



**CITADEL**  
ARCHITECTURAL PRODUCTS

**FEATURING:**

- RV (Reveal) Attachment System
- D-RV (Deep Reveal) Attachment System

# Envelope2000<sup>®</sup>

Metal Composite Material (MCM)





# FABRICATED LOOKS WITHOUT THE FABRICATED COSTS.

■ As field-assembled cladding systems, the *RV (Reveal)* and *D-RV (Deep Reveal)* attachment methods offer all the benefits that come with the *Envelope 2000®* metal composite material (MCM) in a time-saving and labor-saving alternative for installation.



## Features & Benefits of Envelope 2000® and the RV and D-RV attachment systems



■ **Superior Flatness:**  
Due to an innovative phenolic resin core, *Envelope 2000*® provides a clean, flat and unified appearance.



■ **Efficient Installation:**  
Because the *RV* and *D-RV attachment systems* are field-assembled, panels and extrusions can be on site much quicker than shop-fabricated systems resulting in significant time and labor savings.



■ **Unique Design Options:**  
With both the *RV* and *D-RV attachment systems*, designers can create a unique texture and feel for projects by varying the grid size or utilizing multiple colors.



■ **Curvable Systems:**  
The *Envelope 2000*® panel as well as the *RV* and *D-RV* extrusions can be field curved to a gentle radius. Panels and extrusions may also be factory curved when a tighter radius is required (such as column covers).



■ **Variable Width Joints:**  
With the versatile *D-RV attachment system*, you can vary the joint size (both horizontal and vertical) to match up with storefront extrusions, brick lines, or just create special accents.



■ **Wide Color Palette:**  
A large selection of standard and premium colors are available for *Envelope 2000*® panels and extrusions. Plus, virtually any color can be matched to custom specifications.

## Colors & Finishes

■ **Kynar 500® Solid Tones:**  
Over 20 standard/premium colors to choose from in an industry benchmark finish with a 30-year warranty.

■ **Kynar 500® Metallics:**  
6 standard metallic and mica colors for an additional visual interest.

■ **Anodized Finishes:**  
5 true integral anodized aluminum finishes that carry a 20-year standard warranty.

■ **Custom Colors:**  
Available to match customer specifications, no minimum order required.





RV: REVEAL PROFILES\*



D-RV: COLORED ACCENT STRIP



D-RV: 'TILE EFFECT'

## Reveal (RV) Molding System

### DESCRIPTION

The *Envelope 2000® Reveal (RV) System* has been designed to provide a high-end aesthetic, yet install in a more time and budget-friendly manner than alternative shop-fabricated methods.

### ATTRIBUTES

- **System Type:**  
Field-Assembled, Non-Structural, Barrier Wall (*all joints completely sealed*), Progressive Sequence Installation
- **System Depth:**  
3/8" from face of substrate to face of panel  
7/16" from face of substrate to face of molding
- **Testing:**  
ASTM E283: *Static Air Infiltration*  
ASTM E330: *Structural Design Load*  
ASTM E331: *Static Water Infiltration*
- **Lead Time:** 10 Working Days

## Deep Reveal (D-RV) Molding System

### DESCRIPTION

As an extension of the *RV system*, the *D-RV (rainscreen principle) system* offers a deeper profile to simulate the look of a fabricated system with even greater detail. Plus, it adds a number of optional methods for installation to create a truly unique effect.

### ATTRIBUTES

- **System Type:**  
Field-Assembled, Non-Structural, Rainscreen/Cavity Wall (*panels are sealed in place, accent strips 'free float', moldings weeped*), Progressive Sequence Installation
- **System Depth:**  
1-1/4" from face of substrate to face of panel  
1-5/16" from face of substrate to face of molding
- **Testing:**  
ASTM E283: *Static Air Infiltration*  
ASTM E330: *Structural Design Load*  
ASTM E331: *Static Water Infiltration*
- **Lead Time:** 10 Working Days

### SUBSTRATE REQUIREMENTS

- **Acceptable Types:**  
Nailable Substrate (recommended)
  - *plywood, OSB, furring strips over masonry*
  - *system fastens directly to substrate*
 Non-Nailable Substrate
  - *exterior gypsum, DensGlas™*
  - *system must fasten through substrate to studs*

- **Moisture Barrier:**  
If moisture barrier is present (recommended for *RV system*, required for *D-RV system*), metal strapping must be placed over barrier and secured to stud/substrate with adhesive in the field of the panel applied to strapping.

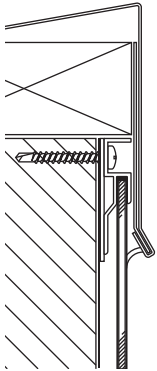
- **Flatness:**  
no more than 1/4" deviation in 20ft

\* Batten profiles also available, shown on reverse page.

## Reveal (RV) Molding System

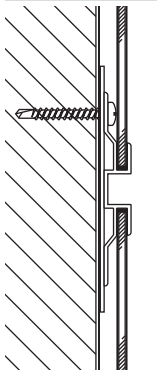
### TYPICAL SECTION

#### PARAPET DETAIL



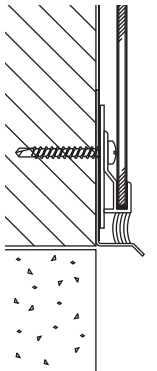
- **Molding Used:**
  - CRAX-2 Perimeter J (with 1/2" reveal)
- **Other Options:**
  - CRAX-3 Perimeter J

#### HORIZONTAL DETAIL



- **Molding Used:**
  - CRAX-1 Horz/Vert (with 1/2" reveal)
- **Other Options:**
  - CRAX-6 Horz/Vert (with 3" reveal)
  - CRAX-7 Horz/Vert

#### BASE DETAIL



- **Molding Used:**
  - CRAX-3 Perimeter J
- **Other Options:**
  - CRAX-2 Perimeter J (with 1/2" reveal)

### SYSTEM EXTRUSIONS



**CR-AX1**  
Horz/Vert



**CR-AX2**  
Perimeter J



**CR-AX4**  
I/S Corner



**CR-AX7**  
Horz/Vert



**CR-AX3**  
Perimeter J



**CR-AX5**  
O/S Corner



**CR-AX8**  
Adjustable O/S

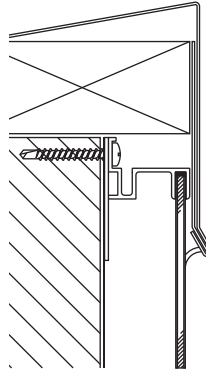


**CR-AX9**  
Adjustable I/S

## Deep Reveal (D-RV) Molding System

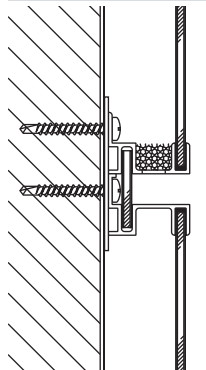
### TYPICAL SECTION

#### PARAPET DETAIL



- **Molding Used:**
  - CRAX-11 Extrusion

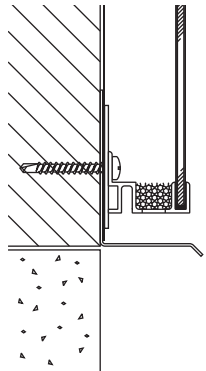
#### HORIZONTAL DETAIL



- **Moldings Used:**
  - CRAX-10 Extrusion (with weep holes and baffle)
  - CRAX-11 Extrusion

*Joint is variable width up to 12".  
Panel accent strips are free floating.*

#### BASE DETAIL



- **Molding Used:**
  - CRAX-10 Extrusion (with weep holes and baffle)

### SYSTEM EXTRUSIONS



**CR-AX10**  
Extrusion

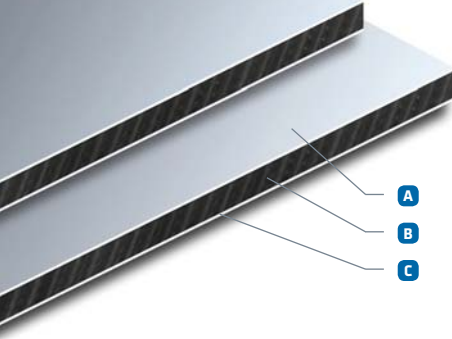


**CR-AX11**  
Extrusion

*Due to the special design of the D-RV extrusions, they can be used along with the RV extrusions to create different looks.*

# Envelope2000®

## Metal Composite Material (MCM)



### PRODUCT DESCRIPTION:

Envelope 2000® metal composite material (MCM) is comprised of two sheets of aluminum bonded to a core of thermoset phenolic resin. Panels are supplied with a removable plastic film to protect the finish during transport and installation.

### 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)

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

### STANDARD WARRANTY:

Panel Performance:	5 years
Kynar 500® Finishes:	30 years
Anodized Finishes:	20 years

### RECYCLED CONTENT:

Under the context of MR Credit 4 for the LEED® Green Building Rating System, Envelope 2000® contains the following recycled content (*based on weight*):

Post-Consumer:	4.8%
Pre-Consumer:	20.6%

(*post-industrial*)

### PHYSICAL PROPERTIES:

PROPERTY	STANDARD (IN)	METRIC (MM)
<b>PANEL COMPOSITION</b>		
<b>A</b> Smooth Prefinished Aluminum Face <sup>1</sup>	.024" (min)	.609mm
<b>B</b> Thermoset Phenolic Resin Core <sup>2</sup>	.105"	2.67mm
<b>C</b> Primed Smooth Aluminum Backer	.010"	.254mm
<b>WEIGHT / THICKNESS</b>		
Panel Weight	1.33 lbs/ft <sup>2</sup>	6.47 kg/m <sup>2</sup>
Nominal Thickness	5/32"	4mm
Core Density	89.0 lbs/ft <sup>2</sup>	36.3 kg/m <sup>2</sup>

<sup>1</sup>.024" is the standard aluminum thickness. Some finishes are standard in .032" or .040".

<sup>2</sup>4mm is the most commonly utilized core thickness. 3mm, 6mm, 8mm thicknesses are also available.

### TECHNICAL PROPERTIES:

PROPERTY	TEST	VALUE	UNIT
<b>THERMAL PERFORMANCE</b>			
R-Value	---	0.05	°F ft <sup>2</sup> /BTU
Coefficient Of Thermal Expansion	ASTM D1237	1.11 <sup>E-5</sup>	in/in/°F
<b>FIRE PERFORMANCE</b>			
Steiner Tunnel (Flame Spread)	ASTM E84	Class A	---
Ignition Temperature	ASTM D1929	806°	°F
<b>STRENGTH PERFORMANCE</b>			
Minimum Bond Strength	ASTM D1781	34.5	lb-in/lb
Stiffness (EI)	ASTM E72	1.27 <sup>E+3</sup>	lb-in <sup>2</sup> /ft width
Tensile Yield	ASTM E72	7.34 <sup>E+3</sup>	lb/ft width
Ultimate Tensile	ASTM E72	1.04 <sup>E+4</sup>	lb/ft width
Allowable Bending Moment	ASTM E72	1.82 <sup>E+1</sup>	lb-ft/ft width

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