

architectural



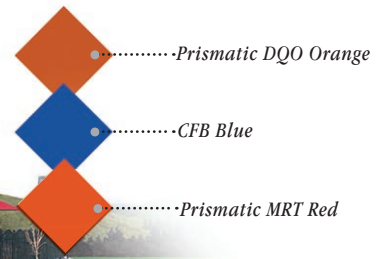
ALPOLIC® & ALPOLIC®/fr
MATERIALS

MITSUBISHI PLASTICS COMPOSITES AMERICA, INC.
www.alpolic-northamerica.com

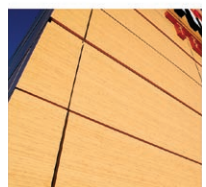
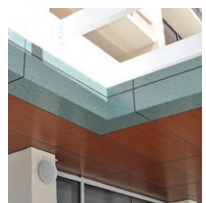


prismatic

ALPOLIC® Prismatic finishes combine our advanced Lumiflon™ (FEVE) technology with specialized pigments to create unique colors and effects. The resulting finishes stand out beautifully, bringing 3-dimensional depth to your 2-dimensional surface. ALPOLIC® Prismatic finishes are perfect for making a dazzling creative statement with your corporate colors, or adding beautiful saturations of color and dramatic contrast to your architecture. Like our other aluminum and metal composite materials, ALPOLIC® Prismatic finishes provide the rigidity of heavy-gauge sheet metal at a fraction of the weight.

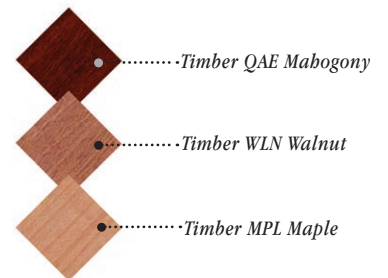


DAIRY QUEEN GRILL & CHILL®
OHIO, U.S.



stone/timber series

ALPOLIC®'s Stone Series and Timber Series offer the genuine look and feel of these timeless materials, but in panels made of aluminum composite material (ACM) that are a whole lot more practical. In fact, our Stone and Timber Series panels are easily fabricated with ordinary metalworking tools. Made with a unique image transfer process developed by Mitsubishi Plastics, this innovative cladding material gives you the best of both worlds – the lightweight durability of ALPOLIC® and the classic beauty of stone and timber.



MAROS
LJUBLJANA, SLOVENIA



stock & custom colors

Picture your next project in the bright, clean colors and designs that only ALPOLIC® lightweight aluminum composite material (ACM) panels can achieve. From Off White and Aluminum Grey to rich Metallics, our colors are always available in 4mm thickness and in various standard widths. ALPOLIC® uses Lumiflon™ (FEVE) fluoropolymer resin as the standard for both stock and pre-formulated color paint finishes, delivering superior durability, weatherability, and chemical resistance.



FEDERAL GOVERNMENT ADMINISTRATIVE CENTER
PUTRA JAYA, MALAYSIA



natural metals

Copper evolves and weathers to a rich patina, adding beauty and depth to any building façade. Other metals – stainless steel, titanium, zinc – project an image of high-tech sophistication like nothing else. ALPOLIC®'s Natural Metals line conveys the look of these materials so convincingly because each of them has its namesake metal built into the outer layer. Whether you're cladding a new building, recladding an existing structure, or adding accents to masonry or other surfaces, ALPOLIC® Natural Metals offer a wealth of possibilities at only a fraction of the weight and cost of solid sheet alternatives.

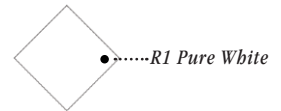


MOLINE PUBLIC LIBRARY
ILLINOIS, U.S.



frLT

Offering lightness, fire resistance and a wide palette of available colors and finishes, ALPOLIC®/frLT is the new ACM of choice for indoor applications. This material of the future enables architects and designers to exceed fire safety standards while achieving sweeping designs and startling new effects. It's perfect for use on interior walls, ceilings, columns, partitions and displays in shops, offices and factories. ALPOLIC®/frLT is also a good choice for light outdoor applications, including soffits, awnings, parapets and signs. With ALPOLIC®/frLT, we exceed all standards and expectations so you can do likewise.

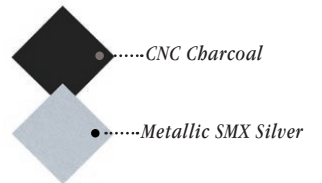


THE CHALLENGER EXHIBITION CENTER
NONTHABURI, THAILAND



fire resistant

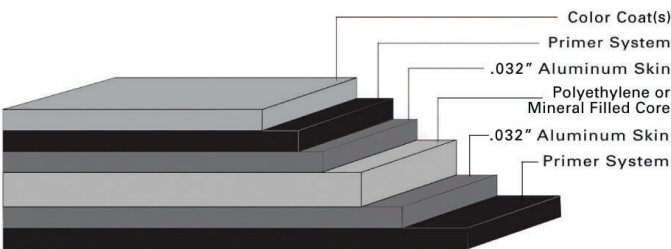
ALPOLIC®/fr isn't just one of the most advanced fire-retarding cladding materials on the market – it's also affordable and available in a wide array of attractive options. No wonder it's one of the most popular choices in the world for external claddings. Comprised of a mineral-filled, fire-resistant thermoplastic core sandwiched between two thin metal skins, ALPOLIC®/fr has been used for landmark projects across the globe. By meeting fire codes worldwide while accommodating aesthetic and budgetary considerations, ALPOLIC®/fr sets the standard for fire safety.



FUTURE INNS CARDIFF BAY
CARDIFF, UK

heavy duty

Introducing ALPOLIC®/HD aluminum composite materials. These panels are manufactured with either a polyethylene or mineral filled fire resistant core. This product is produced with 0.032" top and bottom aluminum skins for added rigidity and strength. Any of our fluoropolymer paint finishes including solid, mica, metallic, and prismatic can be applied. ALPOLIC®/HD panels provide additional yield and tensile strength vs. standard ALPOLIC® panels along with over 5 times the flexural elasticity strength. For applications requiring heavy duty strength and exterior performance, ALPOLIC®/HD panels are the answer. These 4mm or 6mm panels are custom manufactured and not a stocked product.



PRODUCT PERFORMANCE		
	ALPOLIC/fr HD	ALPOLIC/fr
Yield Strength, E8 (psi):	8,818	6,344
Tensile Strength, E8 (psi):	9,990	7,126
Elongation, E8 (%):	5.9	5.0
Flexural Modulus of Elasticity, C393 (psi):	31,410,471	5,770,000

**Above are typical values*

break metal

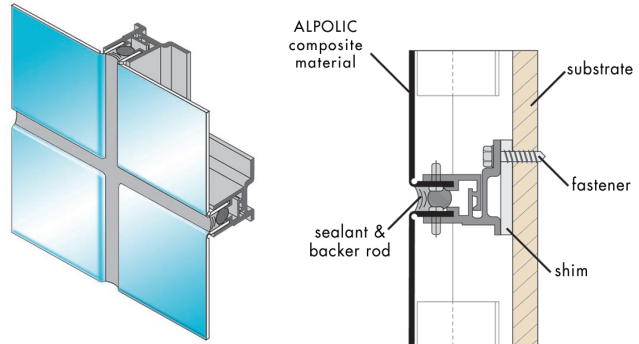
Offering a complementary product to ACM, ALPOLIC® now offers Break Metal which can be formed with the use of a sheet metal break. The material is coated with Lumiflon™ (FEVE) fluoropolymer resin paint and matched to more than 18+ of our most popular architectural stock 4mm and select specialty colors. The aluminum thickness is 0.032" and is coil coated and sheeted at MPCA. Break Metal is excellent for roof caps, flashing, fascia trim, and accents.



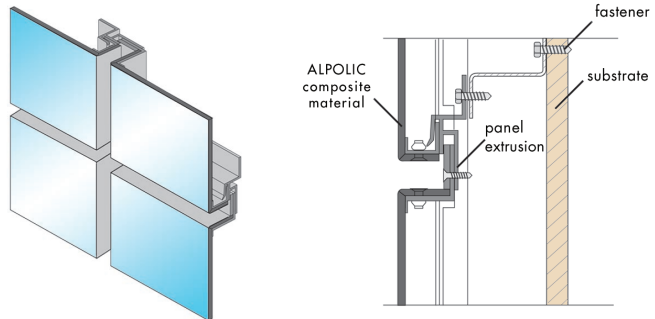
Examples of attachment systems

ALPOLIC® aluminum and metal composite materials have a track record second to none when it comes to the architect/fabricator relationship. The product of their teamwork has produced countless examples of cutting edge architecture that offers solutions to accommodate innovative “outside of the box” design applications. Sample cladding systems and their attachment methods are represented by the illustrations below.

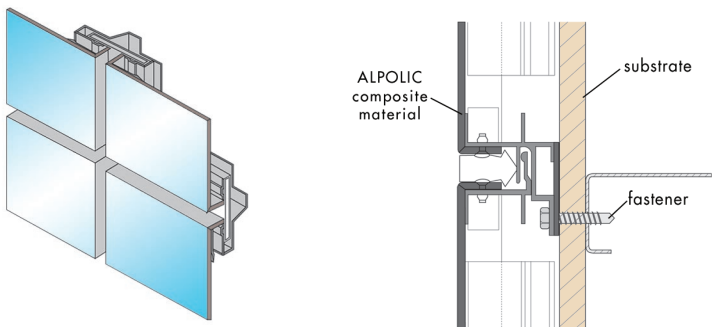
ROUT AND RETURN WET SEAL



RAIN SCREEN



ROUT & RETURN DRY GASKET SEAL



What are the advantages of using ALPOLIC® in your design project?

PRODUCT PROPERTIES – ALPOLIC® Aluminum and Metal Composite Materials (ACM & MCM) feature such attributes as superior flatness, vibration dampening, durability and ease of maintenance. Both are produced by continuously bonding two thin sheets of aluminum or metal on either side of an extruded thermoplastic or mineral-filled thermoplastic core. The aluminum surfaces have been pre-finished and coil-coated in a variety of paint finishes before bonding. ALPOLIC® ACM & MCM both offer the rigidity of heavy-gauge sheet metal in a lightweight composite material.

EASE OF FABRICATION – ALPOLIC® ACM requires no special tools for fabrication, ordinary metal working tools are all that are needed. Fabrication techniques such as cutting, grooving, punching, drilling, bending, rolling, and many other specialized techniques are easily accomplished.

SURFACE TREATMENTS – ALPOLIC® is available in the following finishes: standard Lumiflon™ (FEVE) fluoropolymer finish tested to meet the performance criteria of AAMA 2605, with a wide color and gloss range, Kynar® (PVDF), polyester and Class 1 anodized. ALPOLIC®'s advanced coating equipment also allows ease of manufacturing multiple color coil-coated panels.

PAINT SYSTEM – LUMIFLON™ (FEVE)

- ALPOLIC® offers you Lumiflon™ (FEVE) based fluoropolymer finishes as a standard product.
- Lumiflon™ (FEVE) is a high performance, second generation fluoropolymer with an available gloss range from 15% - 80%.
- ALPOLIC® with Lumiflon™ (FEVE) finish offers bright, vibrant colors.
- Lumiflon™ (FEVE) finish includes superior abrasion characteristics and field painting attributes.
- Kynar® (PVDF) meets AAMA 2605 but does not offer the high gloss or rich color palette as with Lumiflon™ (FEVE).

MANUFACTURING FLEXIBILITY – ALPOLIC® is offered in a variety of thicknesses: 2mm, 3mm, 4mm and 6mm
Standard widths include:.....40", 48", 50", and 62"
Semi-standard widths:.....Consult Customer Service
Custom widths:.....Consult Customer Service

RANGE OF SIZES

Width: 33"– 62" (826mm – 1575mm)
Length: 6'– 24' (1829mm – 7315mm)

RANGE OF PRODUCTS – ALPOLIC® offers you a variety of distinct, durable and diverse product lines:

- ALPOLIC®: standard PE core in a myriad of coil-coated finishes
- ALPOLIC®/fr: fire resistant core for architectural applications
- ALPOLIC®/frLT: fire resistant core for interior applications
- ALPOLIC® Natural Metals: unique exotic metal finishes
- ALPOLIC® Stone/Timber: natural classic beauty with ACM
- ALPOLIC® RF: Mirror like surface with ACM flexibility
- ALPOLIC® HD: Heavy Duty with thicker aluminum skin
- ALPOLIC® Decorative Metals: brushed metal and reflective ACM
- ALPOLIC® Anodized: Class 1 anodized panels in 5 shades
- ALPOLIC® Break Metal: 0.032" coil-coated aluminum

PRODUCT TOLERANCE – ALPOLIC® material is trimmed and squared with cut edges to offer the best panel edge conditions in the industry.

Width:.....± 0.08" (2mm)
Length:.....± 0.16" (4mm)
Thickness: 3mm:.....± 0.008" (0.2mm)
4mm:.....± 0.008" (0.2mm)
6mm:.....± 0.012" (0.3mm)
Bow maximum:.....0.5% of length and/or width
Squareness maximum:.....0.2" (5mm)

SUSTAINABILITY – The LEED (Leadership in Energy and Environmental Design) Green Building Rating System® is a voluntary, consensus-based national standard for developing high-performance, sustainable buildings. Members of the U.S. Green Building Council representing all segments of the building industry developed LEED and continue to contribute to its evolution.

LEED provides a complete framework for assessing building performance and meeting sustainability goals. Based on well-founded scientific standards, LEED emphasizes state of the art strategies for sustainable site development, water savings, energy efficiency, materials selection and indoor environmental quality. LEED recognizes achievements and promotes expertise in green building through a comprehensive system offering project certification, professional accreditation, training and practical resources.

Mitsubishi Plastics Composites America, Inc. is a member of the U.S. Green Building Council and the Canadian Green Building Council and actively supports environmental responsibility. The raw materials used in the ALPOLIC® panel products have been selected to maximize the use of recycled content, both post consumer and post industrial. The coating and laminating lines are designed to make the most efficient use of energy and to comply with all regulations and codes relating to environmental quality. If there are specific questions please contact ALPOLIC®'s Technical Services Group.

ALPOLIC® & ALPOLIC®/fr Fire Performance

ALPOLIC® (standard) with polyethylene core has been tested by independent testing laboratories using the following nationally recognized fire tests.

ASTM E84

Flame spread

3mm:.....	05
4mm:.....	00
6mm:.....	00

Smoke developed

3mm:.....	15
4mm:.....	00
6mm:.....	10

ASTM E108 modified

4mm:.....	Passed
6mm:.....	Passed

ASTM E162

Flame spread index

6mm:.....	11
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ASTM D1929

Flash:.....	716°F
Ignition:.....	752°F

ASTM D635

4mm:.....	Classified CC1
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UL-94

3mm:.....	V-O rating
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CODE EVALUATION REPORTS:

1. UL 94
2. UL 879
3. ICC-ES
4. Miami Dade
5. Florida Building Code

* Downloads available on our website

ALPOLIC®/fr (fire resistant) with a mineral-filled, thermoplastic core has been tested by independent testing laboratories using the following nationally recognized fire tests.

ASTM E84

Flame spread

4mm:.....	00
6mm:.....	00

Smoke developed

4mm:.....	10
6mm:.....	00

ASTM 108 modified: 4mm.....Passed

ASTM E162

Flame spread index

4mm:.....	0
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ASTM 1929

Flash:.....811°F

Ignition:.....837°F

NFPA285 intermediate scale multi-story apparatus test:

4mm:.....Passed

6mm:.....Passed

ASTM E119 (1 and 2 hour ratings)

4mm:.....Passed

6mm:.....Passed

UBC 26-3 corner test:

4mm:.....Passed

CAN/ULC S102 & 134: 4mm:.....Passed

6mm:.....Passed

UBC 17-2, potential heat release:.....<6000 BTU/ft²

CODE EVALUATION REPORTS:

- | | |
|----------------|--------------------------------------|
| 1. UL 94 | 5. Florida Building Code |
| 2. ICC-ES | 6. New York City |
| 3. ICC-ES-ICBO | 7. CAN/ULC S102 & S134 |
| 4. Miami Dade | * Downloads available on our website |

For additional information, samples or a list of ALPOLIC® fabricators, please call 1-800-422-7270 or visit www.alpolic-northamerica.com

ALPOLIC® & ALPOLIC®/fr

M A T E R I A L S

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