
PRODUCT DESCRIPTION

PRODUCT FEATURES CANADA

- DESCRIPTION
 - Composite aluminum panels comprised of aluminum skin faced sheets bonded to polyethylene core, or fire-rated mineral fiber core, with high performance fluorocarbon coating finish.
- USES
 - Designed for rainscreen cladding applications.
- PRODUCT ATTRIBUTES AND CHARACTERISTICS
 - Available with polyethylene core or fire-rated mineral fiber, non-combustible core.
 - High performance fluorocarbon finish coating is available in a variety of standard colours including solid colours, wood line finishes. Custom colours are also available.
 - Extruded aluminum panel and perimeter frame assembly and snap-lock top cap for final attachment to frame assembly. Frame components are both two-part snap-locking and one-piece assemblies.
 - Panel dimensions and configurations allow for field adjustment and thermal movement.
- SELECTION CRITERIA
 - Attachment system allows for vertical and horizontal thermal movement due to thermal changes. The product shall not be installed where surface temperatures are anticipated to exceed 82° C (180° F).
 - Unique tab-over design allows for each panel to expand and contract across a broad temperature spectrum without causing buckling or oil-canning.
- SUSTAINABILITY CRITERIA
 - Panels contain recycled content which may contribute to LEED Material and Resources Credit 4 – Recycled Content.
 - Aluminum Skin (of 0.4 and 0.5 mm): 8 percent pre-consumer recycled content (percent in weight)
 - Plastic (of PE Core) 100 percent pre-consumer recycled content (percent in weight)
 - Fire Rated Core: 10 percent of pre-consumer recycled content (percent in weight)

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- APPLICABLE CURRENT STANDARDS, RELATED REFERENCES
 - AAMA 508 - Voluntary Test Method and Specification for Pressure Equalized Rain Screen Wall Cladding Systems.
 - AAMA 2605 - Specification for Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels.
 - ASTM B117 – Standard Practice for Operating Salt Spray (Fog) Apparatus.
 - ASTM B221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.
 - ASTM D523 – Standard Test Method for Specular Gloss.
 - ASTM D696 – Standard Test Method for Coefficient of Linear Thermal Expansion of Plastics Between -30°C and 30°C with a Vitreous Silica Dilatometer.
 - ASTM D714 – Standard Test Method for Evaluating Degree of Blistering of Paints.
 - ASTM D903 - Standard Test Method for Peel or Stripping Strength of Adhesive Bonds.
 - ASTM D968 - Standard Test Methods for Abrasion Resistance of Organic Coatings by Falling Abrasive.
 - ASTM D1308 – Standard Test Method for Effect of Household Chemicals on Clear and Pigmented Organic Finishes.
 - ASTM D2244 - Standard Practice for Calculation of Color Tolerances and Color Differences from Instrumentally Measured Color Coordinates.
 - ASTM D2248 – Standard Practice for Detergent Resistance of Organic Finishes.
 - ASTM D2794 - Standard Test Method for Resistance of Organic Coatings to the Effects of Rapid Deformation (Impact).
 - ASTM D3359 – Standard Test Methods for Rating Adhesion by Tape Test.
 - ASTM D3363 - Standard Test Method for Film Hardness by Pencil Test.
 - ASTM D4145 – Standard Test Method for Coating Flexibility of Prepainted Sheet.
 - ASTM D4214 - Standard Test Methods for Evaluating the Degree of Chalking of Exterior Paint Films.
 - ASTM E330/E330M - Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference
 - ASTM E331 - Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference
 - ASTM E1288 – Standard Test Method for the Durability of Biomass Pellets.
 - CAN/CGSB-S102 – Standard Method of Test for Surface Burning Characteristics of Building Materials and Assemblies.
 - CAN/ULC-S134 – Standard Method of Fire Test of Exterior Wall Assemblies.
 - DAF-45 – Aluminum Association Inc. Designation System for Aluminum Finishes.
 - ISO 2360 – Non-conductive Coatings on Non-magnetic Electrically Conductive Basis Materials, Measurement of Coating Thickness, Amplitude Sensitive Eddy Current Method.
 - NFPA 285 - Standard Test Method for Evaluation of Fire Propagation Characteristics of Exterior Non-Load-Bearing Wall Assemblies Containing Combustible Components.

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- **PERFORMANCE CRITERIA**
 - General Panel Properties:
 - Thermal Expansion: ASTM D696, 2.4×10^{-5} per degree C
 - Fire Propagation: CAN/ULC-S102
 - Mineral Core Panel to ULC-S102:
Smoke Developed = 5
Flame Spread = 1
 - General System Properties:
 - Wind-Pressure Resistance: ASTM E330: Tested. See Technical Data Sheet (Wind loads)
 - Pressure Cycling: ASTM E1288: Passed 100 cycles.
 - Fire Resistance: CAN/ULC-S134: Passed
- **PACKAGING, HANDLING, PROTECTION, AND DELIVERY INSTRUCTIONS**
 - Deliver materials and related components in manufacturers' unopened containers or bundles, fully identified by name, brand, type and grade. Prevent damage during unloading, storing and installation.
 - Store, protect and handle materials and components to prevent twisting, bending, mechanical damage, contamination and deterioration.
 - Store materials off ground and keep clean, dry, and free of dirt and other foreign matter.
 - Do not expose panels with strippable film to direct sunlight or elevated heat.
- **SPECIAL WARRANTY**
 - Fifteen year limited product warranty against physical defects of systems and products that are properly installed and maintained according to the manufacturer's published application instructions.
 - Finish Coating: Twenty year limited warranty stating finishes shall be free from peeling and checking, chalking of exterior paint, and fading or colour change.
- **LIMITATIONS**
 - Composite aluminum panels must be protected from direct contact with dissimilar metals by a membrane or coating layer.
- **SAFETY PRECAUTIONS**
 - Wear suitable personal protection to avoid cuts.
 - Wear eye protection when cutting, handling and installing panels.

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- Panels will be hot when subjected to sunlight.
- AVAILABILITY
 - Available from appointed distributors. See distributor listing on website.
- COST
 - Consult distributors for specific product costs or relative costs.

PRODUCT PROPERTIES

- MATERIALS, COMPOSITION, PROPERTIES
 - Aluminum faces sheets: AA A3003-H24 alloy aluminum sheet with nominal thickness of 0.020 inches (0.5 mm).
 - Back plates, corner frames and end frames: AA 6063-T5 extruded aluminum with wall thickness ~ 0.062 inches (1.57 mm).
 - Panel joint top caps: AA6063-T5 extruded aluminum, two-piece snap together assembly of top cap and backplate, ~ 0.062 inches (1.57 mm) thick.
- ACCESSORIES
 - AL13 adhesive tape for permanent adhesion of I-beam stiffeners to the back side of the ACM panel for added panel rigidity (optional application).
 - Fasteners:
 - Attachment of System frame components to Steel Substrate: #10-16 x 19.05 mm (3/4 inch) self-drilling screws with corrosion-resistant coating. Installed every 60.96 cm (24 inches) on center.
 - Attachment of System frame components to Wood Substrate: #12-14 x 38 mm (1-1/2 inch) mini drill-point fasteners with EPDM composite washers and corrosion-resistant coating. Installed every 40.64 cm (16 inches) on center, unless securing a segmented (8.25 cm) (3 1/4 inch) backplate (installed 40.64 cm (16 inches) on center), in which case two fasteners per segmented piece are required.
 - Attachment of System frame components to Concrete walls: 6.35 mm (1/4 inch) diameter threaded stainless steel concrete screw anchor. Minimum embedment into concrete of 31.75 mm (1 1/4 inch). Ultimate withdrawal resistance shall be a minimum of 750 lbf. Installed every 60.93 cm (24 inches) on center.
 - Note: For larger installed areas over concrete, it is recommended to install a furring bar or Z-girt for panel attachment. Attaching frame components directly to concrete is time consuming.

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- Fastener Corrosion Resistance:
 - Carbon Steel: Coated to provide not less than 1,700 hours of ASTM B 117 salt spray performance with no white or red rust; 18 cycles of ASTM G 87 (DIN 50018) SO² Kesternich testing with not more than 15 percent red rust.
 - Stainless Steel: 304, 305 or 316 Series Stainless Steel.
- SHAPE, MASS, AND DIMENSION
 - Panel Weight:
 - Polyethylene core:
 - 3 mm/0.50 mm (0.12 inch/0.02 inch): 4.71 kg/m² (0.96 lb/ft²)
 - 4 mm/0.50 mm (0.16 inch/0.02 inch): 5.71 kg/m² (1.17 lb/ft²)
 - Fire-rated mineral fiber core:
 - 3 mm/0.40 mm (0.12 inch/0.12 inch): 6.20 kg/m² (1.27 lb/ft²)
 - 4 mm/0.50 mm (0.16 inch/0.02 inch): 8.18 kg/m² (1.68 lb/ft²)
 - Overall panel thickness: 3 mm (0.12 inch) or 4 mm (0.157 inch).
 - Standard panel size of 1220 mm x 2440 mm (4 foot x 8 foot).
 - Custom sizes available, up to a maximum of 1524 mm x 3048 mm (5 foot x 10 foot).
- FINISH, COLOURS AND TEXTURES
 - High performance finish coating in compliance with AAMA 2605.

PRODUCT INSTALLATION

- PREPARATION
 - Ensure structural supports are aligned and meets structural requirements for wind loading and gravity loads.
 - Ensure building surfaces are smooth, clean, dry and free from defects detrimental to installation of cladding system.
 - Ensure framing is planar with variations on not more than ¼-inch in ten feet.
 - Inspect cladding and components before installation and verify that there is no shipping, storage, or staging damage. Do not install damaged cladding. Remove from jobsite to avoid re-application.
 - Ensure all products received are as ordered/required for project, including finish and size.

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- **INSTALLATION**
 - Install products in accordance with manufacturer's published handling and installation instructions.
 - Erect components plumb and true.
 - Adjust assembly to secure cladding safely to wall while allowing for calculated expansion and contraction of components. Ensure extrusion tabs overlap cladding edges by at least half of extrusion tab depth.
 - Do not cut, trim, weld, or braze component parts during erection in manner which would damage finish, decrease strength, or result in visual imperfection or failure in performance.
 - Apply isolation coating to areas of contact between dissimilar metals.

Corporate Identification

AL13 Architectural Systems™

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Website <http://www.AL13.com/>

Technical Services Available

Phone or e-mail for technical services. Check website for technical support.

Classification and Filing

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