

Product Data Sheet

PRODUCT NAME:

Envelope 2000®
Engineered Architectural Wall System

MANUFACTURER:

Citadel Architectural Products, Inc.
3131-A North Franklin Road
Indianapolis, Indiana 46226
phone: (317) 894-9400
(800) 446-8828
fax: (317) 894-6333
(800) 247-2635
web: www.citadelap.com
email: info@citadelap.com

PANEL & SYSTEM DESCRIPTION

OVERVIEW:

Envelope 2000® is a fabricated wall system utilizing a composite panel made by laminating a prefinished aluminum skin to a substrate of thermoset phenolic resin. A second aluminum skin is added as a backer and provides thermal stability and panel balance.

Panels are furnished with a strippable film on the painted surfaces to protect the finish during shipment and installation.

Envelope 2000® is fabricated and then attached to the substrate with a series of aluminum extrusions.

The three basic attachment methods for Envelope 2000® are the Reveal System (RV) utilizing one piece extruded aluminum moldings, the Rout & Return System (RR) with formed 'pans' and attachment extrusions and the RainScreen System (RS) utilizing formed 'pans', attachment extrusions and featuring 'dry' joints.

BASIC USES & APPLICATIONS:

As a high end fabricated system, Envelope 2000® is designed for use as an exterior cladding on walls, canopies, fascia, and accent bands.

Envelope 2000® is typically used on medium to high rise buildings, such as office towers, retail complexes, educational buildings, medical facilities, etc...

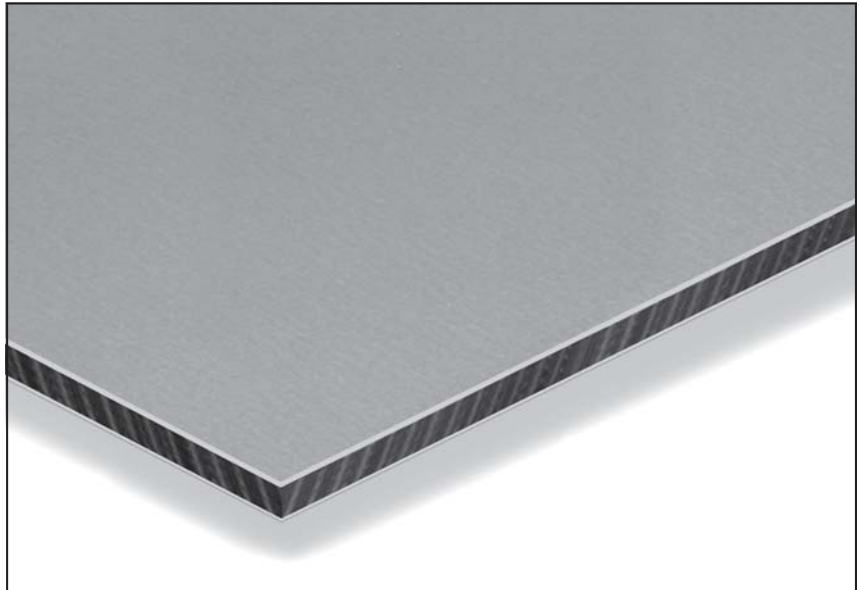


TABLE 1. COMPOSITION & MATERIALS¹:

Component	Standard (in)	Metric (mm)
• Prefinished Smooth Aluminum Face	.024" (min)	.609mm
• Thermoset Phenolic Resin Core ²	.105"	2.67mm
• Primed Smooth Aluminum Backer	.010"	.254mm

¹ Technical Properties (see back) are based upon the Typical Composition. Selecting optional components may alter these properties.

² 4mm is the most common thickness for Envelope 2000®. 3mm and 6mm (nominal) are also available.

FEATURES & BENEFITS:

As a complete exterior cladding system, Envelope 2000® offers a number of benefits to the building owner, architect, and installer including:

- **High-Tech Appearance**
Smooth aluminum skins and clean lines make Envelope 2000® an excellent choice for high profile projects where a progressive aesthetic detail is desired.
- **Thermal Stability**
Unlike other cladding solutions, Envelope 2000® systems remain rigid and stable even during seasonal heating and cooling thermal cycles.
- **Versatile Installation**
With three different attachment options, virtually any look can be created using different shadow line sizes and treatments at the panel joints.
- **Durable**
An innovative thermoset phenolic resin core provides these panels with superior impact and dent resistance.
- **Curveable**
Along with various shadow lines, Envelope 2000® can also add interest to your project with long sweeping curves or tight, crisp column covers.
- **Low Maintenance**
Most foreign matter can be cleaned from surface with mild detergents; can be incorporated into yearly building washing schedule.

GENERAL LIMITATIONS:

Envelope 2000® is intended for use as an exterior cladding. It is not eligible for use as a structural element of a wall assembly. Envelope 2000® should not be used in applications where the slope exceeds 25° from vertical.

SYSTEM FINISHES:

Envelope 2000® comes standard with a smooth aluminum skin. Standard and metallic colors are furnished with a durable Kynar 500® coating. Anodized finishes are available as a standard finish. Custom colors are also available to match customer's standard.

Moldings (Reveal System) are coated using a Kynar 500® paint system and can be painted to match any standard or custom color.

INSTALLATION OVERVIEW

REVEAL SYSTEM (RV):

Utilizing one piece extruded aluminum moldings, this is a barrier system that features a progressive installation. The moldings are mechanically fastened to the substrate. The panels are then inserted into the moldings, along with sealant and attached to the substrate using construction adhesive at intermediate locations. Reveal (1/2" typical, 3" also available) and batten profile moldings are standard.

ROUT & RETURN SYSTEM (RR):

Barrier system in which panels are fabricated and formed into 'pans' and then 'hung' on the substrate using aluminum extrusions. All fasteners are concealed and panel joints (1/2" reveal typical) are finished with an approved sealant.

RAINSCREEN SYSTEM (RS):

Based on the 'rainscreen principle', this system allows incidental water to enter the cladding cavity, but then be drained through the system via weepholes. Also utilizing formed panels, this system is attached using aluminum extrusions. Panel joints are finished using color matched or complementary accent strips that 'float' in the extrusions providing a reveal from 1/2" to 12".

TABLE 2. PANEL WEIGHT & THICKNESS:

Component	Standard	Metric
Panel Weight ¹	1.33 lbs/ft ²	6.47 kg/m ²
Nominal Thickness	1/8"	4mm

TABLE 3. PANEL PERFORMANCE:

Property	Test	Value	Unit
R-Value	---	0.05	°F ft ² /BTU
Flame Spread	ASTM E84	Class A	---
Peel Strength	ASTM D1781	34.5	lb-in/lb
Stiffness (EI) ¹	ASTM E72	1.27 ^{E+3}	lb-in ² /ft width
Allowable Bending Moment ¹	ASTM E72	1.82 ^{E+1}	lb-ft/ft width
Tensile Yield ¹	ASTM E72	7.34 ^{E+3}	lb/ft width
Ultimate Tensile ¹	ASTM E72	1.04 ^{E+4}	lb/ft width
Coefficient Of Thermal Expansion	ASTM D1237	1.11 ^{E-5}	in/in/°F
Ignition Temperature	ASTM D1929	900	°F

¹ Weight and testing based upon panels using an .024" smooth face skin and an .010" smooth back skin.

MATERIAL TOLERANCES:

Thickness: ±1/32" (±0.79mm)
 Length Dim: +0, -1/16" (+0, -1.59mm)
 Width Dim: +0, -1/16" (+0, -1.59mm)
 Squareness: 1/64" (0.4mm) per lineal foot

SIZES AVAILABLE:

48" x 96" (1219mm x 2438mm)
 48" x 120" (1219mm x 3048mm)
 48" x 144" (1219mm x 3658mm)
 60" x 96" (1524mm x 2438mm)
 60" x 120" (1524mm x 3048mm)
 60" x 144" (1524mm x 3658mm)

Envelope 2000® is supplied with clean, machine trimmed edges.

Cut-to-size panels are also available in virtually any size up to 60" x 144".

PANEL FINISH SYSTEMS:

Standard Smooth: Coil Coated
 Kynar 500®
 Custom Smooth: Spray Applied
 Kynar 500®

STANDARD WARRANTY:

Panel Warranty: 5 Years
 Kynar 500® Finish: 20 Years
 No change greater than 8 for chalk, 5 E units for fade
 Anodized Finish: 20 Years (prorated)

CODE CERTIFICATION¹:

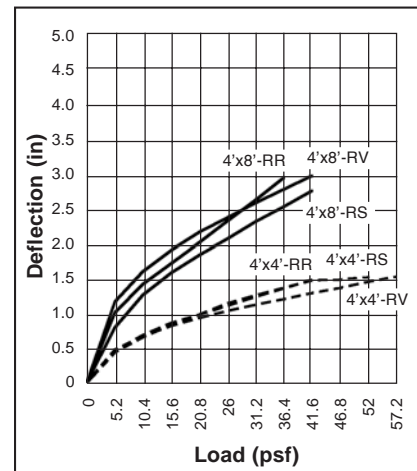
ICBO (International Conference Of Building Officials) - #PFC-5792

BOCA (Building Officials Code Administrators) - #21 • 08

SBCCI PST & ESI (Southern Building Code Congress International, Public Safety Testing & Evaluation Services Inc.) - #2046

¹ Envelope 2000® RR attachment system.

LOAD DEFLECTION¹:



¹ Panel tested while supported on four sides.