



LISTING INFORMATION OF
Alucoil, S.A.U. - larson by Alucoil® PE ACM Panels
SPEC ID: 29888

Alucoil
Poligono Industrial De Bayas
C.IRCIO. Parcelas R-72/77
Miranda de Ebro, Burgos 09200
Spain

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LISTING INFORMATION

larson by Alucoil® PE 3 mm, 4 mm and 6 mm ACM consist of 0.5 mm aluminum skins on both sides with a proprietary, Polyethylene (PE) core with a total panel thickness of 3 mm, 4 mm or 6 mm.

RATINGS

Standard	Rated product	Ratings
ICC-ES AC25 Section 4.1.4 ASTM E72 - Strength Safety Factor of 2	larson by Alucoil® PE 3 mm ACM Panels 60 in. span with adhered stiffeners spaced 24 in. oc	Positive: 30.0 psf Negative: 30.0 psf
ICC-ES AC25 Section 4.1.4 ASTM E72 - Strength Safety Factor of 2	larson by Alucoil® PE 4 mm ACM Panels 60 in. span with adhered stiffeners spaced 24 in. oc	Positive: 31.7 psf Negative: 33.3 psf
ICC-ES AC25 Section 4.1.4 ASTM E72 - Strength Safety Factor of 2	larson by Alucoil® PE 6 mm ACM Panels 60 in. span with adhered stiffeners spaced 24 in. oc	Positive: 35.0 psf Negative: 35.0 psf
ICC-ES AC25 Section 4.1.5 ASTM E72 - Serviceability L/60 deflection limit	larson by Alucoil® PE 3 mm ACM Panels 60 in. span with adhered stiffeners spaced 24 in. oc	Positive: 33.5 psf Negative: 38.4 psf
ICC-ES AC25 Section 4.1.5 ASTM E72 - Serviceability L/60 deflection limit	larson by Alucoil® PE 4 mm ACM Panels 60 in. span with adhered stiffeners spaced 24 in. oc	Positive: 37.7 psf Negative: 40.2 psf
ICC-ES AC25 Section 4.1.5 ASTM E72 - Serviceability L/60 deflection limit	larson by Alucoil® PE 6 mm ACM Panels 60 in. span with adhered stiffeners	Positive: 42.6 psf Negative: 41.6 psf

	spaced 24 in. oc	
ICC-ES AC25 Section 4.3 Fasteners	larson by Alucoil® PE 3 mm, 4 mm, and 6 mm ACM Panels Stainless steel 1/8 in. rivet	Fastener Pull-through Mean Peak Load: 279 lbf Fastener Shear Peak Load: 393 lbf
ICC-ES AC25 Section 4.3 Fasteners	larson by Alucoil® PE 3 mm, 4 mm, and 6 mm ACM Panels Stainless steel #10 1 in. Self-tapping screw	Fastener Pull-through Mean Peak Load: 515 lbf Fastener Shear Peak Load: 698 lbf
ICC-ES AC25 Section 4.5 ASTM D1781	larson by Alucoil® PE 3 mm, 4 mm, and 6 mm ACM Panels	Average Peel Torque > 22.5 in-lb/in
ICC-ES AC25 Section 4.6 ASTM D1781	larson by Alucoil® PE 3 mm, 4 mm, and 6 mm ACM Panels	Average Freeze-Thaw Peel Torque > 22.5 in-lb/in
ASTM E331	larson by Alucoil® PE 3 mm, 4 mm, and 6 mm ACM Panels Subject to assembly requirements below*	Pass at 300 Pa for 2 hours

*ASTM E331 assembly details:

1. 19 mm deep aluminum Z-bar fastened into the bottom of the wall using 45 mm long tapcon screws, and a panel starter extrusion fastened into the Z-bar to support the bottom of the larson by Alucoil® ACM Panels using 19 mm pan head fasteners.
2. 19 mm deep aluminum hat-bar fastened into the wall using 45 mm long tapcon, spaced to line up with the top of the larson by Alucoil® ACM Panels.
3. Support panel clips fastened into the top side of the larson by Alucoil® FR 3mm ACM Panels using 19 mm pan head fasteners. This enables the larson by Alucoil® ACM Panels to be fastened into the hat-bar.
4. The larson by Alucoil® ACM Panels are friction fitted into the panel starter extrusion and then the top of the panels fastened through the support panel clips into the hat-bar using two 19 mm pan head fasteners per support panel clip.
5. A spline (same material as core) friction fitted into the sides of the larson by Alucoil® ACM Panels through built-in metal channels, so that it fills both the horizontal and vertical joints.
6. This process is followed to complete one row of panels. The second row above is friction fitted into the support panel clips and another hat-bar installed in line with the top of the larson by Alucoil® ACM Panels.
7. Windows openings are covered on the sides with aluminum flashing using 127 mm tapcon screws.

8. The gap between flashing and window frames are filled with 5/8 in. backer rod, topped with Dow 795 sealant, and then tooled.

Attribute	Value
Criteria	ASTM E331 (2009)
Criteria	ICC-ES AC25 (2010)
CSI Code	07 42 13 Metal Wall Panels
Intertek Services	Certification
Listed or Inspected	LISTED
Listing Section	WALL ASSEMBLIES
Spec ID	29888



LISTING INFORMATION OF
Alucoil, S.A.U.- larson by Alucoil® FR ACM Panels
SPEC ID: 29779

Alucoil
Poligono Industrial De Bayas
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Spain

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LISTING INFORMATION

larson by Alucoil® FR 3 mm, 4 mm and 6 mm ACM Panels consist of 0.5 mm aluminum skins on both sides with a proprietary, fire resistant (FR) core with a total panel thickness of 3 mm, 4 mm or 6 mm.

RATINGS

Standard	Rated Product	Ratings	Design no.
ASTM E84	larson by Alucoil® FR 3 mm, 4 mm and 6 mm ACM Panels	Flame Spread: 0 Smoke Developed: 0	-
CAN/ULC S102	larson by Alucoil® FR 3 mm, 4 mm, and 6 mm ACM Panels	Flame Spread: 5 Smoke Developed: 0	-
ASTM E119 & CAN/ULC S101	larson by Alucoil® FR 4 mm and 6 mm ACM Panels	1 Hour*	ALU/MCMWP 60-01
CAN/ULC S134	larson by Alucoil® FR 4 mm and 6 mm ACM Panels	Heat flux index @ 30 min.: 24.93 kW/m ² Vertical flame spread: 2.5 m	ALU/MCMWP 25-01
NFPA 285	larson by Alucoil® FR 4 mm and 6 mm ACM Panels	Meets conditions of acceptance	ALU/MCMWP 30-01
UL 1715	larson by Alucoil® FR 4 mm and 6 mm ACM Panels	Meets conditions of acceptance	-
ASTM E331	larson by Alucoil® FR 3 mm, 4 mm, and 6 mm ACM panels	Pass at 300 Pa for 2 hours	Subject to assembly requirements below**
ICC-ES AC25 Section 4.5 ASTM D1781	larson by Alucoil® FR 3 mm, 4 mm, and 6 mm ACM panels	Average Peel Torque > 22.5 in.-lb/in.	-
ICC-ES AC25 Section 4.6 ASTM D1781	larson by Alucoil® FR 3 mm, 4 mm, and 6 mm ACM panels	Average Freeze-Thaw Peel Torque > 22.5 in.-lb/in.	-
ICC-ES AC25 Section 4.1.4 ASTM E72 Strength Safety Factor of 2	larson by Alucoil® FR 3 mm ACM panels 60 in. span with <i>non-adhered</i> stiffeners spaced 24 in. oc	Positive: 30.0 psf Negative: 30.0 psf	-

ICC-ES AC25 Section 4.1.4 ASTM E72 Strength Safety Factor of 2	larrison by Alucoil® FR 4 mm ACM panels 60 in. span with <i>non-adhered</i> stiffeners spaced 24 in. oc	Positive: 31.7 psf Negative: 30.0 psf	-
ICC-ES AC25 Section 4.1.4 ASTM E72 Strength Safety Factor of 2	larrison by Alucoil® FR 6 mm ACM panels 60 in. span with <i>non-adhered</i> stiffeners spaced 24 in. oc	Positive: 30.0 psf Negative: 40.0 psf	-
ICC-ES AC25 Section 4.1.5 ASTM E72 Serviceability L/60 deflection limit	larrison by Alucoil® FR 3 ACM panels 60 in. span with <i>adhered</i> stiffeners spaced 24 in. oc	Positive: 34.6 psf Negative: 30.0 psf	-
ICC-ES AC25 Section 4.1.5 ASTM E72 Serviceability L/60 deflection limit	larrison by Alucoil® FR 4 mm ACM panels 60 in. span with <i>adhered</i> stiffeners spaced 24 in. oc	Positive: 39.0 psf Negative: 36.0 psf	-
ICC-ES AC25 Section 4.1.5 ASTM E72 Serviceability L/60 deflection limit	larrison by Alucoil® FR 6 mm ACM panels 60 in. span with <i>adhered</i> stiffeners spaced 24 in. oc	Positive: 37.0 psf Negative: 43.3 psf	-
ICC-ES AC25 Section 4.3 Fasteners	larrison by Alucoil® FR 3 mm, 4 mm and 6 mm ACM panels Stainless steel 1/8 in. rivet	Fastener Pull-through Mean Peak Load: 303 lbf Fastener Shear Peak Load: 515 lbf	-

ICC-ES AC25 Section 4.3 Fasteners	larson by Alucoil® FR 3 mm, 4 mm and 6 mm ACM panels Stainless steel #10 3/4 in. Self-Drilling Hex-Head Screw	Fastener Pull-through Mean Peak Load: 558 lbf Fastener Shear Peak Load: 760 lbf	
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*The 1-hour fire resistance rating is applicable to only the interior side of the wall system. See Design Listing for further details.

**ASTM E331 System Description

1. 19 mm deep aluminum Z-bar fastened into the bottom of the wall using 45 mm long tapcon screws, and a panel starter extrusion fastened into the Z-bar to support the bottom of the larson by Alucoil® ACM Panels using 19 mm pan head fasteners.
2. 19 mm deep aluminum hat-bar fastened into the wall using 45 mm long tapcon, spaced to line up with the top of the larson by Alucoil® ACM Panels.
3. Support panel clips fastened into the top side of the larson by Alucoil® FR 3mm ACM Panels using 19 mm pan head fasteners. This enables the larson by Alucoil® ACM Panels to be fastened into the hat-bar.
4. The larson by Alucoil® ACM Panels are friction fitted into the panel starter extrusion and then the top of the panels fastened through the support panel clips into the hat-bar using two 19 mm pan head fasteners per support panel clip.
5. A spline (same material as core) friction fitted into the sides of the larson by Alucoil® ACM Panels through built-in metal channels, so that it fills both the horizontal and vertical joints.
6. This process is followed to complete one row of panels. The second row above is friction fitted into the support panel clips and another hat-bar installed in line with the top of the larson by Alucoil® ACM Panels.
7. Windows openings are covered on the sides with aluminum flashing using 127 mm tapcon screws.
8. The gap between flashing and window frames are filled with 5/8 in. backer rod, topped with Dow 795 sealant, and then tooled.

Attribute	Value
Criteria	CAN / ULC S134 (1992)
Criteria	ASTM E119 (2007)
Criteria	CAN / ULC S101 (2007)
Criteria	UL 1715 (1997)
Criteria	NFPA 285 (2006)
Criteria	ASTM E119 (2010)
Criteria	ASTM E84 (2007)
Criteria	ASTM E84 (2010b)
Criteria	CAN / ULC S102 (2010)
Criteria	ASTM E84 (2012)
Criteria	ASTM E119 (2012)

Criteria	NFPA 285 (2012)
Criteria	ICC-ES AC25 (2010)
CSI Code	07 42 13 Metal Wall Panels
Fire Resistance	1 Hour Fire Rating
Intertek Services	Certification
Listed or Inspected	LISTED
Listing Section	WALL ASSEMBLIES
Spec ID	29779

DRAWING INDEX

ALU/MCMWP 25-01

ALU/MCMWP 30-01

ALU/MCMWP 60-01

ALU/MCMWP 25-01

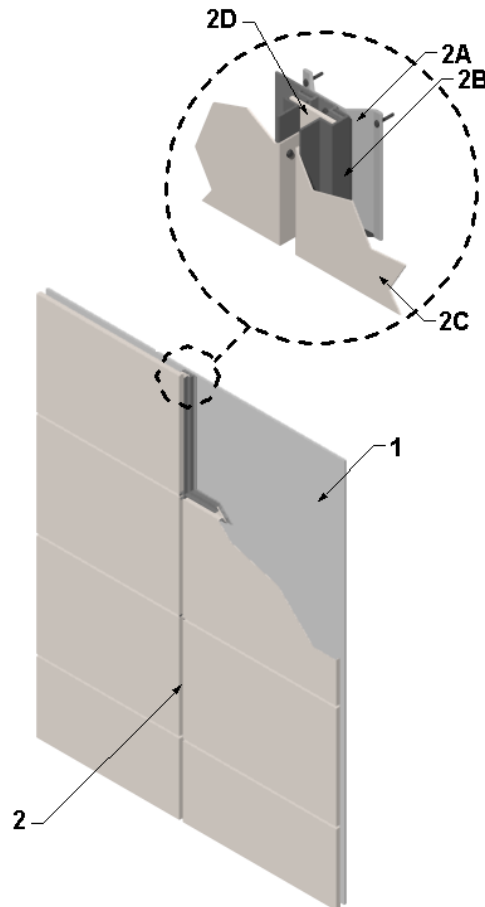
Division 7 – Thermal and Moisture Protection
07 42 00 Wall Panels
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Design Number: ALU/MCMWP 25-01
EXTERIOR WALL SYSTEMS

Alucoil
Iarson® by Alucoil® FR 4 mm and 6 mm ACM Panels
CAN/ULC S 134 (1992)

Meets the Requirements of Section 3.1.5.5 of the National Building Code of Canada, 2010



1. **EXTERIOR WALL ASSEMBLY:** Incorporate construction features in the exterior wall assembly as described in Item 2. Secure exterior veneer to existing wall assembly as follows:

2. **CERTIFIED COMPANY:** Alucoil

CERTIFIED PRODUCT: Aluminum Composite Panels

MODEL: Iarson® by Alucoil® FR 4 mm and 6 mm ACM Panels

Date Revised: June 22, 2016
Project No. G100596374



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ALU/MCMWP 25-01 (2 OF 2)

Division 7 – Thermal and Moisture Protection
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EXTERIOR VENEER: Install an ACM (Aluminum Composite Metal Panel) system consisting of the following elements:

- A. HAT BAR – Secure hat bars oriented vertically to the base wall assembly (Item 1) using appropriately sized fasteners specified by the manufacturer. Hat bars coincide with the vertical joints of the aluminum composite panel (Item 2C) vertical joints.
- B. SUPPORT PANEL CLIPS – Install support panel clips to the top side of the larson® by Alucoil® FR 4 mm and 6 mm ACM Panels (Item 2C) spaced approximately 12 in. on center (oc) then secure assembly to the exterior side of hat bar (Item 2A).
- C. ALUMINUM COMPOSITE METAL PANEL – Install larson® by Alucoil® FR 4 mm and 6 mm ACM Panels by friction fitting the bottom of the panel into the starter extrusion (not shown), and secure the top of the panel using two 3/4 in. (19 mm) pan head fasteners inserted through the support panel clips (Item 2B) into the hat bar (Item 2A).
- D. SPLINE – Insert and friction fit a nominal 2 in. wide pre-cut strip of larson® by Alucoil® FR 4 mm and 6 mm ACM Panel in the support panel clips (Item 2B) in all vertical and horizontal panel joints.

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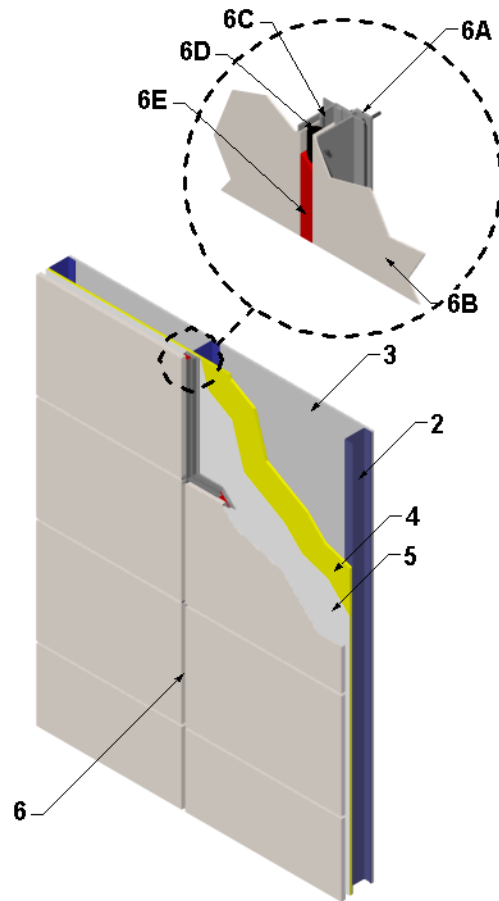
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ALU/MCMWP 30-01

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 07 42 00 Wall Panels
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Design Number: ALU/MCMWP 30-01
 EXTERIOR WALL SYSTEMS
 Alucoil
 larson® by Alucoil® FR 4 mm and 6 mm ACM Panels
 NFPA 285 – Meets Conditions of Acceptance



Item 1: Exterior Wall Assembly

1. **EXTERIOR WALL ASSEMBLY:** Incorporate construction features in the exterior wall assembly as described in Items 2 through 6.
2. **STEEL FRAMING (ITEM 2):** Install nominal 3-5/8 in., 20 GA steel studs spaced

nominally 24 in. on center (oc). Attach steel studs to 20 GA top and bottom steel tracks using nominal 7/16 in. long pan head framing screws attached to the front and back of each steel stud.

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- 3. INTERIOR GYPSUM:** Apply one (1) layer of 5/8 in. thick, Type X gypsum board to the interior side of the steel framing (Item 2) with the long dimension parallel to the steel studs. Secure using #6 1-1/4 in. long, Type S, screws spaced nominally 8 in. oc around the perimeter and 12 in. oc in the field.
- A. **JOINT TAPE AND COMPOUND –** (Not Shown) Apply a level 2 finish of vinyl or casein, dry or premixed joint compound applied in two coats to all exposed fastener heads and gypsum board joints. Embed min. 2 in. wide paper, plastic, or fiberglass tape in first layer of compound over joints in gypsum board (Item 3).
- 4. EXTERIOR SHEATHING:** Install 5/8 in. thick DensGlass® Gold exterior sheathing to the exterior side of the steel framing (Item 2) with the long dimension perpendicular to the steel studs. Secure using #6 1-1/4 in. long, Type S, screws spaced nominally 8 in. oc around the perimeter and 12 in. oc in the field.
- 5. WEATHER BARRIER:** Install a single layer of vapor permeable barrier to the exterior side of the exterior sheathing (Item 4) with min. 2 in. overlaps at the seams.
- 6. CERTIFIED COMPANY:** Alucoil
- CERTIFIED PRODUCT:** Aluminum Composite Panels
- MODEL:** larson® by Alucoil® FR 4 mm or 6 mm ACM Panels
- EXTERIOR VENEER:** Install an ACM (Aluminum Composite Metal Panel) system consisting of the following elements:
- A. **"L" CHANNELS –** Install vertical aluminum "L" shaped channels secured through the exterior sheathing (Item 4) into the steel framing (Item 2) around the perimeter of the assembly. Secure clip extrusion channel into steel framing (Item 2) using #12-11 x 2 in. long self-drilling screws spaced max. 24 in. oc.
- B. **ALUMINUM COMPOSITE METAL PANEL –** Install larson® by Alucoil® FR 4 mm or 6 mm ACM Panels to "L" channels (Item 7A) flush to the exterior sheathing (Item 4). Secure panels to "L" channels using #12-11 x 3/4 in. long stainless steel fasteners spaced nominal 18 in. oc.
- C. **ALUMINUM EXTRUSIONS –** Secure aluminum composite metal panels (Item 6B) in the field of the assembly using aluminum extrusions attached directly to the panels using #10 x 3/4 in. self-drilling hex head plated steel fasteners.
- D. **BACKER ROD –** Install nominal 1/2 in. diameter Tundra Foam, open cell backer rod in all horizontal and vertical seams between aluminum composite panels.
- E. **SEALANT –** Install DOW 795 over the backer rod (Item 6D) to bring the surface flush with the adjacent aluminum composite panels (Item 6B).

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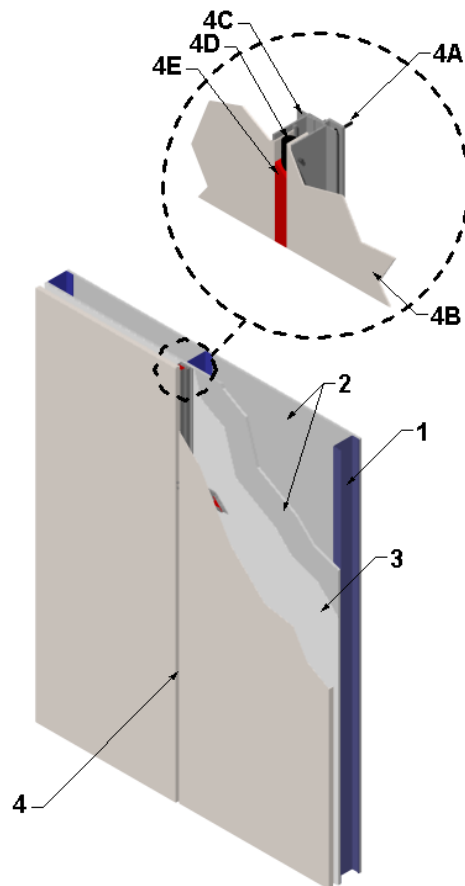
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ALU/MCMWP 60-01

Division 7 – Thermal and Moisture Protection
 07 42 00 Wall Panels
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Design Number ALU/MCMWP 60-01
 Non-Load Bearing Wall System
 Alucoil
 larson® by Alucoil® FR 4 mm or 6 mm ACM Panels
 ASTM E 119 (2012)
 CAN/ULC S 101 (2007)
 Rating: 1 Hour
 Interior Exposure Only



Construct a 1-hour rated gypsum wall assembly using the following elements:

- STEEL STUDS:** Install nominal 3-5/8 in. deep, 18 GA galvanized steel studs spaced

max. 16 in. on center (oc). Friction-fit steel studs into 20 GA galvanized steel floor and ceiling track (not shown). Install lateral bracing (not shown) nominal 5 ft. oc vertically.

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- 2. GYPSUM BOARD:** Install nominal 5/8 in. thick Type X gypsum board to the interior and exterior sides of wall assembly. Install gypsum board with long edge perpendicular to steel studs and secure using #6 x 1-1/4 in. long self-drilling zinc plated drywall screws spaced 8 in. oc around the perimeter and 12 in. oc in the field. Offset horizontal joints min. 24 in. oc. After gypsum board is attached, apply a level 2 finish consisting of the following elements: Vinyl or casein, dry or premixed joint compound applied to the gypsum board in two coats to cover all exposed screw heads and gypsum board butt joints. Embed a min. 2 in. wide paper, plastic, or fiberglass tape in first layer of compound over butt joints of the gypsum board.
- 3. WEATHER BARRIER:** Install a single layer of vapor permeable barrier to the exterior side of the exterior gypsum board (Item 2) with min. 2 in. overlaps at the seams.
- 4. CERTIFIED COMPANY:** Alucoil
- CERTIFIED PRODUCT:** Aluminum Composite Panels
- MODEL:** larson® by Alucoil® FR 4 mm or 6 mm ACM Panels
- EXTERIOR VENEER:** Install an ACM (Aluminum Composite Metal Panel) system consisting of the following elements:
- A. "L" CHANNELS – Install vertical aluminum "L" shaped channels secured through the exterior sheathing (Item 4) into the steel framing (Item 2) around the perimeter of the assembly. Secure clip extrusion channel into steel framing (Item 2) using #12-11 x 2 in. long self-drilling screws spaced max. 24 in. oc.
 - B. ALUMINUM COMPOSITE METAL PANEL – Install larson® by Alucoil® FR 4 mm or 6 mm ACM Panels to "L" channels (Item 7A) flush to the exterior sheathing (Item 4). Secure panels to "L" channels using #12-11 x 3/4 in. long stainless steel fasteners spaced nominal 18 in. oc.
 - C. ALUMINUM EXTRUSIONS – Secure aluminum composite metal panels (Item 6B) in the field of the assembly using aluminum extrusions attached directly to the panels using #10 x 3/4 in. self-drilling hex head plated steel fasteners.
 - D. BACKER ROD – Install nominal 1/2 in. diameter Tundra Foam, open cell backer rod in all horizontal and vertical seams between aluminum composite panels.
 - E. SEALANT – Install DOW 795 over the backer rod (Item 6D) to bring the surface flush with the adjacent aluminum composite panels (Item 6B).

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