicable. The special inspector must verify that the ceiling system is as described in this report, and complies with the installation instructions in this report, and with the approved construction documents.

Where special inspections are required by the building official, a statement of special inspections must be provided as required in IBC Section 1704.3.

5.0 CONDITIONS OF USE:

The USG Donn® AdvanceSpan Suspension System described in this report complies with, or is a suitable alternative to what is specified in, those codes listed in Section 1.0 of this report, subject to the following conditions:

- 5.1 Installation of the USG Donn® AdvanceSpan Suspension System must be in accordance with this report, the approved plans and the manufacturer's printed installation instructions. In the event of a conflict between this report and the manufacturer's printed installation instructions, the more restrictive requirement governs.
- 5.2 All construction, wood or steel framing, beams, joist, stringers and associated connections needed to support the USG Donn® AdvanceSpan Ceiling system are outside the scope of this report. All constructions shall follow applicable codes or be designed by a registered design professional.
- 5.3 The ceiling systems are limited to ceilings not considered accessible in accordance with Item 30 of the 2024 IBC Table 1607.1 (Item 29 of the 2021 IBC Table 1607.1; Item 28 of the 2018, 2015 and 2012 IBC Table 1607.1).
- 5.4 The ceiling systems are limited to interior application. The system shall not be installed where directly exposed to sun or weather.
- 5.5 Lighting fixtures and mechanical services may be supported by the suspended ceiling systems or structure above. The connection of the fixture to the suspended ceiling systems must be designed to withstand 100 percent of the fixture weight.
- 5.6 USG Donn® AdvanceSpan Suspension System are manufactured in Westlake, Ohio under an approved quality control program with inspections by ICC-ES.

6.0 EVIDENCE SUBMITTED

- 6.1 Uniform load test data of main runners installed in a manner representative of field installation in accordance with the ASTM C635.
- 6.2 Connection test data to show compliance with ASTM E580 requirements.
- 6.3 Data in accordance with the [ICC-ES Acceptance Criteria for Seismic Certification by Shake-table Testing of Nonstructural Components \(AC156\)](#), dated February 2025.

7.0 IDENTIFICATION

- 7.1 Cartons of main and cross runners, clips and accessories are identified with the name and address of USG Interiors, LLC, the manufacturing location, the main and cross runners designations and the evaluation report number (ESR-5136).
- 7.2 The report holder's contact information is the following:

USG INTERIORS, LLC
550 WEST ADAMS STREET
CHICAGO, ILLINOIS 60661
(800) 874-4968
www.usg.com

TABLE 1—ASTM C635 RATED LOADS¹

Part Number	Member	Allowable Uniform Load (pounds per lineal foot)		
		7-foot Maximum Span	8-foot Maximum Span	8-1/2-foot Maximum Span
DXAS-HRC	Main Tee	16.0	12.0	5.0
DXTAS-HRC	Main Tee	16.0	12.0	5.0

1. Rated loads are based on the deflection limit of L/360.

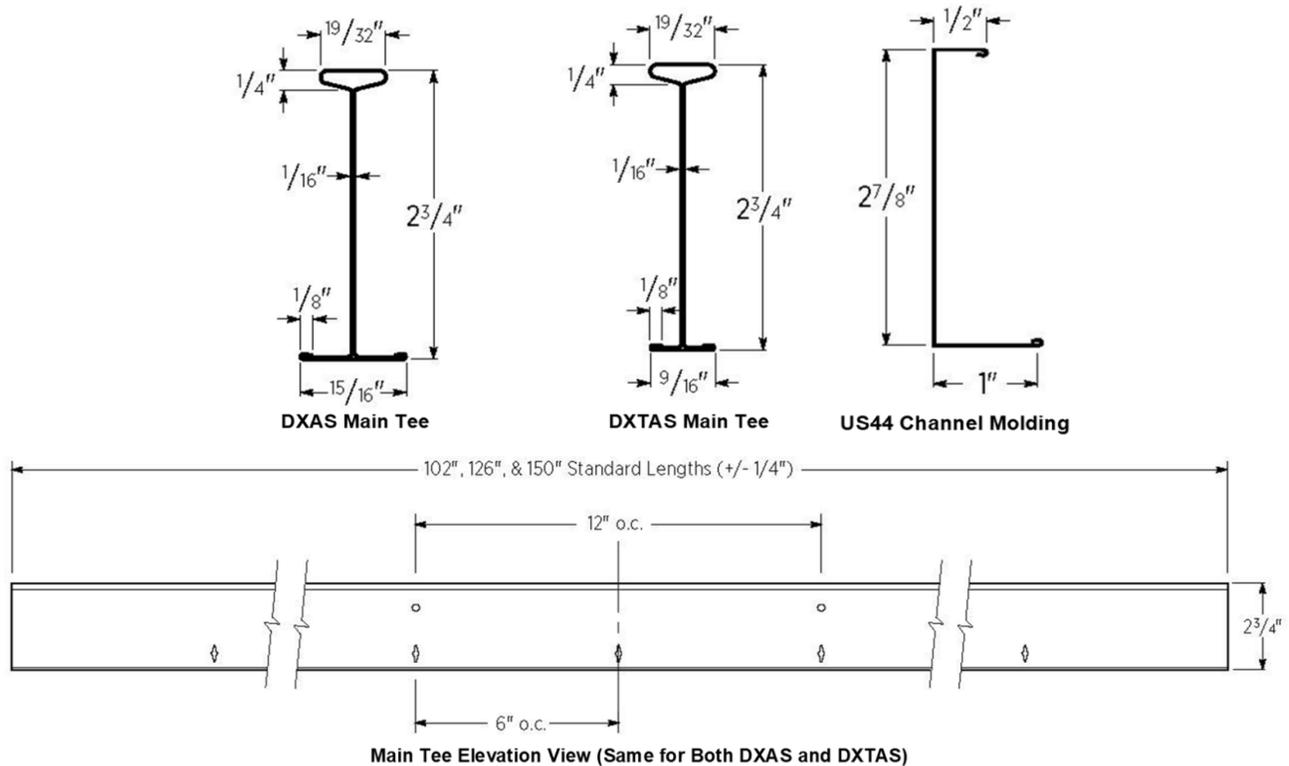


FIGURE 1—DONN ADVANCESPAN SYSTEM MAIN TEE AND CHANNEL MOLDING DETAILS

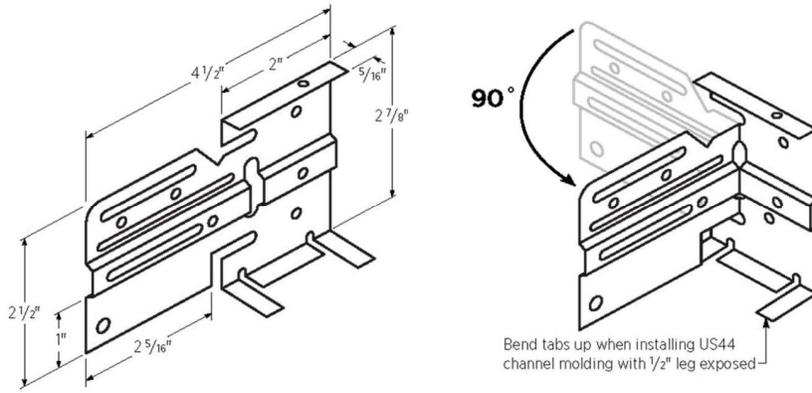


FIGURE 2—ADVANCESPAN CHANNEL CLIP (US44CC)

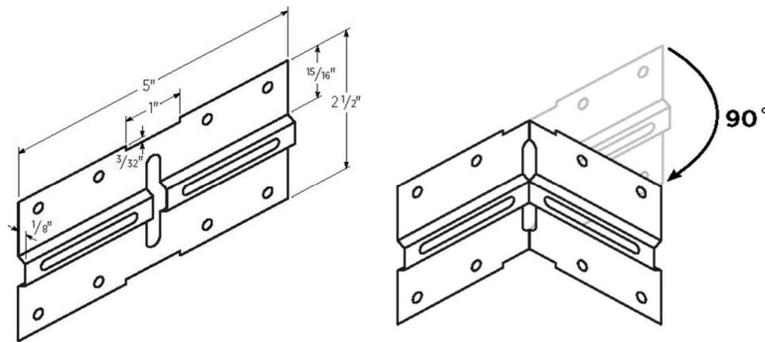


FIGURE 3—ADVANCESPAN MAIN TEE SPLICE PLATE (ASMTTP)

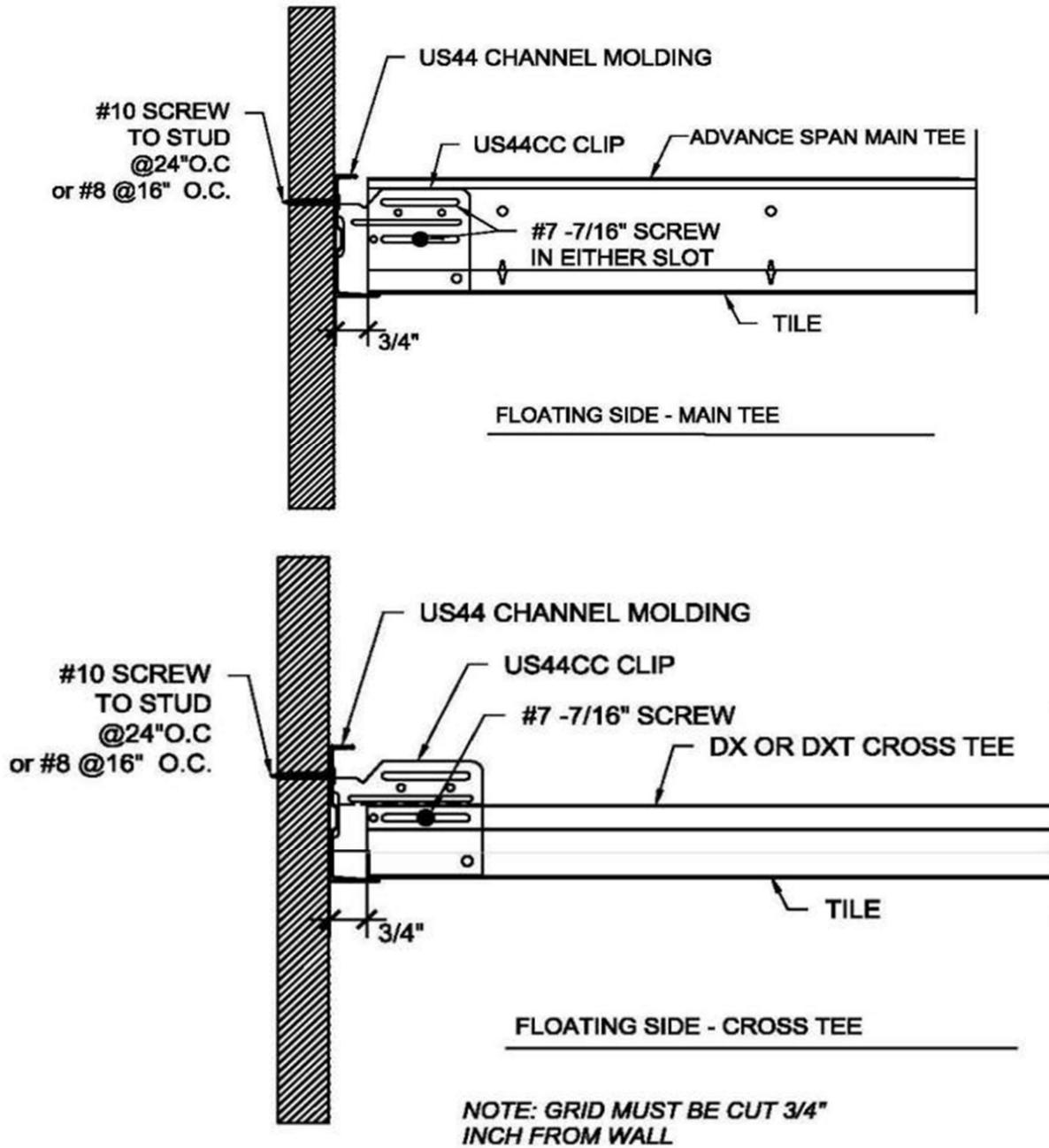


FIGURE 4—HEAVY DUTY “FLOATING SIDE” DETAILS

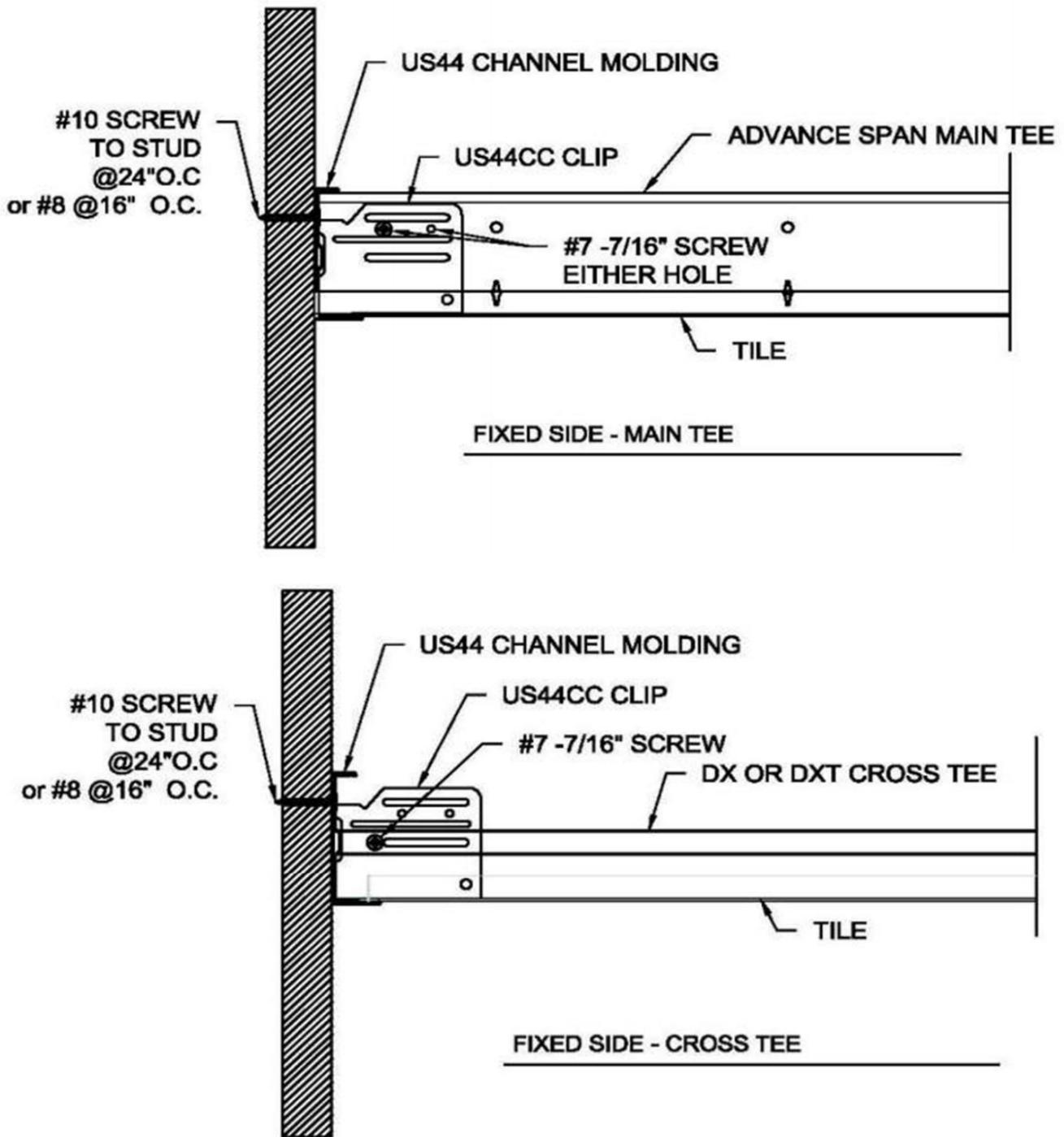
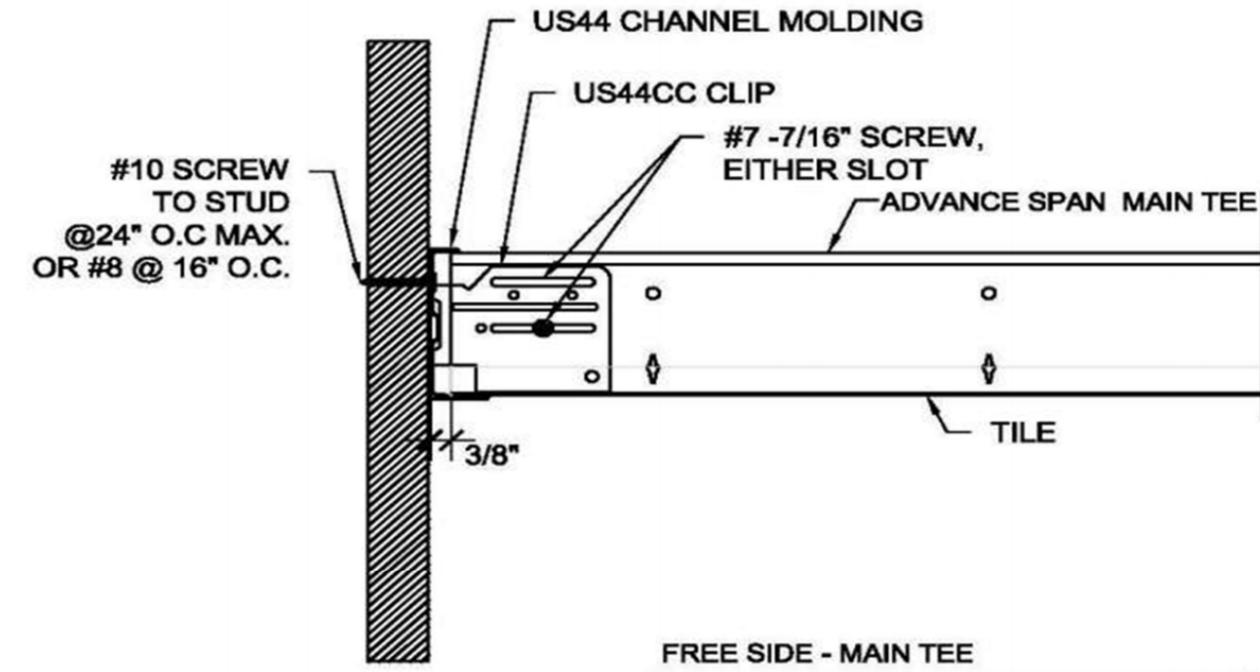
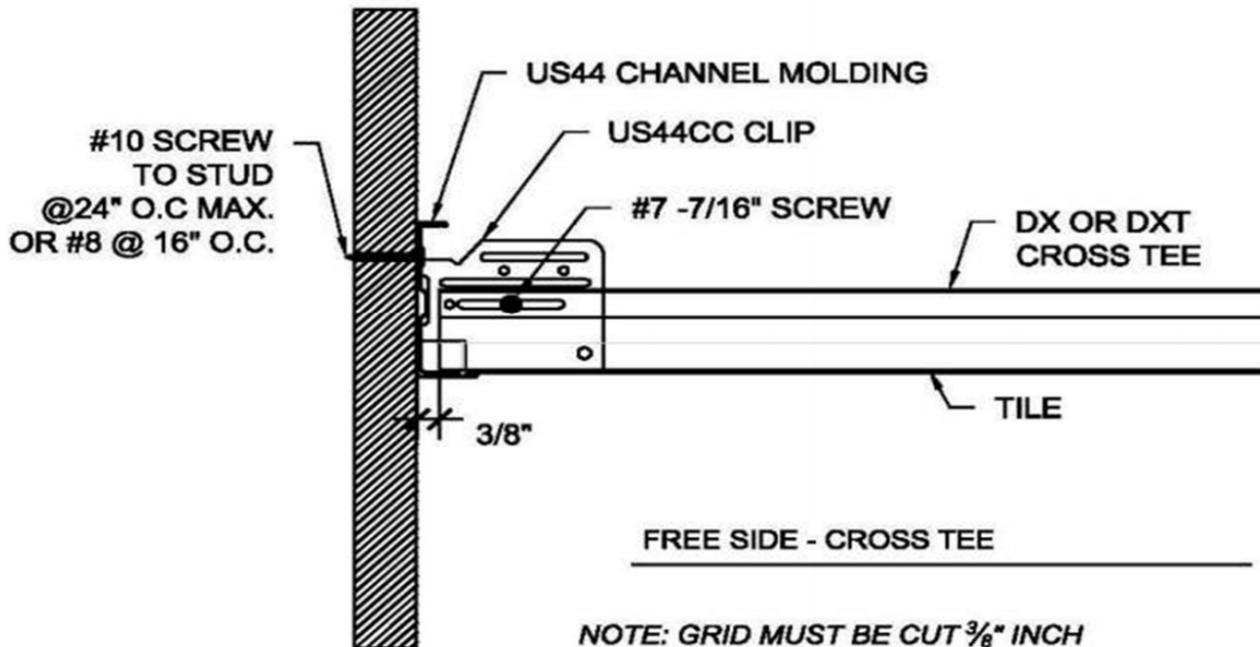


FIGURE 5—HEAVY DUTY AND IMMEDIATE DUTY “FIXED SIDE” DETAILS



NOTE: GRID MUST BE CUT 3/8" INCH FROM WALL



NOTE: GRID MUST BE CUT 3/8" INCH FROM WALL

FIGURE 6—IMMEDIATE DUTY “FLOATING SIDE” DETAILS

DIVISION: 09 00 00—FINISHES

Section: 09 22 26—Suspension Systems

REPORT HOLDER:

USG INTERIORS, LLC

EVALUATION SUBJECT:

USG DONN® ADVANCESPAN SUSPENSION SYSTEM

1.0 REPORT PURPOSE AND SCOPE

Purpose:

The purpose of this evaluation report supplement is to indicate that the USG Donn® AdvanceSpan Suspension System, described in ICC-ES evaluation report [ESR-5136](#), has also been evaluated for compliance with the code) noted below.

Applicable code edition(s):

- 2022 California Building Code (CBC)

For evaluation of applicable Chapters adopted by the [California Office of Statewide Health Planning and Development \(OSHPD\) AKA: California Department of Health Care Access and Information \(HCAI\) and the Division of State Architects \(DSA\)](#), see Sections 2.1.1 and 2.1.2 below.

- 2022 California Residential Code (CRC)

2.0 CONCLUSIONS

2.1 CBC:

The USG Donn® AdvanceSpan Suspension System, described in Sections 2.0 through 7.0 of the evaluation report [ESR-5136](#), complies with CBC Chapters 8, 16 and 25, provided the design and installation are in accordance with the 2021 *International Building Code*® (IBC) provisions noted in the evaluation report and the additional requirements of CBC Chapters 8, 16, 17 and 25, as applicable.

2.1.1 OSHPD:

The USG Donn® AdvanceSpan Suspension System, described in Sections 2.0 through 7.0 of the evaluation report [ESR-5136](#), complies with CBC amended Chapters 8, 16, 17 and 25, and Chapters 16A and 17A, provided the design and installation are in accordance with the 2021 *International Building Code*® (IBC) provisions noted in the evaluation report and the additional requirements in Sections 2.1.1.1 and 2.1.1.2 of this supplement:

2.1.1.1 Conditions of Use:

1. All loads applied shall be determined by a registered structural engineer and shall comply with applicable loads from CBC Chapter 16 and its amendments, and Chapter 16A.
2. Section 13.5.6.2 of ASCE 7 shall be revised in accordance with CBC Section 1617A.1.21 [OSHPD 1 & 4].
3. Design and installation shall comply with the requirements of OSHPD Preapproved Details (OPD) OPD-0003-13.

2.1.1.2 Special Inspection Requirements:

1. Periodic special inspection is required, in accordance with Section 1705A.13.5 of the CBC [OSHPD 1 & 4].
2. Where gypsum wallboard is used in suspended ceiling installations, additional inspection shall be in accordance with CBC Section 2503.2 [OSHPD 1, 1R, 2, 4 & 5].

2.1.2 DSA:

The USG Donn® AdvanceSpan Suspension System, described in Sections 2.0 through 7.0 of the evaluation report [ESR-5136](#), complies with CBC amended Chapters 8, 16, 17 and 25, and Chapters Chapters 16A and 17A, provided the design and installation are in accordance with the 2021 *International Building Code*® (IBC) provisions noted in the evaluation report and the additional requirements in Sections 2.1.2.1 and 2.1.2.2 of this supplement:

2.1.2.1 Conditions of Use:

1. All loads applied shall be determined by a registered structural engineer and shall comply with applicable loads from CBC Chapter 16 and its amendments, and Chapter 16A.
2. Section 13.5.6.2 of ASCE 7 shall be revised in accordance with CBC Section 1617.11.16 [DSA-SS/CC] and Section 1617A.1.21 [DSA-SS].
3. Design and installation shall comply with the requirements of DSA Interpretation of Regulations (IR) DSA IR 25-3.

2.1.2.2 Special Inspection Requirements:

1. Periodic special inspection is required, in accordance with Section 1705A.13.5 of the CBC [DSA-SS & DSA-SS/CC].
2. Where gypsum wallboard is used in suspended ceiling installations, additional inspection shall be in accordance with CBC Section 2503.2 [DSA-SS, DSA-SS/CC].

2.2 CRC:

The USG Donn® AdvanceSpan Suspension System, described in Sections 2.0 through 7.0 of the evaluation report [ESR-5136](#), complies with CRC Chapter 3, provided the design and installation are in accordance with the 2021 *International Residential Code*® (IRC) provisions noted in the evaluation report.

This supplement expires concurrently with the evaluation report, reissued October 2024 and revised June 2025.