



**Product Brochure
& Installation Manual**



Aluminum Facade System



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A stand-alone facade system that offers maximum integration and design potential without compromising aesthetics or durability.

Alumitex™ Aluminum Facade System by Elemex offers maximum design flexibility and durability. Exceeding North American codes, Alumitex™ is a smart choice for any project requiring mixed-material facades.

Alumitex™ integrates seamlessly with other Elemex facade systems because it is mounted to our proprietary Unity™ attachment technology. At Elemex, we understand there are many steps in the life of a project and that the journey from concept to completion can be challenging. We support your vision with solid warranties and complete single point of contact service with our 360° Advantage.

To learn more about UNITY™, our proprietary attachment technology, see page 8.

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Aluminum Composite Material (ACM)

Features & Benefits



Code Compliant

The Alunitex™ System has been proven to meet or exceed industry code standards throughout North America.



Climate Defiant

Resistant to expansion and contraction in high temperature or freezing conditions.



Lightweight

ACM panels with a thickness of 5/32" (4mm) weigh approximately 2lbs per square foot.



Large Format

Large format ACM panels open a world of design possibilities.



Weatherproof

Weatherproof panels combined with a patented pressure-equalized rainscreen system provide the ultimate weather barrier.



UV Resistant

The color is resistant to fading from exposure to the sun or extreme temperatures.



Corrosion Resistant

A PVdF finish protects the panels from the elements making them long-lasting, low maintenance, and corrosion-resistant.



Ease of Fabrication

The versatility of ACM allows for fast production and improved lead times.



Completely Customizable

ACM is available in over 30 pre-painted colors and in a range of finishes.



Aluminum Plate

Features & Benefits



Climate Defiant

Resistant to expansion and contraction in high temperature or freezing conditions.



UV Resistant

Color is resistant to fading from exposure to the sun or extreme temperatures.



Weatherproof

Weatherproof panels combined with a patented pressure-equalized rainscreen system provide the ultimate weather barrier.



Endless Versatility

Extremely durable. Aluminum plate offers the opportunity to create square, crisp lines and compound curves.



Completely Customizable

Aluminum plate is post-painted which allows an endless possibility of color choices.

Product Specifications

Aluminum Composite Material (ACM) Specifications

Composition + Materials

Aluminum Composite Material consists of two aluminum sheets sandwiching a solid core of extruded thermoplastic material, processed in a continuous process with no glues or adhesives between dissimilar materials. The pre-painted coils ensure color consistency and decrease construction schedules. A protective film is applied to the material in production that should be removed after the fabrication and once panels have been installed.

Sizing + Details

Top: 0.020" (0.5mm) aluminum skin coated with a PVdF roll-coated finish containing a minimum of 70% Kynar 500®/Hylar 5000® resins.

Core: Anti-toxic low density polyethylene (PE) or mineral-based fire rated (FR) core.

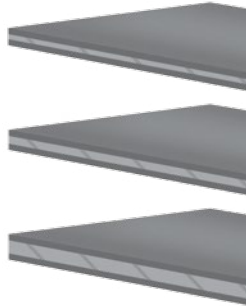
Bottom: 0.020" (0.5mm) aluminum skin coated with either a chrome or polyester finish.

1/8" (3mm) —————
Economical: Select applications (signage + interior)

5/32" (4mm) —————
Standard: Multi-storey to grade applications

1/4" (6mm) —————
High durability: Ideal for public spaces

Dimensions:
Thickness: 5/32" (4mm) standard with 1/8" (3mm) & 1/4" (6mm) also available.
Width: 40" (1020mm), 49" (1250mm), & 62" (1575mm).
Length: No limit. 196" (6000mm) maximum is recommended for convenient handling and delivery.



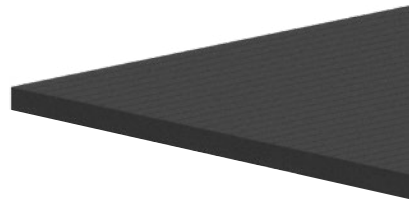
Aluminum Plate Specifications

Composition + Materials

Aluminum Plate is a high strength, low weight aluminum alloy sheet that is durable and has excellent formability. These panels are post-painted to any desired color. Solid aluminum plate panels are non-combustible and therefore have no installation limitations.

1/8" (3mm) —————
Solid: Select applications

Dimensions:
Thickness: 1/8" (3mm)
Width: 60" (1524mm)
Length: 120" (3048mm)





Unity™ Proprietary Attachment Technology



Rear Ventilated Rainscreen

UNITY™

Unity™ is our proprietary concealed attachment technology that supports simple and elaborate designs from flat panels to complex shapes. It seamlessly integrates with all of Elemex's facade surfaces using one proven system that offers multi-panel surface integration and the ability to design and install with absolute confidence. Unity™ brings it all together for a new North American standard.



Framing System

The proprietary extruded aluminum framing consists of a perimeter frame and intermediate vertical supports that are fastened to a clip system attached to the substructure or sub-girt system.



Attaching

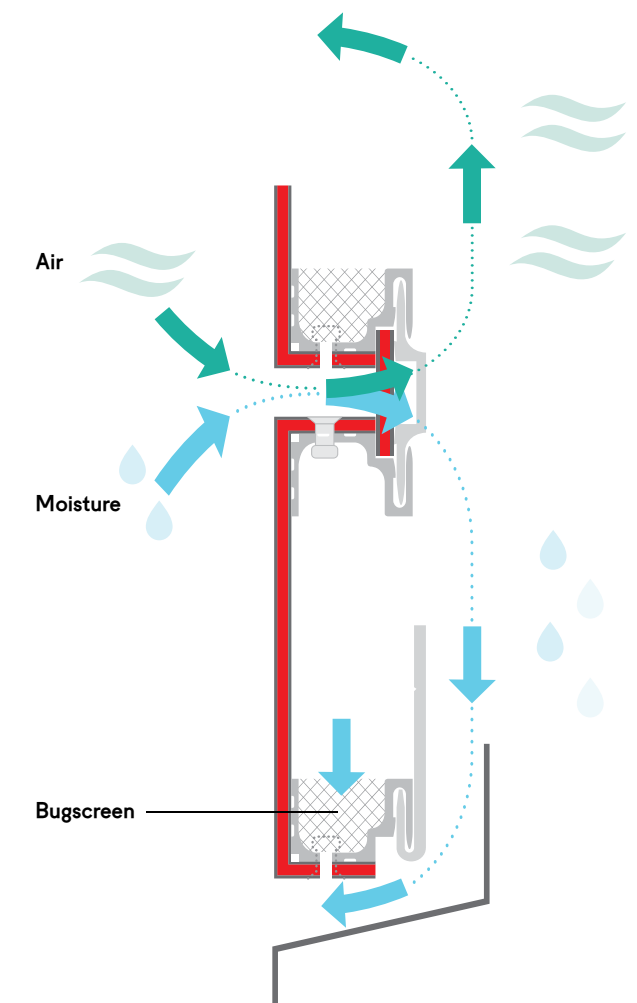
Aluminum composite material is mounted to the frame and stiffeners are adhered with structural silicone.

Rear Ventilated Rainscreen (RVR)

Our Rear Ventilated Rainscreen (RVR) System breathes freely and allows panels to repel water and debris.

Pressure-Equalized Rainscreen

Pressure-equalization reduces the pressure difference across the cladding through the use of compartmentalization and back venting. Ingress of incidental water is reduced and residual moisture is returned to the exterior at the drainage plane.

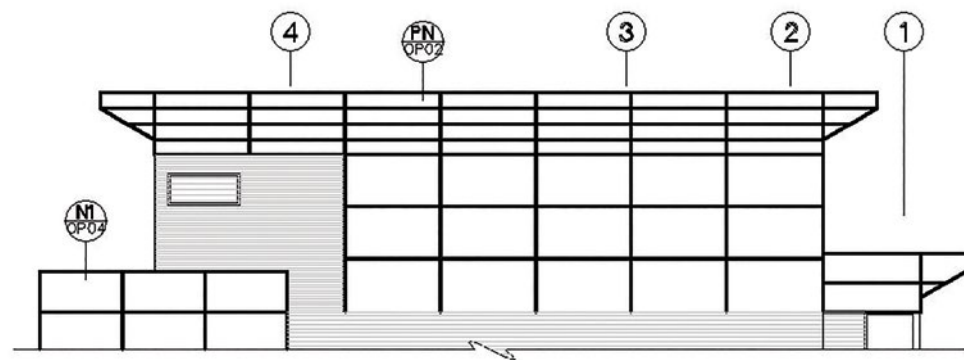


Shop Drawing Details

Shop Drawing Details

Alumitex™ panels are cut from shop drawings that are created by a team of experienced, qualified designers who work with the architect and installation contractor to meet the design intent. Once all Alumitex™ panel areas have been field measured and finalized with the installation crew, a set of fabrication tickets are created. The panels are then fabricated to the exact size in our highly automated, climate controlled production facility.

S2 Sample Shop Drawing



i All drawings must be reviewed by a local engineer following each region's building regulations and codes prior to fabrication.

Packaging, Site Storage + Handling



A protective film is attached to the front face of the panel to protect it from attracting dirt. There is no need to clean the panels once the film is removed after installation.



Skids and crates are custom built to ship panels to every project. Panels are numbered, packed and shipped in sequence based on the predetermined plan for installation.

A checklist is shipped with each skid so if any damage is sustained in the shipping process a replacement panel can be cut and expedited to the site. Panels are shipped in stages, based on a predetermined installation plan.

System Components

Supplies Checklist



There are two types of system applications:

Insulated Rainscreen

An insulated system starts with a predetermined air/vapor barrier that is affixed to a uniform substrate. Heavy (16-20 gauge) galvanized steel sub-framing attaches the Alumitex™ panel to the wall. The sub-framing provides a cavity for the insulation as well as providing a 1" (25mm) airspace.

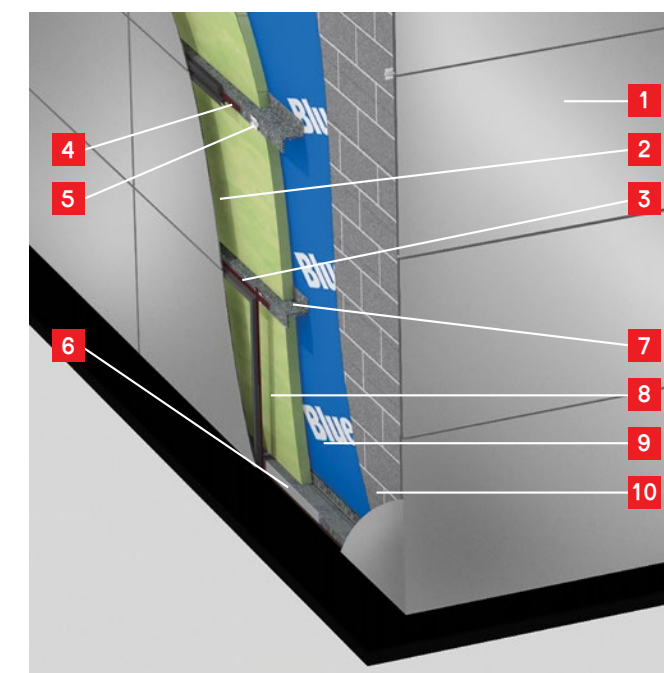
Non-Insulated Rainscreen

A non-insulated system requires only an air barrier, and the panels may be mounted directly to the substrate providing a 1" (25mm) airspace.

Diagram 1

Typical Outside Corner

Concrete Masonry Unit (CMU) Construction



- 1** Alumitex™ Aluminum Composite Material
- 2** 1" (25mm) Air Space
- 3** Unity™ Attachment Technology
- 4** Infill Strip
- 5** Aluminum Clip
- 6** Aluminum J-trim
- 7** "L" angles or Z-girt (Thermally Broken EnviroClip™)
- 8** 3" (76mm) Insulation
- 9** Air/Vapor Barrier
- 10** Concrete Masonry Unit (CMU) or other substrate

i Check your local building code for local structural, insulation and air/vapor barrier requirements.



Sub-Framing

The Alumitex™ Aluminum Facade System can be mounted on a vertical or horizontal adjustable thermally broken galvanized framing system. Z-girts or back to back “L” angles can be used both vertically and horizontally on concrete masonry units (CMU), concrete or metal structural framing with sheathing. The project design will dictate how the sub-framing will be installed, but in most cases vertical framing is used. If the substrate is constructed with vertical steel studs, horizontal framing is preferred.

Aluminum Composite Material panels are attached using mounting clips at a maximum of 24” (600mm) on center, along the length of the sub-framing.

i Technical data on panel size and including additional girts to the layout are available.

Typical Vertical Framing



Typical Horizontal Framing



Panel Installation



1 J-trim is mounted to the sub-framing at the base of the wall over top of the flashing.



2 Before installing the panels, the installer must ensure that the J-trim is clear of all debris.



3 To speed up installation, attachment clips can be installed to the panel perimeter to align with the sub-framing locations.



4 The panel is placed into the J-trim.



5 The installer ensures that the panel is level.



6 The full clip is attached to the sub-framing using a self-tapping hex screw with an extended hex head driver.



7 Repeat steps 3-5. The next panel is placed onto the J-trim and slid over to connect with the previous panel installed.



8 Minor adjustments can be made to the panel spacing. Spacers can be used to ensure consistent spacing between panels before they are attached to the framing system.



i In the example shown above, the side clip does not connect directly with the framing, but provides panel support, spacing and a guide for the infill strip.



Infill Strips



9 Vertical infill strips are measured and installed once a row of panels are installed.



10 Horizontal infill strips are then installed across the top of the row of panels.



Infill strips can match or complement the system frame color as part of the Alumitex™ Concealed Installation System. The infill strips conceal any visible clips or screws.

i Infill strips are also available in custom colors.



Corners + Edges

It's recommended that installation begins at a corner or window jamb. Corner and window jamb panels are custom cut and constructed based on approved shop drawings.



Corners or jambs are installed in the same manner flat panels are installed.



Infill strips can be routed from the back and bent to create a clean corner.



Routed infill strips will be required at inside corners and may be required behind windows and door jambs. Alternatively, flashings can be used at window and door jambs.



Once the installation is complete, the Alumitex™ protective dust-cover can be removed from the panels.

1. Product Name

Alumitex[®] Aluminum Facade System
Aluminum Composite Material (ACM)

2. Manufacturer

Elemex Inc.
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London, Ontario, N5V 0B2
Toll Free: 1-(844)-435-3639
info@elemex.com

Elemex[®] Architectural Facade Systems is the custom manufacturer of Alumitex Facade System.

3. Product Description

Basic Use

Exterior or interior wall panel for new construction, renovation, commercial and various other applications. Some typical uses include; exterior wall panels, fascia panels, ceiling panels, spandrel panels, beam & column covers, wall trim, accent panels and signage.

4. Unity[®] Attachment Technology

Unity[®] Attachment Technology: a proprietary integrated attachment technology developed and perfected by Elemex to panelize, mount and seamlessly integrate a variety of surfaces such as: Sintered Ceramic, ACM, Aluminum Plate and other specialty veneers.

5. Composition and Materials

Aluminum Composite Material (ACM) is available in either a standard PE or FR (fire rated) core material. The manufacturing process involves the core material being sandwiched between two sheets of .5mm thick aluminum in a continuous process. The front side of the material is coated with a high performance coating and the backside is coated with either a chrome or polyester coating. ACM FR is available in a 4mm (5/32") thickness. Specialty veneers such as Metal Composite Materials (MCM) also available.

6. Finishes

ACM coil coated finishes are available in a 2 coat solid or mica finish, as well as 3 coat metallic colors. All of the finishes contain a minimum of 70% Kynar 500[®]/Hylar 5000[®] polyvinylidene fluoride (PVdF) resins. Alumitex carries over 30 standard colors in the stock program and meet the AAMA 2605-98 specification requirements. Minimum quantities may apply to producing standard colors.

7. Sizes

ACM is manufactured in the standard thickness of 5/32" (4mm). Also available in 1/8" (3mm) and 1/4" (6mm). Standard sheet widths are 40" (1020mm), 49" (1250mm) and 62" (1575mm). There is no limitation on the length but within a length of 19'6" (6000mm) is recommended for convenient handling and delivery purposes.



Perimeter Institute, Waterloo, ON

8. Limitations

Non-load bearing use only.

9. Installation

Elemex is a custom manufacturer specializing in the fabrication of aluminum composite panels. Elemex will fabricate the wall panels according to the project specifications and approved shop drawings after site verification of dimensions. Installation is performed by a qualified installation company.

10. Precautions

Elemex takes great care to ensure that all brackets, clips or other fixing devices that come in direct contact with the panel are made from aluminum to avoid electrolytic decay. In situations where the aluminum clips could come in contact with another metal, they will be separated by an isolation tape or similar insulators to prevent corrosion from electrolytic decay.

11. Building Codes

Elemex panels meet or exceed the local building code requirements of North America.

12. Availability & Costs

Elemex can arrange to ship fabricated metal products anywhere in North America.



Architectural Facade Systems

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13. Product Technical Data

ASTM D1781 - Standard test method for climbing drum peel for adhesives

ASTM E8 - Standard test method for tension testing of metallic materials

ASTM C297 - Standard test method for tensile strength on flat sandwich construction in flatwise plane

ASTM C273 - Standard test method for shear properties of sandwich core materials

ASTM C393 - Standard test method for flexural properties of sandwich construction

ASTM C518 - Standard test method for steady-state thermal transmission properties by means of the heat flow meter apparatus

ASTM D648 - Standard test method for deflection temperature of plastics under flexural load in the edgewise position

ASTM D696 - Standard test method for coefficient of linear thermal expansion of plastics between -30°C and 30°C with a vitreous silica dilatometer

Fire Test Data

NFPA 285 - Standard test method for evaluation of fire propagation characteristics of exterior non-load-bearing wall assemblies containing combustible components

ASTM E84 - Standard test method for surface burning characteristics of building materials

CAN/ULC S-134 - Standard test method for fire testing of exterior wall assemblies. (ACM FR)

Systems Technical Data

AAMA 508-07 - Standard test method for pressure equalization behavior & water penetration resistance

ASTM E283 - Standard test method for determining the rate of air leakage through exterior windows, curtain walls, and doors under specified pressure difference across the specimen

ASTM E330 - Standard test method for structural performance of exterior windows, curtain walls, and doors by uniform static air pressure difference

ASTM E331 - Standard test method for water penetration of exterior windows, curtain walls, and doors by uniform static air pressure difference

14. Warranty

Standard 1 year construction warranty. Contact manufacturer for finish warranty information.

15. Maintenance

The high performance PVdF finish coating requires virtually no maintenance. Cleaning the panels, with water and a mild detergent, on a regular basis will enhance the look of the panels. Instructions on cleaning methods are available from the manufacturer.

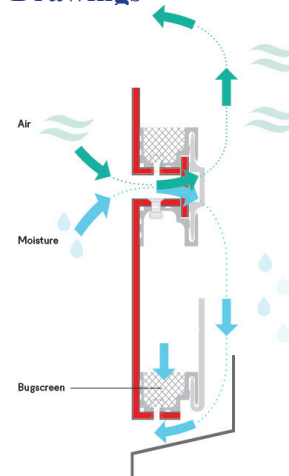
16. Technical Services

Elemex can provide consultation suggestions for preliminary design right through to product application, including the following: Advice for both new work and retrofit applications, Finish samples, Specification assistance, Shop drawings

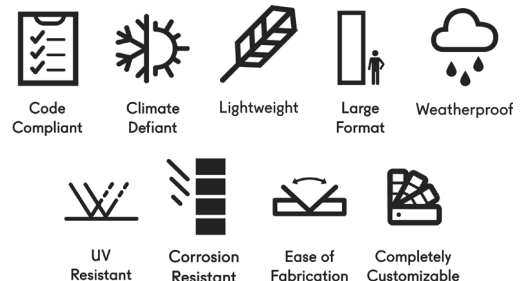
17. Related References

A.A.M.A. technical literature is available from the American Architectural Manufacturers Association. For referenced ASTM standards, visit the ASTM website at www.astm.org or contact ASTM Customer Service at service@astm.org.

18. Assembly Drawings



19. Features and Benefits



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