ALL WEATHER INSULATED PANELS
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AWIP FOAM CORE PANELS (DM40, FL40, HE40, HE40A, ST40 WALLS; SR2, HR3, AND HR5 ROOFS)

CSI Division:
07 00 00-THERMAL AND MOISTURE PROTECTION
CSI Section:
07 40 00-Roofing and Siding Panels

1.0 EVALUATION SCOPE

1.1 Compliance with the following codes:

- 2018 and 2015 International Building Code® (IBC)
- 2018 and 2015 International Residential Code (IRC)
- 2020 City of Los Angeles Building Code (LABC) – attached Supplement
- 2020 City of Los Angeles Residential Code (LARC) – attached Supplement

1.2 Evaluated in accordance with:

- ICC-ES AC04

1.3 Property evaluated:

- Structural
- Fire Resistance

2.0 USES

All Weather Insulated Panels (AWIP) Foam Core Panels are used as interior or exterior non-load-bearing wall, ceiling, or roof panels. The DM40, FL40, HE40, HE40A, and ST40 are interior and exterior nonbearing wall or ceiling panels used at locations where combustible, Type V, non-fire-resistance-rated building construction is permitted by the *2018* and *2015* IBC and IRC. The SR2, HR 3, and HR 5 are for use as roof panels in combustible non-fire-resistance-rated construction. All panels comply with requirements for prefabricated construction set forth in Section K107 of the IBC.

3.0 PRODUCT DESCRIPTION

3.1 General: AWIP Foam Core Panels are factory-assembled sandwich panels with metal facings and a foamed-in-place polyisocyanurate foam plastic insulation core The DM40, FL40, HE40, HE40A, and ST40 panels are available in thicknesses of 2.5 to 6 inches (63.5 to 152 mm) and are 40 inches (1016 mm) wide and up to 72 feet (21,945 mm) long.

The SR2, HR3, and HR5 roof panels are available in thicknesses of 2.5 to 6 inches (63.5 to 152 mm) and are 40 inches (1016 mm) wide and up to 72 feet (21,945 mm) long. Panels are formed with both a single or double tongue-in-groove interlocking longitudinal edge, and straight ends. Panel exterior and interior liners are available in the profiles shown in Figure 1 of this report.

3.2 Panel Core: The core is a polyisocyanurate foam plastic insulation complies with ASTM C1029. This polyisocyanurate foam plastic insulation described in the approved quality control manual is continuously foamed in place into the core of the panel. The cores have a nominal density of 2.0 through 2.5 pcf (33.6 - 40.0 kg/m^3). The polyisocyanurate foam plastic insulation has a flame-spread index of not more than 25 and a smoke-developed index of not more than 450 when tested in accordance with ASTM E84.

3.3 Panel Facings: Panel facings, unless noted, are fabricated from No. 26, No. 24, or No. 22 gauge [nominal 0.0187, 0.023, or 0.029 inch (nominal 0.475, 0.599, or 0.737 mm), respectively, base-metal thickness] carbon steel conforming to ASTM A653SS Grade 33 with a Class G90 galvanized coating or ASTM A792 SS Grade 33 with a Class AZ-50 galvalume coating. The panel facings are also fabricated from 304 series stainless steel conforming to ASTM A240 with a minimum yield strength of 35 ksi (241 MPa). The stainless steel panels are formed from steel having a base-metal thickness of No. 26, No. 24, or No. 22 gauge [nominal 0.0175, 0.0225, or 0.0295 inch (nominal 0.44, 0.57, or 0.75 mm), respectively]. The panel facings are available with various finishes, such as PVDF, SMP, Polyester, and Plastisol applied over an epoxy primer. The finishes have a Class A flame-spread classification and a smoke density not exceeding 450 in accordance with Section 803.1 of the *2018* and *2015* IBC. The Wall Panel facings are available in five profiles: Mesa, Flat, Striated, Heavy Embossed, and AdobeTexture™. The Roof Panel exterior facings have a roll-formed, trapezoidal ribbed profile. All interior facings are Mesa profiled. Figure 1 of this report shows panel types and profiles.

3.4 Fasteners: The fasteners used to attach the panels to steel supports with WC-01 Wall Panel clips shall be ¼-14, ¼-20, or ¼-28 ITW Buildex TEKS® Self-Drilling Fasteners with TEK 3 or TEK 5 drill tips recognized in ICC-ES ESR-1976. The WC-01 clips are fabricated from No. 16 gauge 0.0157 inch (0.4mm) thick galvanized steel and have three $^5/_{16}$-inch diameter (7.9 mm) predrilled holes. The SR series roof clips are fabricated from No. 24 gauge 0.0225 inch

(0.57 mm) thick 304 2B stainless steel with three $^{5}/_{16}$-inch-diameter (7.9 mm) predrilled holes. The EC-01 Standing Seam Enhancement Clips are fabricated from No. 20 gauge 0.0344-inch (0.87 mm) painted steel at 6 inch (150 mm) length installed over the completed panel standing seam over the SR clips.

The HR series SW-01 roof saddle washers are fabricated from No. 16 gauge [0.0157-inch (0.4mm)] galvanized steel with one $^{5}/_{16}$-inch diameter (7.9 mm) hole.

3.5 Sealant: Non-skinning butyl sealant shall be used for panel joints and trim. Sealants shall conform to AAMA Voluntary Specification and Test Methods for Non-drying Sealants (AAMA 809.2-92). The sealant shall be applied to clean and dry surfaces at temperatures ranging from 40°F to 120°F (5°C to 49°C).

3.6 Panel Supports: Steel support thicknesses shall range between No. 16 gauge [0.0568 inch (1.44 mm)] and $^{3}/_{16}$ inch (4.8 mm). Figure 5 and 5A of this report illustrates all panel clips.

DM40, FL40, HE40, HE40A, and ST40 wall panel supports shall have a minimum No. 16 gauge [minimum 0.0568 inch (1.44 mm) base metal thickness] and have minimum yield strength of 50 ksi (345 MPa).

The SR2 roof panel supports shall have a minimum No. 16 gauge [minimum 0.0568 inch (1.44 mm) base metal thickness] and have a minimum yield strength of 50 ksi (345 MPa).

The HR3 and HR5 panel supports shall have a minimum No. 16 gauge [minimum 0.0568 inch (1.44 mm)] base metal thickness and have a minimum yield strength of 50 ksi (345 MPa).

4.0 DESIGN AND INSTALLATION

4.1 Design: Allowable loads for all panel types are shown in Tables 2A, 2B, 2C, 3A, 3B, and 3C of this report. Analyses and fastening schedules may also be provided as required by the building official to demonstrate acceptability for specific applications. The structural steel support members and the connection of the panels to the support members shall be designed to resist the applied forces.

4.2 Installation: Each panel shall be installed with the longitudinal edge oriented in the vertical or horizontal direction. Panels may be installed in single or multiple span conditions. Panels shall always run perpendicular to the supporting steel members.

4.3 Wall Panels: The wall panels are secured to each supporting steel member with one WC-01 Wall Panel Clip at every panel joint and at the left and right ends and two or three ¼-14, ¼-20, or ¼-28 ITW Buildex TEKS® Self-Drilling Fasteners with TEK 3 or TEK 5 drill tips at each panel joint that penetrate through the panel's metallic facings into the supporting steel member, as shown in Figure 2 of this report.

4.4 Sealant: A minimum ⅜-inch diameter (9.6 mm) bead of non-skinning butyl sealant described in Section 3.5 of this report shall be factory or field applied into one or both of the grooves of the panel side joints. Sealant shall be applied to the side joints of adjacent panels prior to the panels' being engaged. Complete installation of the panel assembly shall be in accordance with the sealant manufacturer's installation instructions.

Provided the sealants and application of the sealants are satisfactory to the building official, panels exposed to weather do not require a weather-resistive barrier in accordance with Section 1405 of the *2018* and *2015* IBC and Section R703.4 of the IRC or roof covering in accordance with Section 1503 of the *2018* and *2015* IBC and Chapter 9 of the IRC when panels are installed with sealant as specified in this section, Section 4.2, and are flashed. Flashing shall be placed in accordance with Section 1405 of the *2018* and *2015* IBC on both ends of panels when the installation is at the building's base, and at eaves, openings, and horizontal and vertical corners. The flashing and trim are attached to the panels using a minimum ¼-inch diameter (6.4 mm) bead of non-skinning butyl sealant, No. 14 TEK 1 HWH (Stitch tek), and No. 10 by ¾-inch (19 mm) Phillips pan-head, self-tapping, self-drilling screws, or pop rivets in accordance with the manufacturer's installation guide.

4.5 Roof Panels

4.5.1: AWIP SR series roof panels are installed at a minimum slope of one-quarter unit vertical in 12 units horizontal (2-percent slope) complying with the requirements for standing seam roof systems in Section 1507.4.2 of the *2018* and *2015* IBC and are attached to structural members at each panel side joint, using the SR series clips. Butyl sealant shall be placed at each underlying panel side lap before the adjacent panel covers the joint.

The SR2 insulated standing seam roof panels with minimum No.26 gauge (minimum 0.0187 inch (0.475 mm) base metal thickness) exterior facers and No.26 gauge (minimum 0.0170 inch (0.43 mm) base metal thickness) interior facers that are installed perpendicular to each steel support at each panel side rib with SR series clip appropriate for use with the panel thickness using ¼-14, ¼-20, or ¼-28 ITW Buildex TEKS® Self-Drilling Fasteners with TEK 3 or TEK 5 drill tips secured to each structural support at each panel side rib, as shown in Figure 3 of this report. EC-01 clip is attached after installation and seaming of panels over the SR Series clip as described in Table 3A and Section 3.4 of this report.

The HR3 and HR5 insulated roof panels with No. 26 gauge 2 (minimum 0.0170 inch (0.43 mm base metal thickness) exterior facers and No. 26 gauge (minimum 0.0170 inch (0.43 mm base metal thickness) interior facers are installed perpendicular to each steel support at each panel high rib with

one ¼-14, ¼-20, or ¼-28 ITW Buildex TEKS® Self-Drilling Fasteners with TEK 3 or TEK 5 drill tips through an SW-01 saddle washer, as shown in Figure 4 of this report.

4.5.2 Additional Considerations: Roof Panels without coverings are Class A roof covering assemblies. Class A roof coverings complying with Section 1505.2 of the *2018* and *2015* IBC are permitted to be installed over the panels. The fasteners shall be of sufficient length to penetrate through the panel skins. Underlayment and flashing shall be installed in accordance with the 2018 and 2012 IBC, or a current evaluation report.

4.6 Allowable Load Capacity: The allowable wall panel loads were derived from transverse load testing in accordance with ASTM E72, ASTM E1592, and ASTM E330 based on minimum panel thickness, panel weight, maximum support steel spacing, and minimum support steel thickness as set forth in Tables 2A, 2B, and 2C of this report. The allowable loads on roof panels are based on transverse load testing in accordance with ASTM E72, ASTM E1592, and ASTM E330 as set forth in Tables of this report. 3A, 3B, and 3C.

4.7 Combustible Construction: Panels having thicknesses of 2.5 through 6 inches (51 through 152 mm) are permitted to be used in Type V combustible construction.

5.0 LIMITATIONS

All AWIP Foam Core Panels described in this report comply with the code indicated in Section 1.0 of this report, subject to the following limitations:

5.1 The AWIP Panels shall be installed in accordance with this report and the manufacturer's published installation instructions, a copy of which shall be available at the job site. Where conflicts occur, the more restrictive shall govern.

5.2 The AWIP Panels installed as walls shall be limited to non-load-bearing wall applications.

5.3 Construction plans, details, and calculations for wall and roof framing and panel attachments shall be approved by the building official before panel installation. Calculations and details shall be prepared by a registered design professional where required by the statutes of the jurisdiction in which the project is to be constructed.

5.4 All AWIP panels described in this report with steel facings have been justified for installation without the thermal barrier required by Section 2603.4 of the *2018* and *2015* IBC and Section 316.4 of the IRC.

5.5 The AWIP Roof panels are permitted to be part of a Class A roof covering assembly as described in Section 1505.2 of the *2018* and *2015* IBC and Section 4.5.2 of this report.

5.6 The AWIP Panels, when installed in areas where the probability of termite infestation is very heavy, installation is limited in accordance with Section 2603.8 of the IBC or Section R318.4, as applicable.

5.7 The AWIP Panels are fabricated by All Weather Insulated Panels at its manufacturing facility in Vacaville, California, under a quality control program with inspections by Columbia Research & Testing Corporation (AA-527).

6.0 SUBSTANTIATING DATA

6.1 Data in accordance with the ICC-ES Acceptance Criteria for Sandwich Panels (AC04), approved June 2019.

6.2 Data in accordance with ICC-ES Acceptance Criteria for Foam Plastic Insulation (AC12), Approved June 2015, editorially revised October 2017.

6.3 Reports of tests in conformance with ASTM E72.

6.4 Test reports are from laboratories in compliance with ISO/IEC 17025.

7.0 IDENTIFICATION

Each panel is identified by a label indicating the name of the manufacturer (All Weather Insulated Panels); Each panel bundle is identified by a packing list indicating the product name and type; facing gauge; the name of the inspection agency (Columbia Research & Testing); and IAPMO UES evaluation report number (ER-301). Clips and caps, used as accessories, shall be identified with the name of the manufacturer (All Weather Insulated Panels); the product name and type; and the evaluation report number. Sealants shall be identified with the name of the sealant manufacturer; the product name and type; and the evaluation report number.

Sealants shall be identified with the name of the sealant manufacturer; the product name and type; and the sealant expiration date. A die-stamp label may also substitute for the label. Either IAPMO UES Mark of Conformity may also be used as shown below:

IAPMO ES ® or UES ®

IAPMO UES ER-301

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

TABLE 1: Panel Specification

STEEL THICKNESS GAUGE HEADER SPECIFIES INCH BUT DECIMAL IS IN MILLIMETERS.

No. 26, No. 24, or No. 22 gauge [nominal 0.0187, 0.023, or 0.029 inch (nominal 0.475, 0.599, or 0.737 mm)]

Panel Type	Panel Width (inches)	Available Panel Thickness (inches)	Exterior Profile	Interior Profile	Substrate (Steel Grade 33)	Steel Thickness No. 26, 24, 22 (inch)	Coatings
DM40	40	2.5-8	Mesa	Mesa	G90/AZ50	0.0187, 0.023, 0.029	PVDF, SMP, Polyester
FL40	40	2.5-8	Flat	Mesa	G90/AZ50	0.0187, 0.023, 0.029	PVDF, SMP, Polyester
HE40	40	2.5-8	Heavy Embossed	Mesa	G90/AZ50	0.0187, 0.023, 0.029	PVDF, SMP, Polyester
HE40A	40	2.5-8	AdobeTexture®	Mesa	G90/AZ50	0.0187, 0.023, 0.029	Patented AdobeTexture® System
ST40	40	2.5-8	Striated	Mesa	G90/AZ50	0.0187, 0.023, 0.029	PVDF, SMP, Polyester
MV40	40	2.5-8	Micro Vee	Mesa	G90/AZ50	0.0187, 0.023, 0.029	PVDF, SMP, Polyester
SR2	40	3.25-6	Standing Seam	Mesa	G90/AZ50	0.0187, 0.023, 0.029	PVDF, SMP, Polyester
HR3	40	2.5-6	Three High Rib	Mesa	G90/AZ50	0.0187, 0.023, 0.029	PVDF, SMP, Polyester
HR5	40	2.5-6	Five High Rib	Mesa	G90/AZ50	0.0187, 0.023, 0.029	PVDF, SMP, Polyester

For **SI**: 1 inch = 25.4 mm

TABLE 2A: DM40 Allowable Load Table (PSF) for Three or More Spans

Panel Strength and Deflection Limit Criteria

Panel Thickness	Panel Span (ft)							
	5'-0"	6'-0"	7'-0"	8'-0"	9'-0"	10'-0"	11'-0"	12'-0"
2''	57	47	40	35	30	25	21	18
2.5''	71	58	49	43	38	34	28	24
3''	84	69	58	51	45	40	36	31
4''	109	89	75	65	57	51	46	42
5''	130	107	90	78	69	61	55	51
6''	149	122	103	89	79	70	63	58
8''	178	146	124	107	94	84	76	69

Connection Strength Criteria – Fasteners with WC-01 Clip at Side Joint

Fasteners / Support Thickness	Thickness	Panel Span (ft)							
		5'-0"	6'-0"	7'-0"	8'-0"	9'-0"	10'-0"	11'-0"	12'-0"
FS-A / Minimum 16 gauge	2''	39	32	27	23	20	18	16	15
	2.5''	39	32	27	23	20	18	16	15
	3''	40	32	27	23	20	18	16	15
	4''	43	35	30	25	22	20	18	16
	5''	44	36	30	26	23	20	18	16
	6''	44	36	30	26	23	20	18	16
	8''	45	37	31	27	23	21	19	17
FS-A / Minimum 12 gauge	2''	39	32	27	23	20	18	16	15
	2.5''	39	32	27	23	20	18	16	15
	3''	40	32	27	23	20	18	16	15
	4''	46	37	31	27	24	21	19	17
	5''	46	38	32	27	24	21	19	17
	6''	47	38	32	28	24	22	19	18
	8''	47	39	33	28	25	22	20	18
FS-F / Minimum 16 gauge	2''	28	22	19	16	14	13	11	10
	2.5''	28	23	19	16	14	13	11	10
	3''	28	23	19	17	14	13	12	10
	4''	29	23	20	17	15	13	12	11
	5''	29	24	20	17	15	13	12	11
	6''	29	24	20	17	15	13	12	11
	8''	30	24	20	18	15	14	12	11
FS-F / Minimum 12 gauge	2''	39	32	27	23	20	18	16	15
	2.5''	39	32	27	23	20	18	16	15
	3''	40	32	27	23	20	18	16	15
	4''	46	37	31	27	24	21	19	17
	5''	46	38	32	27	24	21	19	17
	6''	47	38	32	28	24	22	19	18
	8''	47	39	33	28	25	22	20	18

Notes for Table 2A on next page.

Notes for Table 2A:
For **SI:** 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 psf = 47.9 Pa

1. The load span table is based on Allowable Stress Design (ASD).
2. The table is based on values derived from transverse load testing per ASTM E72, ASTM E1592, and the strength of fasteners.
3. Panel properties are based on No. **26 gauge exterior** and No. **26 gauge interior** facings. Inquire about other gauges.
4. The lowest load between Panel Strength, Deflection Limit, and Connection Strength shall be used to determine spans.
5. The Deflection Limit is L/180.
6. Connection based on ¼-14 or ¼-20 DP3 or DP5 self-drilling fasteners with WC-01 clip installed into min. 16 ga or 12 ga steel.
7. FS-A utilizes **three** fasteners per WC-01 clip. FS-F utilizes **two** fasteners per WC-01 clip.
8. Safety Factor = 2.5 for buckling, 3.0 for core shear, 2.0 for wall clip, 3.0 for fastening pullover/pullout.
9. Allowable loads apply to vertical or horizontal panel installation.
10. Panel weights may be found on a separate Panel Weights Table.
11. The structural design of wall supports has not been considered and shall be designed by the support professional.
12. Thermal effects from a controlled environment and cold storage applications have not been considered.
13. AWIP may be consulted for project-specific calculations, and are subject to approval by the building official.
14. AWIP may be consulted for designs to FM Global Loss Prevention Data Sheet 1-28 and FM 4881 requirements.
15. Load tables are subject to change without notice – www.awipanels.com has the latest information. Where differences occur, the more restrictive shall govern.

Table 2B: FL40 HE40 HE40A Allowable Load Table (PSF) for Three or More Spans

Panel Strength and Deflection Limit Criteria

Panel Thickness	Panel Span (ft)							
	5'-0"	6'-0"	7'-0"	8'-0"	9'-0"	10'-0"	11'-0"	12'-0"
2	41	34	29	25	22	20	18	15
2.5	51	42	35	31	27	24	22	20
3	60	49	42	36	32	28	26	23
4	78	64	54	46	41	36	33	30
5	93	76	64	55	49	44	39	36
6	106	87	73	63	56	50	45	41

Connection Strength Criteria – Fasteners with WC-01 Clip at Side Joint

Fasteners / Support Thickness	Thickness	Panel Span (ft)							
		5'-0"	6'-0"	7'-0"	8'-0"	9'-0"	10'-0"	11'-0"	12'-0"
FS-A / Minimum 16 gauge	2"	39	32	27	23	20	18	16	15
	2.5"	40	32	27	23	20	18	16	15
	3"	40	33	27	24	21	18	17	15
	4"	44	36	30	26	23	20	18	16
	5"	44	36	30	26	23	20	18	16
	6"	44	36	31	26	23	20	18	17
FS-A / Minimum 12 gauge	2"	39	32	27	23	20	18	16	15
	2.5"	40	32	27	23	20	18	16	15
	3"	40	33	27	24	21	18	17	15
	4"	46	38	32	27	24	21	19	17
	5"	47	38	32	28	24	22	19	17
	6"	47	39	32	28	24	22	19	18
FS-F / Minimum 16 gauge	2"	28	23	19	16	14	13	11	10
	2.5"	28	23	19	17	15	13	12	10
	3"	29	23	19	17	15	13	12	11
	4"	29	24	20	17	15	13	12	11
	5"	29	24	20	17	15	13	12	11
	6"	29	24	20	17	15	13	12	11
FS-F / Minimum 12 gauge	2"	39	32	27	23	20	18	16	15
	2.5"	40	32	27	23	20	18	16	15
	3"	40	33	27	24	21	18	17	15
	4"	46	38	32	27	24	21	19	17
	5"	47	38	32	28	24	22	19	17
	6"	47	39	32	28	24	22	19	18

Notes for Table 2B on next page.

Notes for Table 2B:

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 psf = 47.9 Pa

1. The load span table is based on Allowable Stress Design (ASD).
2. The table is based on values derived from transverse load testing per ASTM E72, ASTM E1592, and the strength of fasteners.
3. Panel properties are based on No. **24 gauge exterior** and No. **26 gauge interior** facings. Inquire about other gauges. FL40 requires a No. 22 gauge exterior.
4. The lowest load between Panel Strength, Deflection Limit, and Connection Strength shall be used to determine spans.
5. The Deflection Limit is L/180.
6. Connection based on ¼-14 or ¼-20 DP3 or DP5 self-drilling fasteners with WC-01 clip installed into min. 16 ga or 12 ga steel.
7. FS-A utilizes **three** fasteners per WC-01 clip. FS-F utilizes **two** fasteners per WC-01 clip.
8. Safety Factor = 2.5 for buckling, 3.0 for core shear, 2.0 for wall clip, 3.0 for fastening pullover/pullout.
9. Allowable loads apply to vertical or horizontal panel installation.
10. Panel weights may be found on a separate Panel Weights Table.
11. The structural design of wall supports has not been considered and shall be designed by the support professional.
12. Thermal effects from a controlled environment and cold storage applications have not been considered.
13. AWIP may be consulted for project-specific calculations, and are subject to approval by the building official.
14. AWIP may be consulted for designs to FM Global Loss Prevention Data Sheet 1-28 and FM 4881 requirements.
15. Load tables are subject to change without notice –www.awipanels.com has the latest information. Where differences occur, the more restrictive shall govern.

TABLE 2C: ST40 Allowable Load Table (PSF) for Three or More Spans

Panel Strength and Deflection Limit Criteria

Panel Thickness	Panel Span (ft)							
	5'-0"	6'-0"	7'-0"	8'-0"	9'-0"	10'-0"	11'-0"	12'-0"
2	55	45	38	31	26	22	19	16
2.5	68	56	47	41	35	30	26	22
3	80	65	55	48	42	38	33	29
4	101	83	70	60	53	48	43	39
5	119	97	82	71	62	56	50	46
6	133	109	92	79	70	62	56	51

Table 2C continued on next page

Connection Strength Criteria – Fasteners with WC-01 Clip at Side Joint

Fasteners / Support Thickness	Thickness	Panel Span (ft)							
		5'-0"	6'-0"	7'-0"	8'-0"	9'-0"	10'-0"	11'-0"	12'-0"
FS-A / Minimum 16 gauge	2''	40	32	27	23	20	18	16	15
	2.5''	40	33	27	24	21	18	16	15
	3''	40	33	28	24	21	18	17	15
	4''	44	36	30	26	23	20	18	16
	5''	44	36	30	26	23	20	18	17
	6''	45	36	31	26	23	21	18	17
FS-A / Minimum 12 gauge	2''	40	32	27	23	20	18	16	15
	2.5''	40	33	27	24	21	18	16	15
	3''	40	33	28	24	21	18	17	15
	4''	47	38	32	28	24	21	19	17
	5''	47	38	32	28	24	22	19	18
	6''	47	39	33	28	25	22	20	18
FS-F / Minimum 16 gauge	2''	28	23	19	16	14	13	12	10
	2.5''	28	23	19	17	15	13	12	11
	3''	29	23	20	17	15	13	12	11
	4''	29	24	20	17	15	13	12	11
	5''	29	24	20	17	15	13	12	11
	6''	30	24	20	17	15	14	12	11
FS-F / Minimum 12 gauge	2''	40	32	27	23	20	18	16	15
	2.5''	40	33	27	24	21	18	16	15
	3''	40	33	28	24	21	18	17	15
	4''	47	38	32	28	24	21	19	17
	5''	47	38	32	28	24	22	19	18
	6''	47	39	33	28	25	22	20	18

Notes:
For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 psf = 47.9 Pa

1. The load span table is based on Allowable Stress Design (ASD).
2. The table is based on values derived from transverse load testing per ASTM E72, ASTM E1592, and the strength of fasteners.
3. Panel properties are based on No. **24 gauge exterior** and No. **26 gauge interior** facings. Inquire about other gauges.
4. The lowest load between Panel Strength, Deflection Limit, and Connection Strength shall be used to determine spans.
5. The Deflection Limit is L/180.
6. Connection based on ¼-14 or ¼-20 DP3 or DP5 self-drilling fasteners with WC-01 clip installed into min. 16 ga or 12 ga steel.
7. FS-A utilizes **three** fasteners per WC-01 clip. FS-F utilizes **two** fasteners per WC-01 clip.
8. Safety Factor = 2.5 for buckling, 3.0 for core shear, 2.0 for wall clip, 3.0 for fastening pullover/pullout.
9. Allowable loads apply to vertical or horizontal panel installation.
10. Panel weights may be found on a separate Panel Weights Table.
11. The structural design of wall supports has not been considered and shall be designed by the support professional.
12. Thermal effects from a controlled environment and cold storage applications have not been considered.
13. AWIP may be consulted for project-specific calculations, and are subject to approval by the building official.
14. AWIP may be consulted for designs to FM Global Loss Prevention Data Sheet 1-28 and FM 4881 requirements.
15. Load tables are subject to change without notice – www.awipanels.com has the latest information. Where differences occur, the more restrictive shall govern.

TABLE 3A: SR2 Allowable Load Table (PSF) for Three or More Spans

Panel Strength and Deflection Limit Criteria

Panel Thickness	Panel Weight (psf)	Panel Span (ft)									
		2'-6"	3'-0"	3'-6"	4'-0"	4'-6"	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"
3.25"	2.48	73	69	64	59	55	50	53	48	44	41
4"	2.65	73	69	64	59	55	50	66	60	55	51
5"	2.86	83	76	70	63	57	50	84	76	70	64
6"	3.12	83	76	70	63	57	50	101	92	84	78

Connection Strength Criteria – Fasteners with SR-0X Clip at Side Joint

Fasteners / Support Thickness	Thickness	Panel Span (ft)									
		2'-6"	3'-0"	3'-6"	4'-0"	4'-6"	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"
(2) Fasteners per SR-0X / Minimum 16 gauge	3.25"	60	49	42	36	31	28	25	23	21	19
	4"	60	50	42	36	32	28	25	23	21	19
	5"	61	50	42	37	32	29	26	23	21	20
	6"	61	50	43	37	32	29	26	24	22	20
(2) Fasteners per SR-0X / Minimum 12 gauge	3.25"	73	69	64	58	51	45	40	37	34	31
	4"	73	69	64	58	51	46	41	37	34	31
	5"	83	76	68	59	52	46	41	38	34	32
	6"	83	76	69	59	52	47	42	38	35	32
(3) Fasteners per SR-0X / Minimum 16 gauge	3.25"	73	69	63	54	47	42	38	34	31	29
	4"	73	69	63	55	48	43	38	35	32	29
	5"	83	75	64	55	49	43	39	35	32	30
	6"	83	76	64	56	49	44	39	36	33	30
(3) Fasteners per SR-0X / Minimum 12 gauge	3.25"	73	69	64	58	51	45	40	37	34	31
	4"	73	69	64	58	51	46	41	37	34	31
	5"	83	76	68	59	52	46	41	38	34	32
	6"	83	76	69	59	52	47	42	38	35	32

Notes:

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 psf = 47.9 Pa

1. The load span table is based on Allowable Stress Design (ASD).
2. The table is based on values derived from transverse load testing per ASTM E72, ASTM E1592, and the strength of fasteners.
3. Panel properties are based on No. **26 gauge exterior** and No. **26 gauge interior** facings. Inquire about other gauges.
4. The lowest load between Panel Strength, Deflection Limit, and Connection Strength shall be used to determine spans.
5. The Deflection Limit is L/240.
6. Connection based on ¼-14 or ¼-20 DP3 or DP5 self-drilling fasteners with SR-0X clip installed into min. 16 ga or 12 ga steel.
7. Connection strength may be increased with the EC-01 enhancement clip. Inquire for more details.
8. Safety Factor = 2.5 for buckling, 3.0 for core shear, 2.0 for standing seam clip, 3.0 for fastening pullover/pullout.
9. The structural design of roof supports has not been considered and shall be designed by the support professional.
10. Thermal effects from a controlled environment and cold storage applications have not been considered.
11. AWIP may be consulted for snow load designs, and are subject to approval by the building official.
12. AWIP may be consulted for project-specific calculations, and are subject to approval by the building official.
13. AWIP may be consulted for designs to FM Global Loss Prevention Data Sheet 1-28 and FM 4881 requirements.
14. Load tables are subject to change without notice – www.awipanels.com has the latest information. Where differences occur, the more restrictive shall govern.

TABLE 3B: HR3 Allowable Load Table (PSF) for Three or More Spans

Panel Strength and Deflection Limit Criteria

Panel Thickness	Panel Weight (psf)	Panel Span (ft)									
		2'-6"	3'-0"	3'-6"	4'-0"	4'-6"	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"
1.5"	2.15	46	46	39	33	29	26	23	21	20	18
2.5"	2.44	96	79	67	58	51	45	41	37	34	31
4"	2.75	158	130	110	95	83	74	67	61	56	51
5"	2.96	161	151	139	120	106	94	85	77	71	65
6"	3.22	161	151	140	130	119	109	103	93	86	79

Connection Strength Criteria – Fastener with SW-01 at Every High Rib

Support Thickness	Thickness	Panel Span (ft)									
		2'-6"	3'-0"	3'-6"	4'-0"	4'-6"	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"
Minimum 16 gauge	1.5"	46	46	41	35	31	27	24	22	20	19
	2.5"	60	49	42	36	32	28	25	23	21	19
	4"	61	50	43	37	32	29	26	23	21	20
	5"	61	50	43	37	33	29	26	24	22	20
	6"	61	51	43	38	33	29	26	24	22	20
Minimum 12 gauge	1.5"	46	46	46	46	46	46	52	48	44	40
	2.5"	128	105	89	77	68	60	54	49	45	41
	4"	130	107	91	79	69	62	55	50	46	43
	5"	130	108	92	79	70	62	56	51	47	43
	6"	131	109	92	80	70	63	56	52	47	43

Notes:
For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 psf = 47.9 Pa

1. The load span table is based on Allowable Stress Design (ASD).
2. The table is based on values derived from transverse load testing per ASTM E72, ASTM E1592, and the strength of fasteners.
3. Panel properties are based on **26 gauge exterior** and **26 gauge interior** facings. Inquire about other gauges
4. The lowest load between Panel Strength, Deflection Limit, and Connection Strength shall be used to determine spans.
5. The Deflection Limit is L/240.
6. Connection based on ¼-14 or ¼-20 DP3 or DP5 self-drilling fasteners with SW-01 installed into min. 16 ga or 12 ga steel.
7. Safety Factor = 2.5 for buckling, 3.0 for core shear, 2.0 for saddle washer, 3.0 for fastening pullover/pullout.
8. The structural design of roof supports has not been considered and shall be designed by the support professional.
9. Thermal effects from a controlled environment and cold storage applications have not been considered.
10. AWIP may be consulted for snow load designs, and are subject to approval by the building official.
11. AWIP may be consulted for project-specific calculations, and are subject to approval by the building official.
12. AWIP may be consulted for designs to FM Global Loss Prevention Data Sheet 1-28 and FM 4881 requirements.
13. Load tables are subject to change without notice – www.awipanels.com has the latest information. Where differences occur, the more restrictive shall govern.

TABLE 3C: HR5 Allowable Load Table (PSF) for Three or More Spans

Panel Strength and Deflection Limit Criteria

Panel Thickness	Panel Weight (psf)	Panel Span (ft)									
		2'-6"	3'-0"	3'-6"	4'-0"	4'-6"	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"
1.5"	2.15	46	46	39	33	29	26	23	21	20	18
2.5"	2.44	96	79	67	58	51	45	41	37	34	31
4"	2.75	158	130	110	95	83	74	67	61	56	51
5"	2.96	161	151	139	120	106	94	85	77	71	65
6"	3.22	161	151	140	130	119	109	98	88	77	67

Connection Strength Criteria – Fastener with SW-01 at Every High Rib

Support Thickness	Thickness	Panel Span (ft)									
		2'-6"	3'-0"	3'-6"	4'-0"	4'-6"	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"
Minimum 16 gauge	1.5"	46	46	46	46	46	46	46	45	41	38
	2.5"	121	99	84	73	64	57	51	46	42	39
	4"	122	101	86	74	65	58	52	47	43	40
	5"	123	101	87	75	66	59	53	48	44	40
	6"	123	102	87	76	66	59	53	49	44	41
Minimum 12 gauge	1.5"	46	46	46	46	46	46	46	46	46	46
	2.5"	161	151	140	130	119	109	98	88	77	67
	4"	161	151	140	130	119	109	98	88	77	67
	5"	161	151	140	130	119	109	98	88	77	67
	6"	161	151	140	130	119	109	98	88	77	67

Notes:
For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 psf = 47.9 Pa

1. The load span table is based on Allowable Stress Design (ASD).
2. The table is based on values derived from transverse load testing per ASTM E72, ASTM E1592, and the strength of fasteners.
3. Panel properties are based on No. **26 gauge exterior** and No. **26 gauge interior** facings. Inquire about other gauges
4. The lowest load between Panel Strength, Deflection Limit, and Connection Strength shall be used to determine spans.
5. The Deflection Limit is L/240.
6. Connection based on ¼-14 or ¼-20 DP3 or DP5 self-drilling fasteners with SW-01 installed into min. 16 ga or 12 ga steel.
7. Safety Factor = 2.5 for buckling, 3.0 for core shear, 2.0 for saddle washer, 3.0 for fastening pullover/pullout.
8. The structural design of roof supports has not been considered and shall be designed by the support professional.
9. Thermal effects from a controlled environment and cold storage applications have not been considered.
10. AWIP may be consulted for snow load designs, and are subject to approval by the building official.
11. AWIP may be consulted for project-specific calculations, and are subject to approval by the building official.
12. AWIP may be consulted for designs to FM Global Loss Prevention Data Sheet 1-28 and FM 4881 requirements.
13. Load tables are subject to change without notice – www.awipanels.com has the latest information. Where differences occur, the more restrictive shall govern.

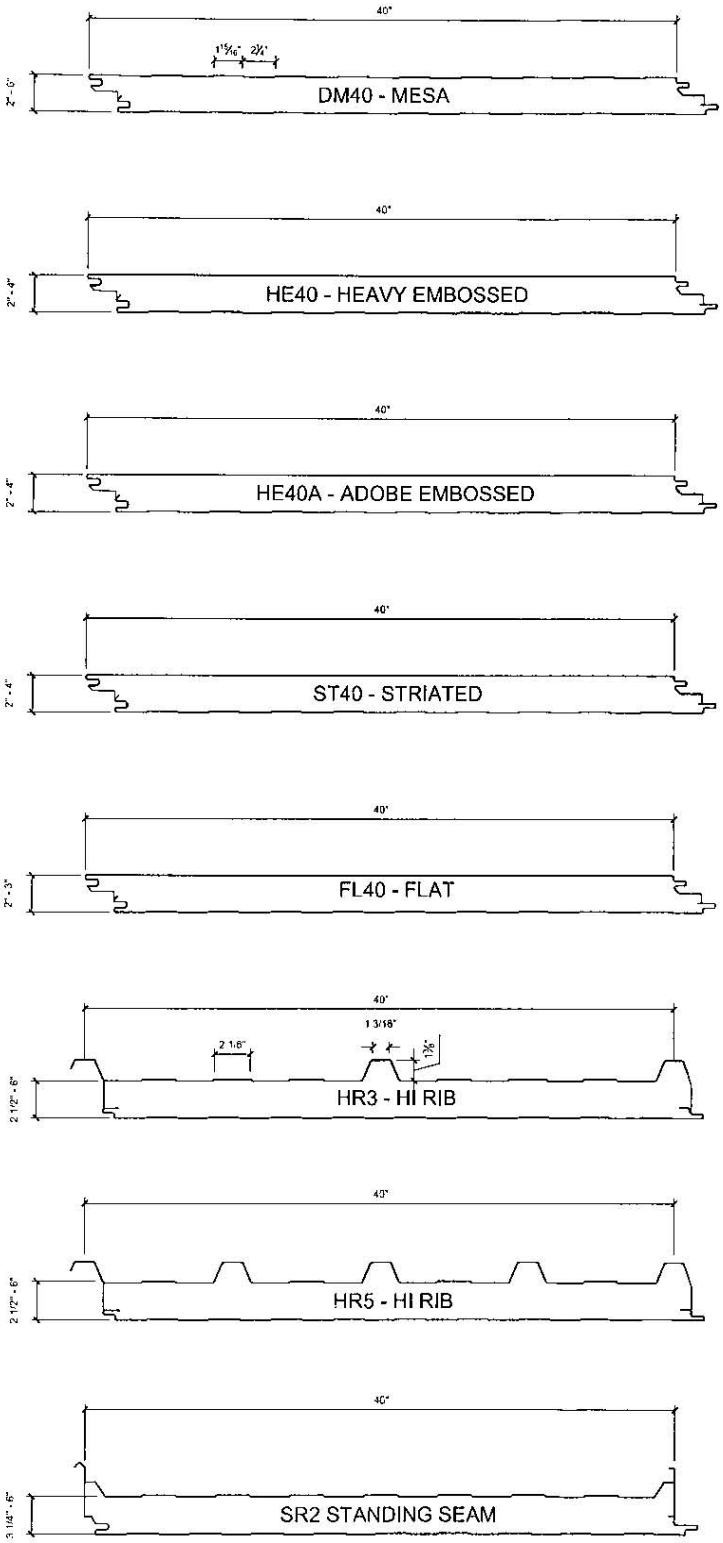


FIGURE 1 – PANEL TYPES AND PROFILES

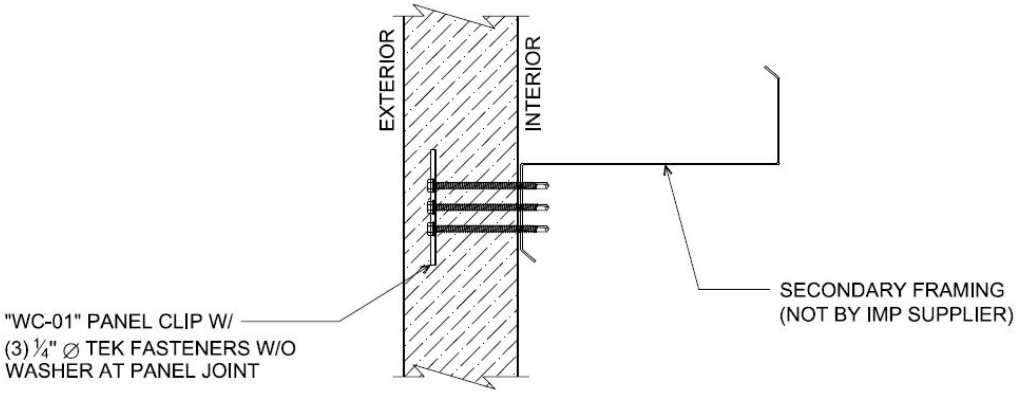


FIGURE 2 – WALL PANEL JOINT WITH FASTENERS

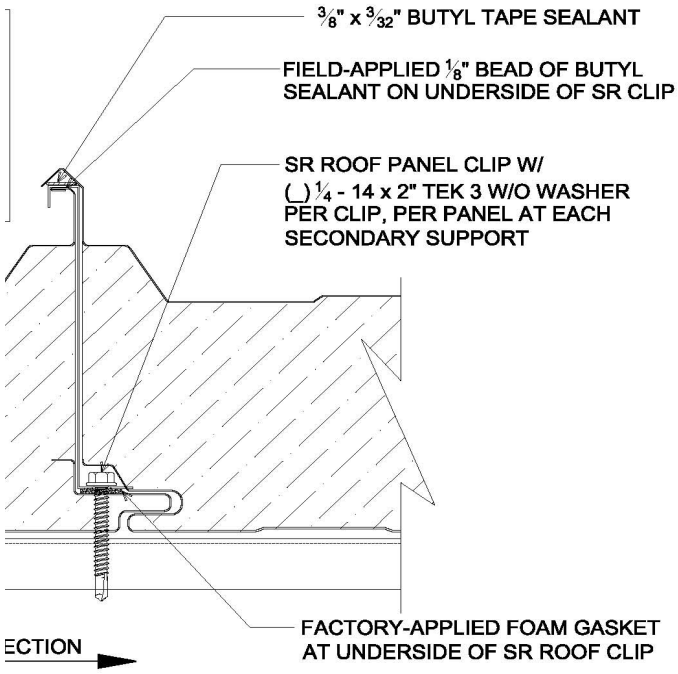
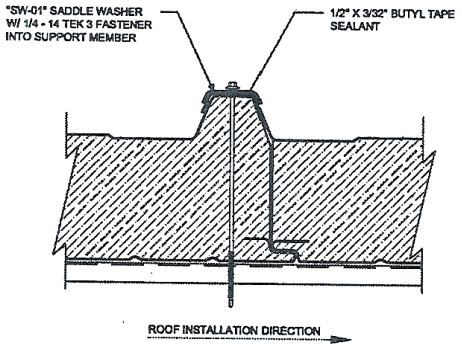


FIGURE 3 – SR ROOF PANEL JOINT WITH FASTENERS



Lap Joint Securement

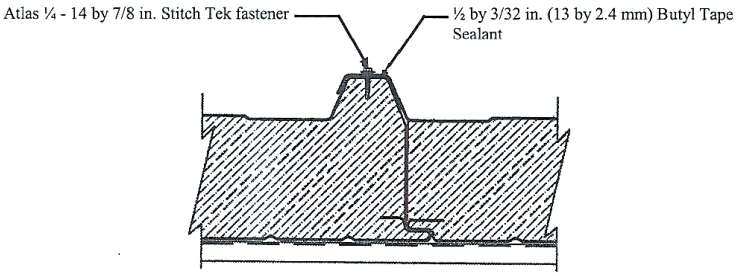
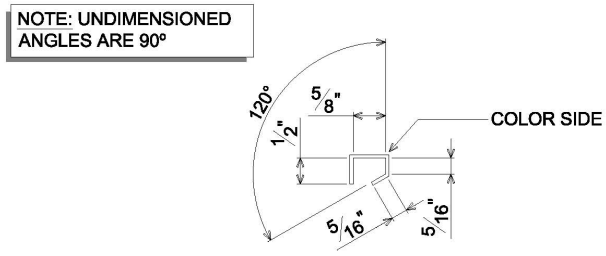
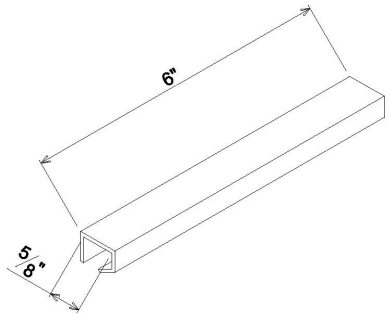


FIGURE 4 – HR ROOF PANEL JOINT WITH FASTENERS



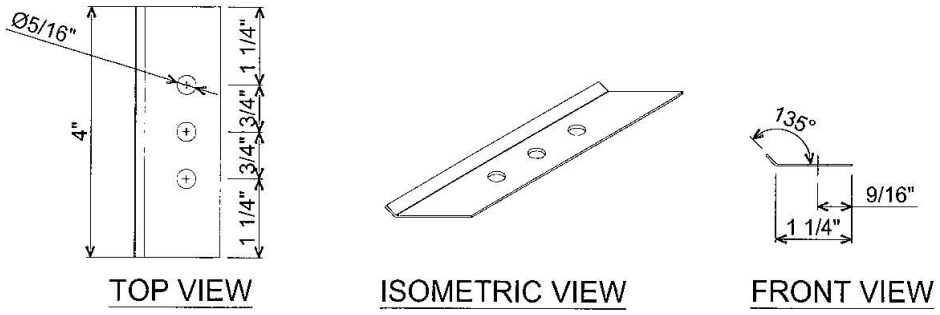
SECTION VIEW



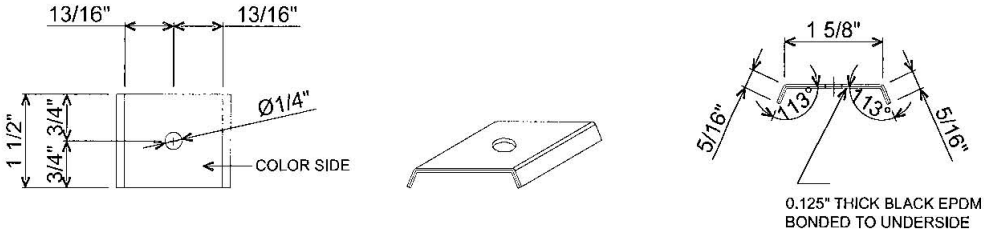
ISOMETRIC VIEW

FIGURE 5 – EC-01 CLIP DETAILS

WC-01 WALL CLIP (16 GA. GALVANIZED)



SW-01 SADDLE WASHER (14 GA. GALVANIZED)



SR-0X STANDING SEAM CLIP (24 GA. STAINLESS)

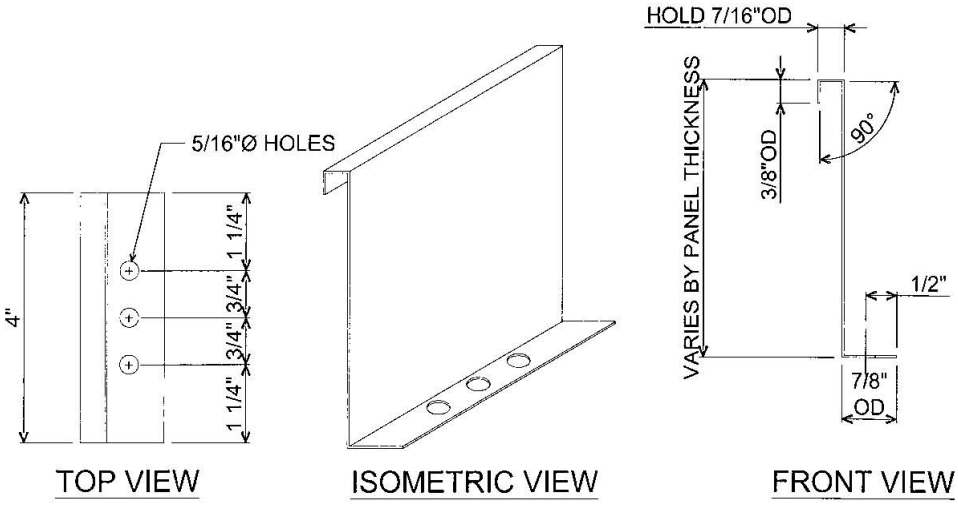


FIGURE 5A – PANEL CLIP DETAILS

CITY OF LOS ANGELES SUPPLEMENT

ALL WEATHER INSULATED PANELS
929 Aldridge Road
Vacaville, CA 95688
www.awipanels.com
bng@awipanels.com

AWIP FOAM CORE PANELS (DM40, FL40, HI40, HE40A, ST40 WALLS; SR2, HR3, AND HR5 ROOFS)

CSI Section:
07 00 00 THERMAL AND MOISTURE PROTECTION
CSI Section:
07 40 00 Roofing and Siding Panels

1.0 RECOGNITION

All Weather Insulated Panels (AWIP) Foam Core Panels described in ER-301 and this supplement have been evaluated for use as interior or exterior non-load-bearing wall, ceiling, or roof panels for use in Type V construction. The AWIP Foam Core Panels were evaluated for compliance with the following codes and regulations:

- 2020 City of Los Angeles Building Code (LABC)
- 2020 City of Los Angeles Residential Code (LARC)

2.0 LIMITATIONS

All AWIP Foam Core Panels described in this report comply with the codes indicated in Section 1.0 of this report subject to the following limitations:

2.1 The panels shall comply with the provisions in IAPMO UES ER-301 applicable to the 2018 IBC or 2018 IRC for use under the 2020 LABC or 2020 LARC.

2.2 Panels shall be installed in accordance with ER-301, this report, supplement, and the manufacturer's published installation instructions and LABC or LARC, as applicable. Where conflicts occur, the more restrictive shall govern.

2.3 The AWIP Panels installed as walls shall be limited to non-load-bearing wall applications.

2.4 Construction plans, details, and calculations for wall and roof framing and panel attachments shall be approved by the building official before panel installation. Calculations and details shall be prepared by a registered design professional as required by the statutes of LABC or LARC, as applicable.

2.5 All AWIP panels described in this report with steel facings have been justified for installation without the thermal barrier required by the statutes of LABC or LARC, as applicable.

2.6 The AWIP Roof Panels are permitted to be part of a Class A roof covering assembly as described in statutes of LABC or LARC and Section 4.5.2 of ER-301.

2.7 The AWIP Exterior Wall Panels comply with Section 707A.3, Item 1 of the LABC, and may be "used in the exterior design and construction of new buildings located within a Fire Hazard Severity Zone or Wildland-Urban Interface Fire Area" [Section 701A.1 of the LABC] when the additional provisions of Section 707A of the LABC are satisfied.

2.8 The AWIP Exterior Wall Panels comply with Section R337.7.3, Item 1 of the LARC, and may be "used in the exterior design and construction of new buildings located within a Fire Hazard Severity Zone or Wildland-Urban Interface Fire Area" [Section R337.1.1 of the LARC] when the additional provisions of Section R337 of the LARC are satisfied.

2.9 Panels are fabricated by All Weather Insulated Panels at its manufacturing facility in Vacaville, California, under a quality control program with inspections by Columbia Research & Testing Corporation (AA-527).

2.10 This supplement expires concurrently with ER-301.