



WANESEA-SUE, INC.
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AIRLIGHT BUILDING PANELS T&G

CSI Sections:

- 05 41 00 Structural Metal Stud Framing
- 05 42 13 Cold-Formed Metal Floor Joist Framing
- 05 42 23 Cold-Formed Metal Roof Joist Framing
- 07 21 19 Foamed-In-Place Insulation
- 07 41 63 Fabricated Roof Panel Assemblies
- 07 42 63 Fabricated Wall Panel Assemblies

1.0 RECOGNITION

Wanessa-Sue, Inc. AIRLIGHT T&G Panels recognized in this report have been evaluated for use as insulated structural composite panels. The structural performance properties of the AIRLIGHT T&G Panel comply with the intent of the provisions of the following codes and regulations:

- 2021, 2018, and 2015 International Building Code® (IBC)
- 2021, 2018, and 2015 International Residential Code® (IRC)
- 2022 California Building Code, Title 24 Part 2 (CBC) – attached supplement
- 2022 California Residential Code, Title 24 Part 2.5 (CRC) – attached supplement
- 2023 Los Angeles Building Code (LABC) – attached supplement
- 2023 Los Angeles Residential Code (LARC) – attached supplement
- 2023 and 2020 Florida Building Code, Building (FBC) – Including HVHZ – attached supplement
- 2023 and 2020 Florida Building Code, Residential (FBC) – Including HVHZ – attached supplement
- AISI S100-16(2020) w/S2-20, AISI S100-16, and AISI S100-12, North American Specification for the Design of Cold-Formed Steel Structural Members

2.0 LIMITATIONS

Use of the AIRLIGHT T&G Building Panels recognized in this report is subject to the following limitations:

2.1 Calculations and details shall be prepared by a registered design professional when required by the statutes of the jurisdiction in which the project will be constructed. Structural calculations shall be submitted to the building official for review and approval. Calculations shall establish that panel capacity and related connections safely support and resist minimum design loads specified in the applicable codes.

2.2 Connections shall be designed in accordance with the AISI North American Specification for the Design of Cold-Formed Steel Structural Members (AISI S100).

2.3 Except as provided for in IBC Sections 2603.4.1 and 2603.9, AIRLIGHT T&G Panels shall be separated from the interior of a building by ½-inch-thick (12.7 mm) gypsum wallboard fastened to the steel framing members in accordance with IBC Section 2508 or IRC Section R703.2, or other approved thermal barrier in accordance with Section 2603.4 of the IBC or Section R316.4 of the IRC. Thermal barrier exceptions in IBC Sections 2603.4.1.1 through 2603.4.1.14, as applicable, do not apply to foam plastic insulation used as an interior wall or ceiling finish in plenums.

2.4 In areas where the probability of termite infestation is very heavy, installation is limited in accordance with Section 2603.8 of the IBC or IRC Section 318.4.

2.5 Field-cutting or alterations of the panels are outside the scope of this report.

2.6 EPS foam plastic insulation used in the panels shall be listed in a product evaluation report showing compliance with the requirements of IBC Chapter 26 from an approved and accredited product certification agency or other nationally recognized certification program accepted by IAPMO Uniform Evaluation Service.

2.7 When tested in accordance with NFPA 286, AIRLIGHT T&G Building Panels comply with IBC Section 803.1.1 and IRC Section R316.7.

2.8 AIRLIGHT T & G Panels may be used in Seismic Categories A, B, C, and D, and may be used to resist a maximum allowable in-plane (racking) shear load (Table 5 of this report) with a corresponding deflection limit of H/240. When using the panels in Seismic Design Category D, the panels are limited to a maximum height of 35 feet (10.7 m) or less. All seismic design is subject to the seismic design coefficients, factors, and system limitations in ASCE/SEI 7-16 and -10 Table 12.2-1 for A.17, as listed in Table 1 of this report.

TABLE 1 Seismic Coefficients and Factors

SEISMIC FACTORS OR COEFFICIENT – 2021 and 2018 IBC (ASCE/SEI 7-16), 2015 IBC (ASCE/SEI 7-10)	
Response Modification Coefficient	R = 2
System Over-strength Factor	$\Omega_o = 2 \frac{1}{2}$
Deflection Amplification Factor	$C_d = 2$

2.9 Uses where fire-resistance-rated building elements, components, or assemblies are required are beyond the scope of this report.



2.10 AIRLIGHT T&G Building Panels recognized in this report are manufactured by Wanessa-Sue Inc. in Kingman, Arizona.

3.0 PRODUCT USE

3.1 General: AIRLIGHT T&G Panels are insulated structural composite panels used in Type V construction as interior or exterior wall panels, floor panels, or roof panels. Wall panels may be used either in load-bearing or non-load-bearing applications for residential and commercial buildings. Buildings shall be designed for lateral forces in accordance with the IBC or IRC, as applicable.

AIRLIGHT T&G Panels are used in Type V construction under the IBC and any construction allowed under the IRC.

3.2 Design:

3.2.1 Design loads shall be determined in accordance with the applicable code and, the manufacturer's design manual. Design loads shall not exceed the Allowable Stress Design (ASD) or Load and Resistance Factor Design (LRFD) panel capacity loads in Tables 3 and 4 of this report. The load application is shown in Figures 6 and 7 of this report.

3.2.2 In-Plane Shear Walls: The AIRLIGHT T&G Building Panels may be used to resist a maximum allowable in-plane (racking) shear load of 2,500 lb (1134 kg) with a corresponding deflection limit of 0.5 inch (12.7 mm). Seismic Coefficients and Factors are shown in Table 1 of this report. Additional details are shown in Figure 2 of this report. Where AIRLIGHT T&G Building Panels are combined with other types of shear walls in the same wall line, only one wall type shall be selected as the resisting element.

3.2.3 Contributions to load values from any bracing elements, such as siding, structural sheathing, (OSB, Plywood), and gypsum board are outside the scope of this report.

3.2.4 Loads tabulated in the load tables in this report may be used for shorter spans or shorter heights. Extrapolation of panel heights is outside the scope of this report.

3.2.5 Where loading conditions result in simultaneously applied loads, the sum of the ratios of imposed loads to allowable loads shall not exceed one for Allowable Stress Design (ASD).

3.2.6 The required loads shall be determined using Allowable Stress Design (ASD) or Load and Resistance Factor Design (LRFD). Load combinations shall be in accordance with 2021 IBC Sections 1605.1 or 1605.2, or 2018 and 2015 IBC Sections 1605.2 or 1605.3, except load combinations that include wind or seismic shall not be reduced nor shall allowable loads be increased.

3.2.7 Concentrated compression axial loads shall be centered over vertical framing members as shown in Figure 6 of this

report. These loads shall be less than or equal to the values in Table 3 of this report multiplied by the framing spacing [12 inches (305 mm), or 16 inches (406 mm)].

3.3 Installation:

3.3.1 Installation General: AIRLIGHT T&G Panels shall be installed in accordance with the manufacturer's installation instructions, this report, and IBC Section 2603. Where conflicts occur, the more restrictive shall govern.

3.3.2 Panel-to-Panel Connection: AIRLIGHT T&G Panels are connected together with at least three No.20 gauge steel connector/shear plates spaced at 24 inches (610 mm) on center maximum on the exterior side and on the interior side. The connector/shear plates are fastened to the framing with the self-tapping screws described in Section 4.2.7 of this report. A minimum of six screws shall be installed through the connector/shear plate into the vertical framing member. Figures 2 and 2.1 of this report illustrate the connections.

3.3.3 Corners: Corners shall be joined in accordance with the details shown in Figures 3, 4, and 8 of this report.

3.3.4 Exterior and Interior Wall Panels: Each exterior and interior wall panel shall be attached to the top and bottom tracks with No.20 gauge steel connector/shear plates using five No. 10 by ¾ inch (19.1 mm) long self-tapping screws as described in Section 4.2.7 of this report through both the track and each vertical framing member at the inside and outside face. Figures 2 and 2.1 illustrate the connections.

3.3.5 Roof and Floor Panels: Each roof and floor panel shall have an in-plane boundary element field installed across the width of the top and bottom of the panel similar to the top and bottom tracks of wall panels. The boundary element shall be designed by a registered design professional and approved by the building official.

3.3.6 Cladding Attachment

3.3.6.1 Exterior Wall Panels: Exterior wall panels shall be protected with a water-resistive barrier in accordance with IBC Chapter 14 or IRC Section R703. The exterior wall panels shall be protected with a code complying exterior wall covering. The exterior wall coverings shall be approved by the building official and installed in accordance with the manufacturer's recommendations. Exterior wall coverings shall be attached to the vertical framing members with fasteners of sufficient length to penetrate and protrude through the vertical framing members at least ¼ inch (6.4 mm). Combustible exterior wall coverings shall comply with IBC Section 1405.1. The interior panel face shall be covered with ½ inch (12.7 mm) thick gypsum wallboard, as set forth in Section 2.3 of this report, which may overlaid with an interior wall finish complying with IBC Section 803 or IRC Sections R302.9 and R702. Cladding connections to panel steel framing shall comply with AISI S240.



3.3.6.2 Interior Wall Panels: Interior wall panels shall be covered ½ inch (12.7 mm) thick gypsum wallboard, as set forth in Section 2.3 of this report, which may overlaid with an interior wall finish complying with IBC Section 803 or IRC Sections R302.9 and R702. Installation methods shall be approved by the building official and in accordance with the IBC or IRC. Cladding connections to panel steel framing shall comply with IBC Section 2508, IRC Section R702.3.5, or AISI S240. Additional details are shown in Figure 3 of this report.

3.3.6.3 Roof Panels: Roof panels shall be set and attached together to bear on roof beams, trusses, and bearing wall plates. The minimum roof slope shall be ¼:12 (2 percent) or as required for the roof covering. The deck on the top face shall comply with IBC Section 2603.4.1.5 or IRC Section R316.5.2, and ½ inch (12.7 mm) thick gypsum wallboard shall be installed on the ceiling face, as set forth in Section 2.3 of this report, which may overlaid with an interior wall finish complying with IBC Section 803 or IRC Sections R302.9 and R702. The roof covering, flashing, and underlayment shall be installed in accordance with IBC Chapter 15 or IRC Chapter 9, and approved by the building official. Ceilings exposed to the building interior shall be covered with an interior ceiling finish complying with IBC Section 803 or IRC Sections R302.9 and R805, and a thermal barrier complying with Section 2.3 of this report. Attic spaces shall be covered in accordance with IBC Section 2603.4.1.6 or IRC Section R316.5.3. Cladding connections to panel steel framing shall comply with AISI S240.

3.3.6.4 Floor Panels: Floor panels shall be set and attached together to bear on foundations, beams, and wall plates. Floor panels shall be covered on the walking face with minimum nominal ½ inch (12.7 mm) thick wood structural panel sheathing complying with IBC Section 2603.4.1.14 or IRC Section R316.5.13 on the top face and ½ inch (12.7 mm) thick gypsum wallboard shall be installed on the ceiling face, as set forth in Section 2.3 of this report, which may overlaid with an interior wall finish complying with IBC Section 803 or IRC Sections R302.9 and R702. Floor coverings shall be installed in accordance with the IBC or IRC and approved by the building official. Ceilings shall be covered with a ceiling finish complying with IBC Section 803 or IRC Sections R302.9 and R805. Cladding connections to panel steel framing shall comply with AISI S240.

4.0 PRODUCT DESCRIPTION

4.1 Product Information: AIRLIGHT T&G Panels are marketed under the trade name “AIRLIGHT Building Panel” and are insulated structural composite panels used in wall, roof, and floor applications (as shown in Figure 1 of this report). AIRLIGHT T&G Panels are manufactured with expanded polystyrene (EPS) foam plastic insulation and light gauge galvanized C-shaped steel framing to create a structural composite panel. Light gauge steel members are located flush with each face of the panel.

4.1.1 Panel: Each panel is manufactured in 48-inch (1219 mm) widths and lengths of 8 feet (2438 mm), 9 feet (2743 mm), 10 feet (3048 mm), or 12 feet (3658 mm). In addition, custom widths and lengths may be formed. Panels are 5½ inches (140 mm) thick. Each panel is installed with a tongue and groove on alternating vertical edges.

4.2 Material Information

4.2.1 Expanded Polystyrene (EPS): Expanded polystyrene foam plastic insulation used in the panels complies with IBC Section 2603 and IRC Section R316 and shall be Type II in accordance with ASTM C578, having a minimum density of 1.55 pounds per cubic foot (24.83 kg/m³), a flame-spread index of 25 or less and a smoke-developed index of 450 or less when tested in accordance with ASTM E84.

4.2.2 Panel Steel: All steel members shall be manufactured in accordance with ASTM A653 SS, Grade 50 ksi, and coated with G90 galvanizing that complies with ASTM A924. Thickness details are provided in [Table 2](#) of this report. Except as specifically noted, steel thicknesses in this evaluation report refer to the minimum uncoated base-metal thickness.

TABLE 2- Light Gauge Steel Thickness (inch)

Gauge	Uncoated			Coated (Galvanized)	
	Min	Nominal	AISI Design	Abs min	Normal
24	0.0209	0.0239	0.0220	0.0236	0.0276
20	0.0329	0.0359	0.0346	0.0356	0.0396
18	0.0428	0.0478	0.0451	0.0466	0.0516
16	0.0538	0.0598	0.0566	0.0576	0.0616

SI Units: 1 inch = 25.4 mm,

4.2.3 Framing: Framing members are light gauge, galvanized, C-shaped 3.375 inches by 1.25 inches by 0.25-inch (85.7 mm by 31.7 mm by 6.4 mm) steel members that are embedded at both faces. Framing members are roll-formed from Nos. 24-, 20-, 18-, and 16-gauge Grade 50 steel coils. Vertical steel members are spaced at 12 or 16 inches (305 or 406 mm) on center.

4.2.4 Tracks: Top and bottom tracks are minimum No.18 gauge steel C-shaped members.

4.2.5 Upper Header: Upper header is a metal (No. 16 or No. 18 gauge steel) L-shaped or C-shaped nominal 6-inch-wide (5½ inches actual) (140 mm) member. The L-shaped header is available for lengths up to 5 feet (1524 mm), and the C-shaped header is available for lengths exceeding 5 feet. A wood element with a minimum size of nominal 2 inches (1½ inches actual) (38 mm) by 6 inches (5½ inches actual) (140 mm) may be added. Metal or wood member width matches the EPS core thickness.

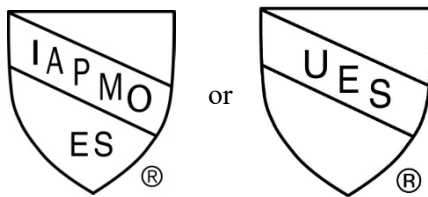


4.2.6 Connector/Shear Plate: Minimum connector/shear plate dimensions are 3-inches-by-6-inches (76 mm-by-127 mm) by 20 gauge [0.0359 inch (0.91 mm)].

4.2.7 Self-tapping Screws: Minimum screw size for connection of steel framing is No. 10 by ¾-inch-long (19 mm), self-tapping. Screws shall comply with AISI 1018 or equivalent. Screws shall be quenched in liquid and tempered by reheating to a minimum of 650 degrees Fahrenheit. Hardness shall conform to the Rockwell C44 hardness minimum value.

5.0 IDENTIFICATION

AIRLIGHT Panels are identified by a label that notes the manufacturer's name, product name, and the evaluation report number (ER-274). Either IAPMO UES Mark of Conformity below may also be used.



IAPMO ER-274

6.0 SUBSTANTIATING DATA

Test reports are from laboratories in compliance with ISO/IEC 17025. The test data submitted is in accordance with:

- Standard Test Methods of Conducting Strength Tests of Panels for Building Construction, ASTM E72.
- Standard Test Methods for Cyclic (Reversed) Load Test for Shear Resistance of Vertical Elements of the Lateral Force Resisting Systems for Buildings, ASTM E2126.
- Standard Methods of Fire Tests for Evaluating Contribution of Wall and Ceiling Interior Finish to Room Fire Growth, NFPA 286.

Load tables in this report were developed based on calculations to resist yielding, local buckling, and lateral buckling in accordance with the AISI Specification for the Design of Cold-Formed Steel Structural Members (AISI S100), and verification with ASTM E72 test data.

7.0 STATEMENT OF RECOGNITION

This evaluation report describes the results of research completed by IAPMO Uniform Evaluation Service on Wanessa-Sue, Inc. AIRLIGHT T&G Panels to assess conformance to the codes shown in Section 1.0 of this report and serves as documentation of the product certification. The AIRLIGHT T&G Panels are manufactured at the location noted in Section 2.10 of this report under a quality control program with periodic inspections under the supervision of IAPMO UES.

For additional information about this evaluation report please visit www.uniform-es.org or email us at info@uniform-es.org



**TABLE 3: Axial Compressive Design Strength of Wall Panels with Steel Framing At 16" on center,
No Sheathing or Siding Contribution**

Design Strengths			
Length (feet)	Gauge	ASD PLF (Lbs per lineal foot)	LRFD PLF (Lbs per lineal foot)
8	24	3,337	5,339
9	24	3,090	4,944
10	24	2,805	4,487
12	24	2,237	3,579
8	20	4,653	7,444
9	20	4,308	6,893
10	20	3,910	6,257
12	20	3,119	4,991
8	18	6,554	10,487
9	18	6,069	9,711
10	18	5,509	8,814
12	18	4,394	7,031
8	16	8,262	13,220
9	16	7,651	12,242
10	16	6,944	11,111
12	16	5,539	8,863

SI Units: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 plf = 14.59 N/m

The strengths are based on calculations complying with the AISI S100, and the IBC, and full-scale testing. Strengths are based on a factor of safety $\Omega = 2.00$ (ASD) or resistance factor $\phi = 0.80$ (LRFD). The values account for local buckling, yielding, and lateral buckling.



**TABLE 4: Allowable Transverse Strength of Panels with Studs At 16" on center,
No Sheathing or Siding Contribution**

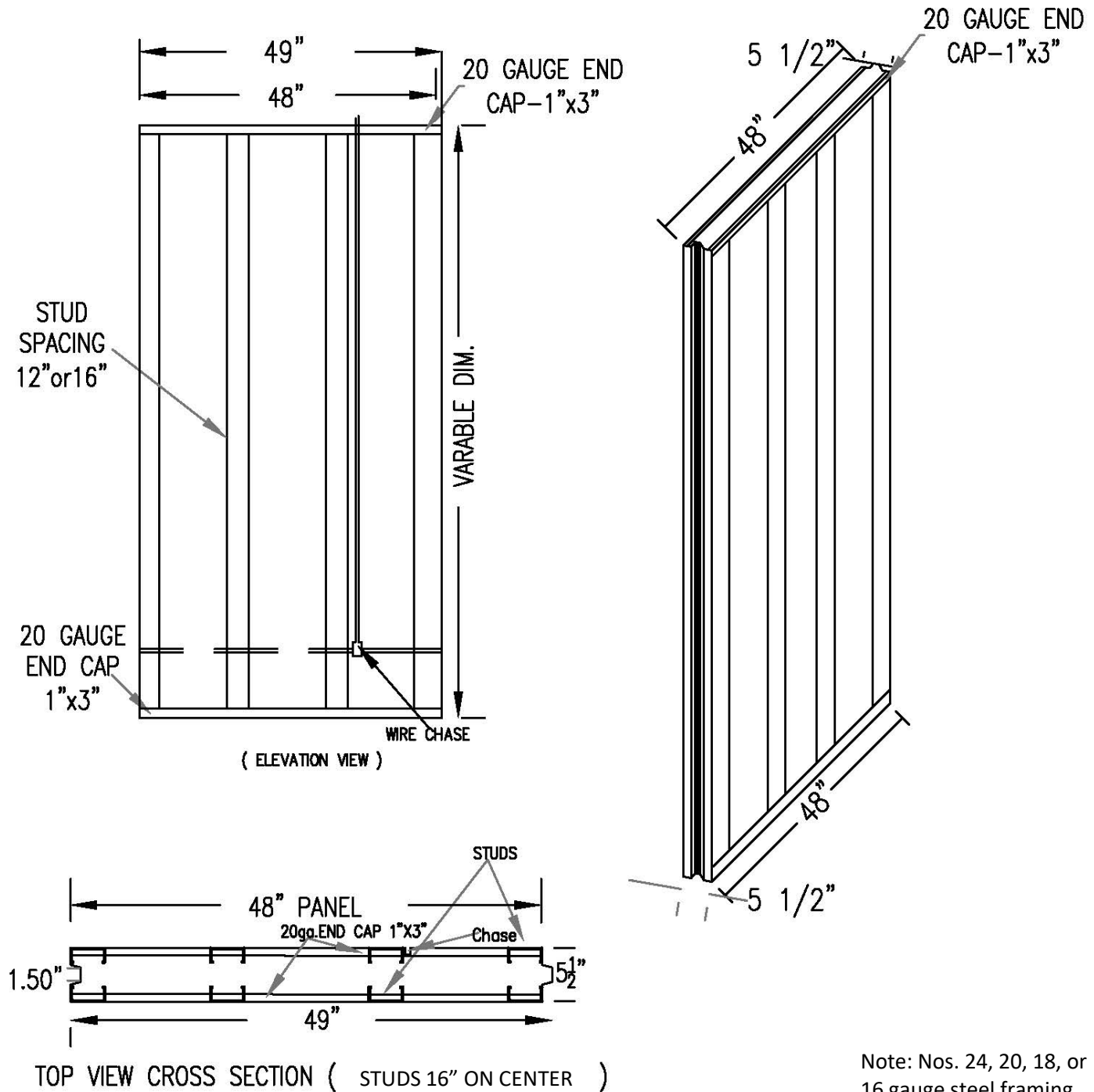
5.5" Thick Panel with Track Type Studs at 16" o.c.; No Gypsum Board or Siding Contribution				
Studs 3.375 X 125 X0.25		(ASD) Transverse Strength (psf)		
		Deflection Limit		
Gauge No.	Height (ft)	L/120	L/240	L/360
24	8	172	86	57
24	9	121	60	40
24	10	88	44	29
24	12	51	25	17
20	8	264	132	88
20	9	185	93	62
20	10	135	67	45
20	12	78	39	26
18	8	341	170	113
18	9	240	120	80
18	10	161	91	64
18	12	101	50	34
16	8	423	211	140
16	9	297	148	99
16	10	216	108	72
16	12	125	62	42

SI Units: 1 inch = 25.4 mm,

a) The strengths are based on calculations complying with the AISI S100, and the IBC, and full-scale testing. Allowable strengths are based on a factor of safety of 2. The values account for local buckling, yielding, and lateral buckling.



FIGURE 1 – Typical AIRLIGHT T&G Insulated Structural Panel



Note: Nos. 24, 20, 18, or 16 gauge steel framing may be used according to engineering specifications.

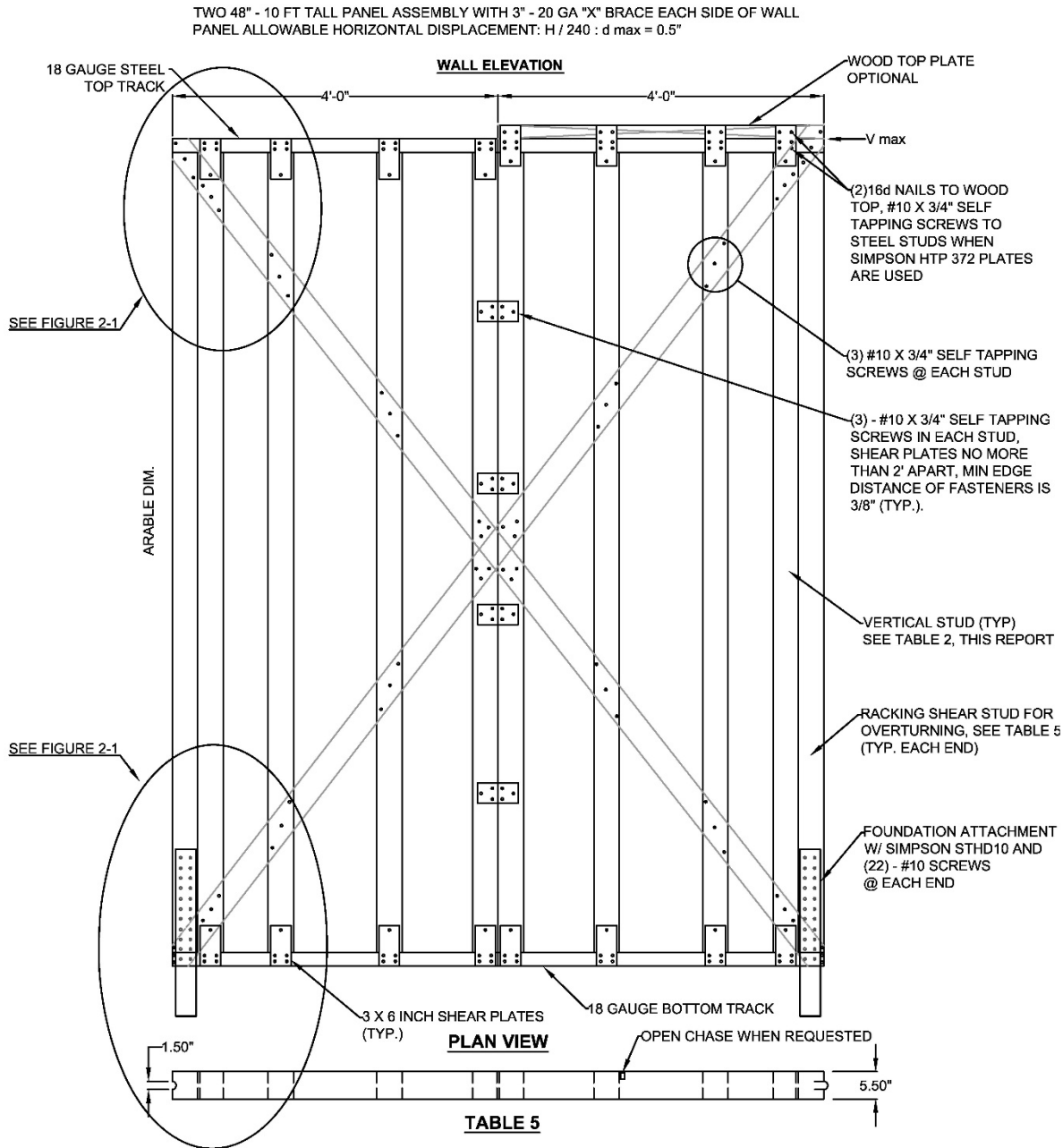


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Valid Through: 11/30/2024

Figure 2 – AIRLIGHT T&G Shear Panel: Fastening System For Two Adjacent Panels



Maximum Allowable (ASD) Horizontal Shear Force Table: $V_{max} = 3,185 \text{ lbs. @ } 8'-0" \text{ H}$					
Wall Height (H)	V_{max} (lbs.)	24 Ga. Stud	20 Ga. Stud	18 Ga. Stud	16 Ga. Stud
8'-0"	3,185	3,157	4,615	7,139	11,893
9'-0"	2,831	3,007	4,558	6,531	10,897
10'-0"	2,548	2,805	3,910	5,509	6,944
11'-0"	2,316	2,741	3,835	5,260	6,672
12'-0"	2,123	2,676	3,760	5,010	6,399

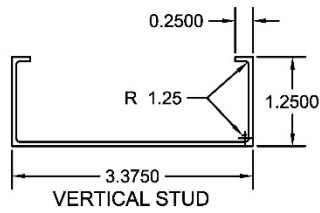
Based on $T_{max} = 3,185 \text{ lbs. in the STHD10}$

RACK SHEAR "X" BRACE PANEL ASSEMBLY

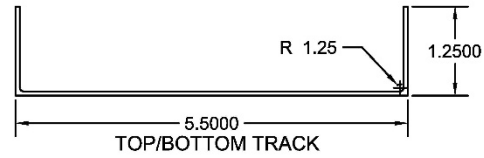
ALLOWABLE LOADS HAVE BEEN INCREASED 33% FOR EARTHQUAKE OR WIND LOADING WITH NO FURTHER INCREASE ALLOWED; REDUCE FOR OTHER LOAD DURATIONS ACCORDING TO THE IBC CODE. MULTIPLY THE LOADS SHOWN BY 0.75 WHEN A 33% INCREASE FOR WIND OR EARTHQUAKE LOADING IS NOT ALLOWED BY THE IBC OR WHEN THE 0.75 LOAD COMBINATION FACTOR IN AISI. MINIMUM EDGE DISTANCE OF 1/2" ON THE STHD10 AND A MINIMUM CONCRETE STRENGTH OF 2,000PSI (3,000 PSI IS RECOMMENDED).



FIGURE 2.1 – Typical AIRLIGHT Panel Connection Details

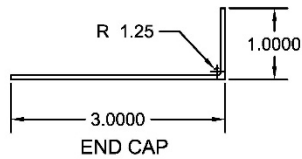


ASTM-A653 SS GR. 50
G-90 GALVANIZED

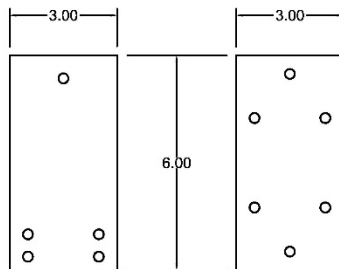


ASTM-A653 SS GR. 50
G-90 GALVANIZED

Note: Nos. 24, 20, 18, or
16 gauge steel framing
may be used according to
engineering specifications.



ASTM-A653 SS GR. 50
G-90 GALVANIZED



CONNECTOR / SHEAR PLATE
20 GAUGE ASTM A653 SS
GR. 50 G-90 GALVANIZED, MIN.
EDGE DISTANCE OF
FASTENERS IS 3/8" (TYP.)

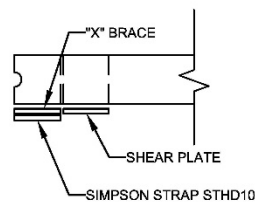
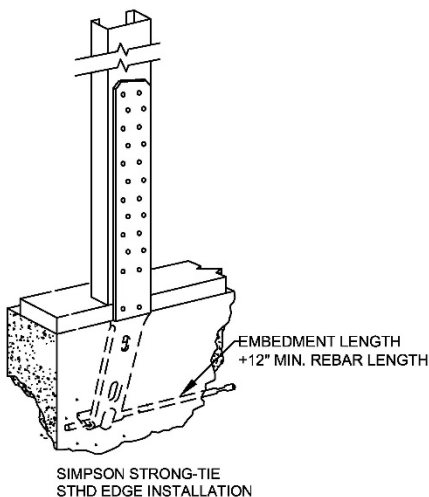
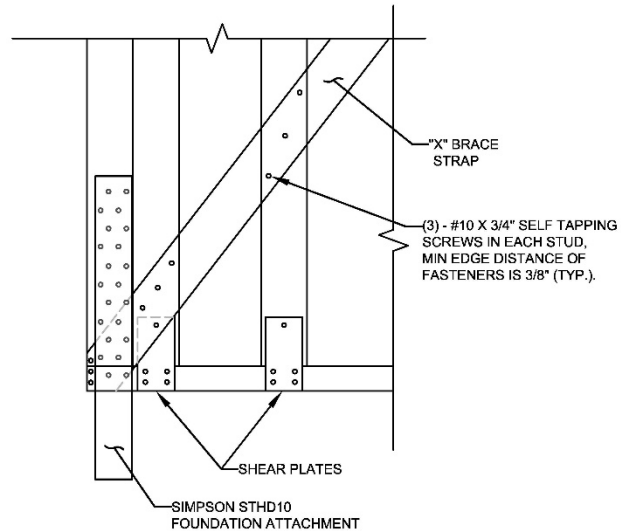
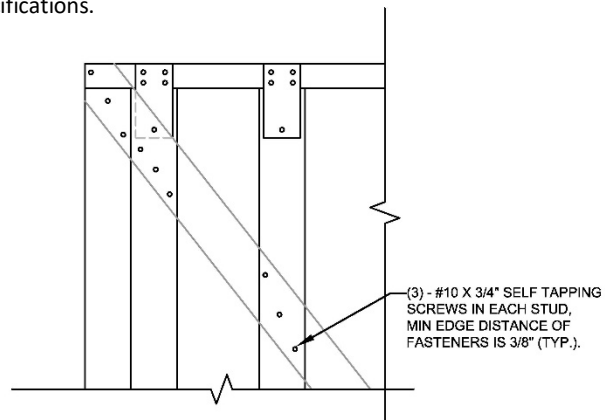
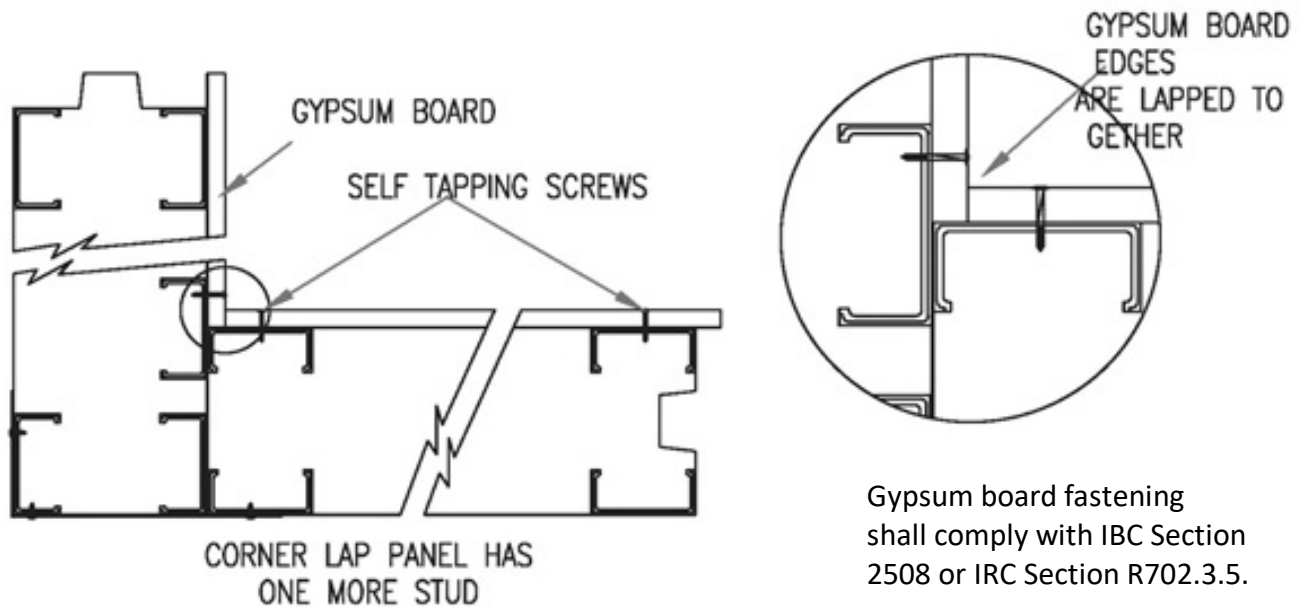


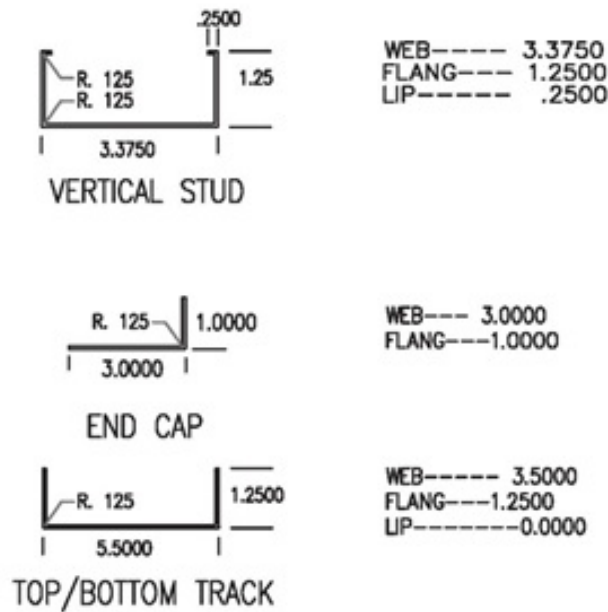
FIGURE 2-1



FIGURE 3 – Typical AIRLIGHT Panel Corner Detail for Installing Gypsum



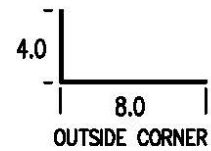
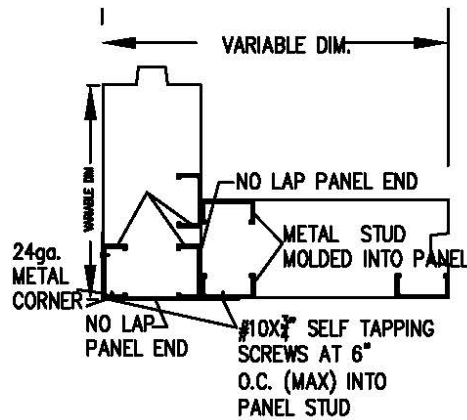
Gypsum board fastening shall comply with IBC Section 2508 or IRC Section R702.3.5.



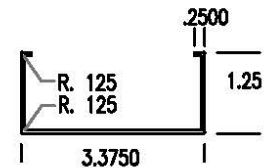
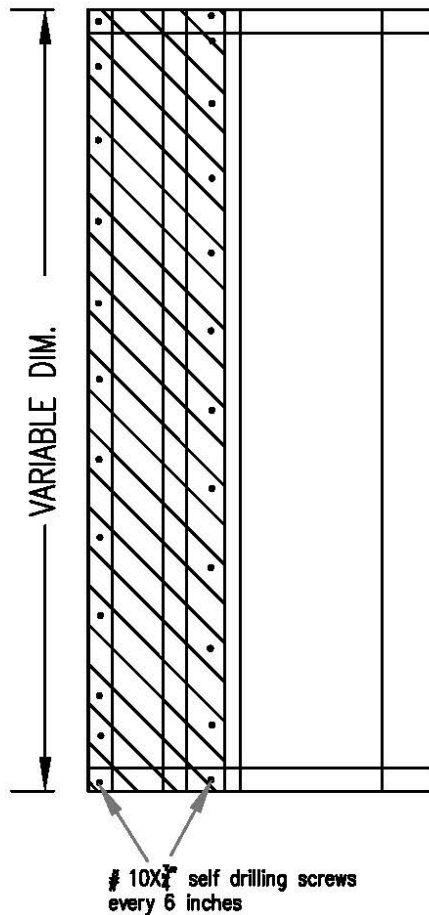
Note: Nos. 24, 20, 18, or 16 gauge steel framing may be used according to engineering specifications.



FIGURE 4 – AIRLIGHT T&G Panel: Wall Panel Corner Fastening Details



ASTM-A653 SS GR. 50
G-90 Galvanized



VERTICAL STUD
24 GAUGE (SEE NOTE)
ASTM-A653 SS GR. 50
G-90 GALVANIZED

Note: Nos. 24, 20, 18, or 16 gauge steel framing may be used according to engineering specifications.

FIGURE 5 – AIRLIGHT Wall Panel Anchoring Details

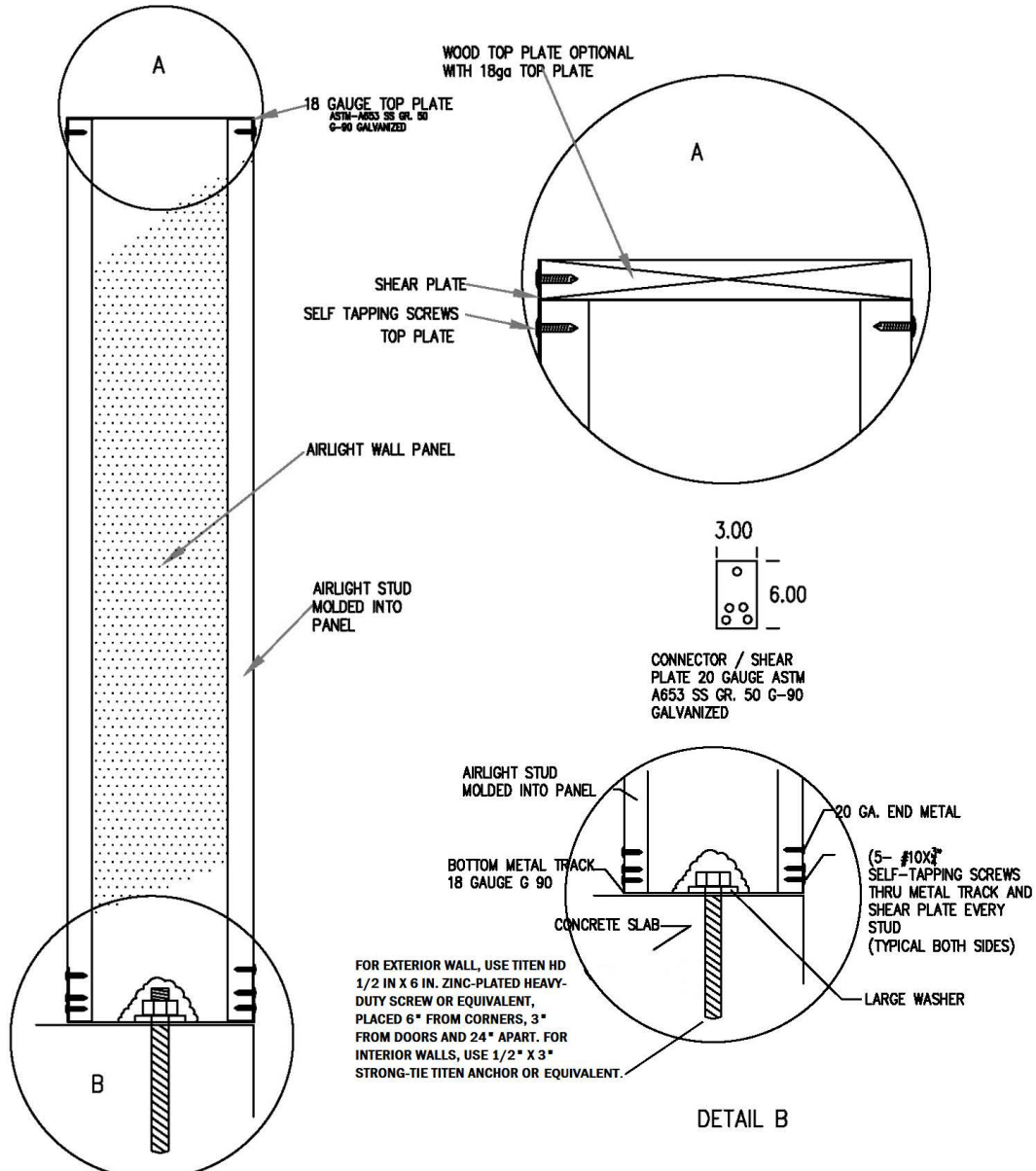


FIGURE 6 – Concentrated Axial Compression Load, P (lbs.)

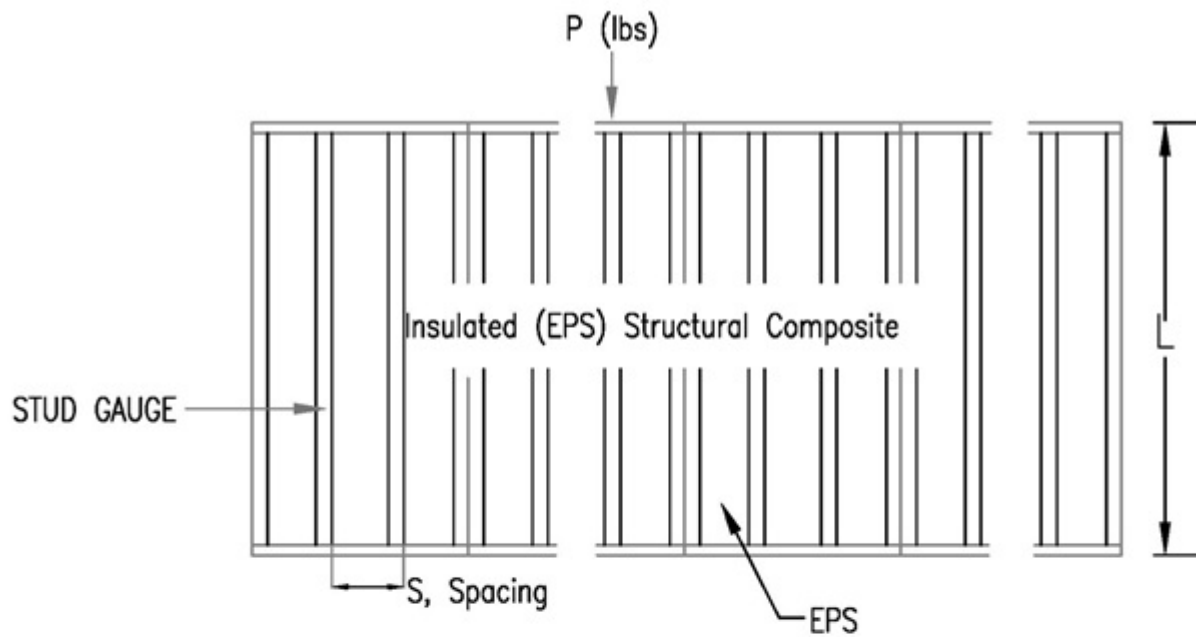


Figure 7 Distributed Axial Compression Load, P (lbs/ft)

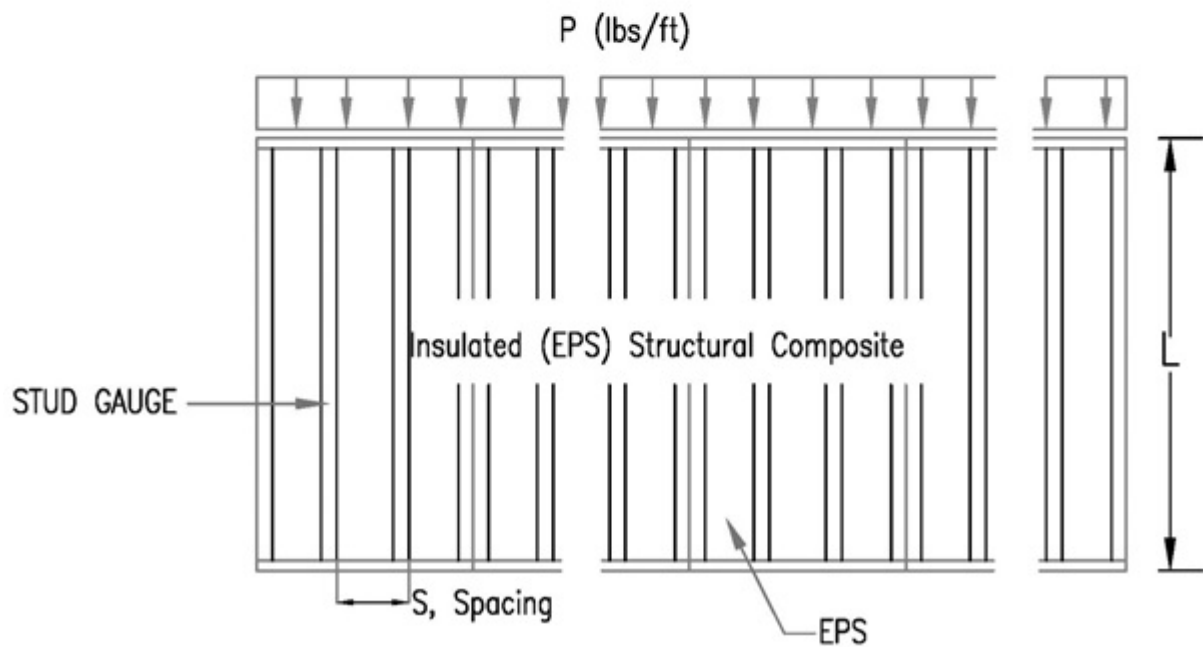
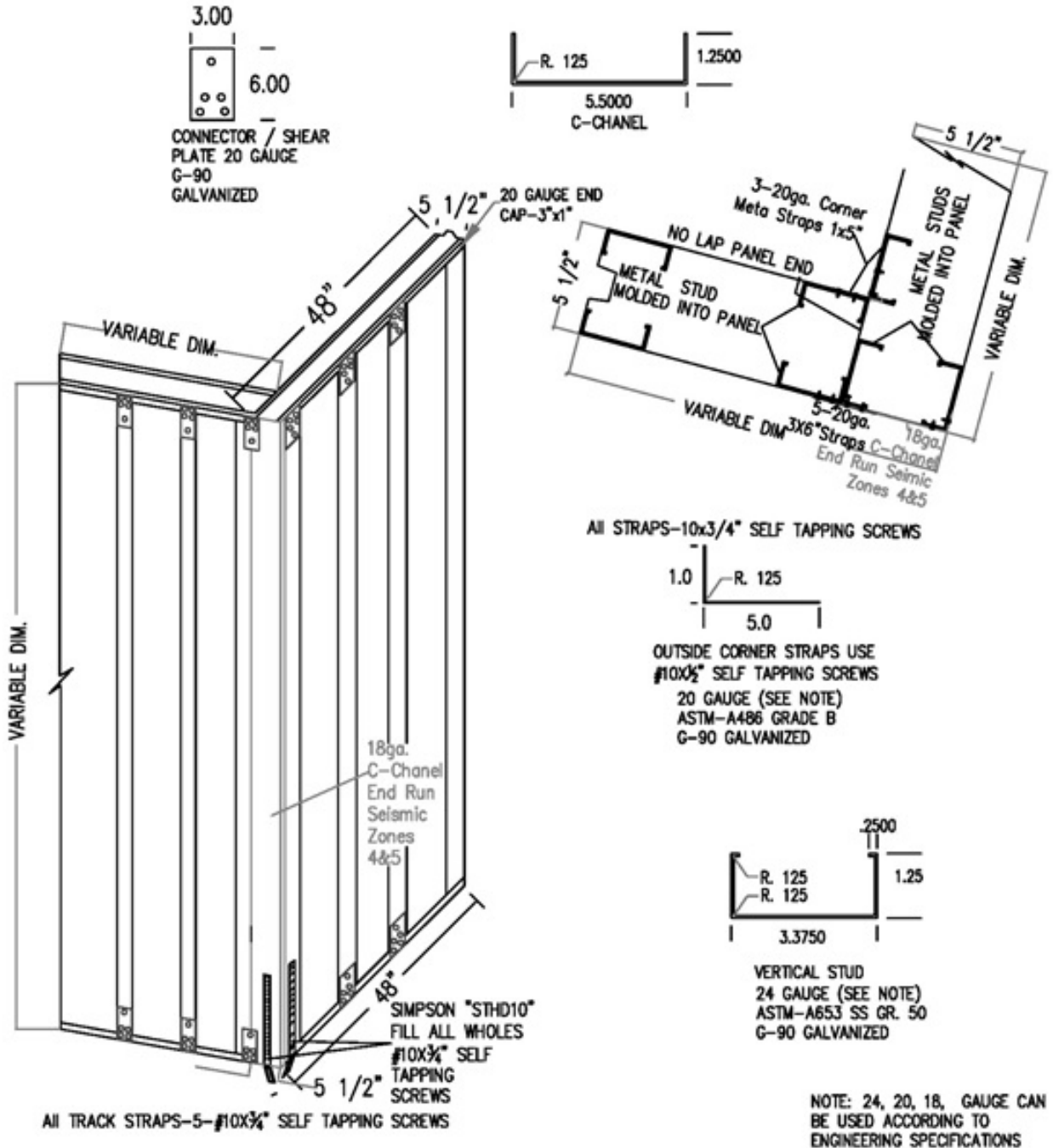


FIGURE 8 – Typical Details





CALIFORNIA SUPPLEMENT

WANESEA-SUE, INC.
P. O. Box 3758
Kingman, AZ 86402
www.wanessa-sue.com

AIRLIGHT BUILDING T&G PANELS

CSI Sections:

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1.0 RECOGNITION

The AIRLIGHT T&G Building Panels evaluated in IAPMO UES ER-274 and this supplement, complies with the following codes, subject to the additional requirements in Section 2.0 of this supplement:

- 2022 California Building Code, Title 24 Part 2 (CBC)
- 2022 California Residential Code, Title 24 Part 2.5 (CRC)

2.0 LIMITATIONS

Use of the AIRLIGHT T&G Building Panels recognized in ER-274 and this report supplement is subject to the following limitations:

2.1 The design and installation of the AIRLIGHT T&G Building Panels shall be in accordance with the 2021 IBC or 2021 IRC, as noted in ER-274.

2.2 Use in Fire Hazard Severity Zones and Wildland Interface Fire Areas shall be in accordance with CBC Chapter 7A and Section 1505.1, or CRC Sections R337 and R902.1.

2.3 This supplement expires concurrently with ER-274.

For additional information about this evaluation report please visit www.uniform-es.org or email us at info@uniform-es.org



FLORIDA SUPPLEMENT

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AIRLIGHT BUILDING T&G PANELS

CSI Sections:

- 05 41 00 Structural Metal Stud Framing**
- 05 42 13 Cold-Formed Metal Floor Joist Framing**
- 05 42 23 Cold-Formed Metal Roof Joist Framing**
- 07 21 19 Foamed-In-Place Insulation**
- 07 41 63 Fabricated Roof Panel Assemblies**
- 07 42 63 Fabricated Wall Panel Assemblies**

1.0 RECOGNITION

The ARLIGHT T&G Building Panels evaluated in IAPMO UES ER-274 and this supplement, complies with the following codes, subject to the additional requirements in Section 2.0 of this supplement:

- 2023 and 2020 Florida Building Code, Building (FBC - Building) – Including HVHZ
- 2023 and 2020 Florida Building Code, Residential (FBC - Residential) – Including HVHZ

2.0 LIMITATIONS

Use of the ARLIGHT T&G Building Panels recognized in ER-274 and this report supplement is subject to the following limitations:

2.1 2023 FBC, Building and 2023 FBC, Residential: The design and installation of the ARLIGHT T&G Building Panels shall be in accordance with the 2023 Florida Building Code, Building, or the 2023 Florida Building Code, Residential, as applicable, and the 2021 International Building Code and the 2021 International Residential Code as noted in ER-274.

2.2 2020 FBC, Building and 2020 FBC, Residential: The design and installation of the ARLIGHT T&G Building Panels shall be in accordance with the 2020 Florida Building Code, Building, or the 2020 Florida Building Code, Residential, as applicable, and the 2018 International Building Code and the 2018 International Residential Code as noted in ER-274.

2.3 Load combinations shall be in accordance with Sections 1605.1 or 1605.2 of the 2023 FBC, Building or with Sections 1605.2 or 1605.3 of the 2020 FBC, Building as applicable.

2.4 Design wind loads shall be in accordance with Section 1609.1.1 of the FBC, Building or Section R301.2.1.1 of the

FBC, Residential, as applicable, and Section 1620 of the Florida Building Code, Building where used in high-velocity hurricane zones (HVHZ).

2.5 Use of the ARLIGHT T&G Building Panels as roofing panels in high-velocity hurricane zones (HVHZ) shall be in accordance with Section 3.1 of this evaluation report supplement.

2.6 Use of the ARLIGHT T&G Building Panels as wall panels in high-velocity hurricane zones (HVHZ) shall be in accordance with Section 3.2 of this evaluation report supplement.

2.7 ARLIGHT T&G Building Panels shall be installed with a minimum clearance of 6 inches (152 mm), above grade and exposed earth in accordance with Sections 1403.8 and 2603.8 of the FBC, Building, and R318.8 of the FBC, Residential.

2.8 For products falling under Section (5)(d) of Florida Rule 61G20-3.008, verification that the report holder's quality assurance program is audited by a quality assurance entity approved by the Florida Building Commission (or the building official when the report holder does not possess an approval by the Commission), to provide oversight and determine that the products are being manufactured as described in this evaluation report to establish continual product performance.

3.0 HVHZ USE

3.1 Roof Panels: The provisions in Sections 1512 to 1525, 1626, and 2222 of the FBC, Building shall apply where ARLIGHT T&G Building Panels are used in high-velocity hurricane zones (HVHZ). Panels and connections shall be designed in accordance with Section 3.2 of this report for the wind loads set forth in FBC, Building Section 1620. Installation shall be in accordance with Section 3.3 of ER-274. Roof deck and roof covering connections to panel steel framing shall comply with AISI S240; as an alternative for one- and two-family dwellings, connections shall comply with the high wind area requirements in AISI S230. The minimum roof slope shall be ¼:12 (2 percent) or as required for the roof covering. Fire Classification shall comply with FBC, Building Section 1516. The deck on the exterior face shall comply with FBC, Building Sections 1626, 2322.2, and 2603.4.1.5 or IRC Section R316.5.2, and a thermal barrier complying with Section 2.3 of ER-274 shall be installed on the ceiling face. The roof flashing, coping, and drainage shall be installed in accordance with FBC, Building Section 1514, and approved by the building official. The roof covering shall be installed in accordance with FBC, Building Sections 1518 or 1519, and 1626, and approved by the building official. Testing in accordance with FBC, Building Section 1626 shall be submitted to the building official for approval, unless the roof system complies with Exception 3 or 5 of Section 1626.4. In accordance with Section R804.1 of FBC, Residential, (AIS S230) minimum No. 20 gauge steel framing is required.



3.2 Exterior Wall Panels: The provisions in Sections 1616, 1620, 1626, and 2222 of the FBC, Building shall apply where AIRLIGHT T&G Building Panels are used as exterior wall panels in high-velocity hurricane zones (HVHZ). Panels and connections shall be designed in accordance with Section 3.2 of this report for the wind loads set forth in FBC, Building Section 1620. Installation shall be in accordance with Section 3.3 of ER-274. A water-resistive barrier in accordance with FBC, Building Chapter 14, or FBC, Residential Section R703 shall be provided. The exterior wall panels shall be protected with an exterior wall covering and sheathing complying with FBC, Building Chapter 14 or FBC, Residential Chapter 7, and FBC, Building Section 1626. Testing in accordance with FBC, Building Section 1626 shall be submitted to the building official for approval, unless the walls comply with Exception 2 or 3 of Section 1626.4. The exterior wall coverings shall be approved by the building official and installed in accordance with the manufacturer's recommendations. Exterior wall coverings shall be attached to the vertical framing members with fasteners of sufficient length to penetrate and protrude through the vertical framing members at least 1/4 inch (6.4 mm). Combustible exterior wall coverings shall comply with FBC, Building Section 1405.1. Cladding connections to panel steel framing shall comply with AISI S240. As an alternative for one- and two-family dwellings, connections shall comply with the high wind area requirements in AISI S230. Exterior openings and glazing shall comply with FBC, Building Section 1626, and Chapter 24. In accordance with Section R603.1 of the FBC, Residential, minimum No. 20 gauge steel framing is required.

3.3 This supplement expires concurrently with ER-274.

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1.0 RECOGNITION

The AIRLIGHT T&G Building Panels evaluated in IAPMO UES ER-274 and this supplement, complies with the following codes, subject to the additional requirements in Section 2.0 of this supplement:

- 2023 Los Angeles Building Code (LABC)
- 2023 Los Angeles Residential Code (LARC)

2.0 LIMITATIONS

Use of the AIRLIGHT T&G Building Panels recognized in ER-274 and this report supplement is subject to the following limitations:

2.1 The design and installation of the AIRLIGHT T&G Building Panels shall be in accordance with the 2022 CBC or 2022 CRC, as noted in the California Supplement to ER-274.

2.2 The design and installation of the AIRLIGHT T&G Building Panels shall be in accordance with the 2023 LABC or 2023 LARC.

2.3 Simultaneously applied loading interactions shall be analyzed in accordance with Section 3.2.5 of ER-274.

2.4 Load combinations and load capacities shall comply with Section 3.2.6 of ER-274.

2.5 Use in Fire Hazard Severity Zones and Wildland Interface Fire Areas shall be in accordance with LABC Chapter 7A and 1505.1 or LARC Sections R337 and R902.1.

2.6 Use of AIRLIGHT T&G Building Panels as shear walls for seismic resistance is beyond the scope of this report.

2.7 Where AIRLIGHT T&G Building Panels are located as exterior walls, a weather-resistant exterior wall envelope shall be provided in accordance with LABC Section 1402 or LARC Section R703.1. Exterior walls and associated openings shall be designed to resist superimposed loads in accordance with LABC Section 1402.3.

2.8 Use of AIRLIGHT T&G Building Panels, as components of roof assemblies, shall comply with LABC Section 1505.1. Wood shake or wood shingle roof coverings are not permitted.

2.9 Calculations and details shall be prepared, stamped, and signed by a California registered design professional, and submitted to the Structural Plan Check section for review and approval.

2.10 This supplement expires concurrently with ER-274.

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