



**CITADEL**  
ARCHITECTURAL PRODUCTS

## Lightweight Cladding In An Easy-To-Install System

### TECHNICAL MANUAL

- System Assembly
- Substrate Layouts
- CAD Sections/Details
- Physical Properties
- Performance Properties

# SINOCORE<sup>®</sup>

ONE PIECE MOLDING SYSTEM



# SYSTEM ASSEMBLY

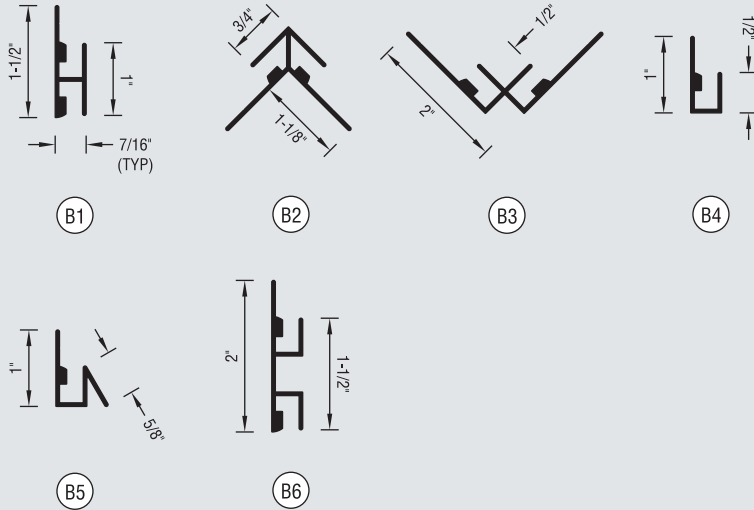


BATTEN PROFILES



REVEAL PROFILES

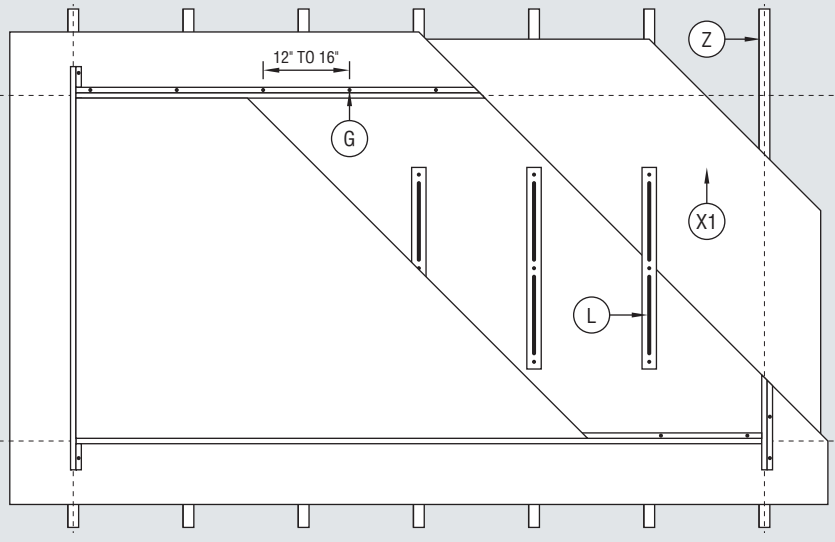
## MOLDINGS / EXTRUSIONS



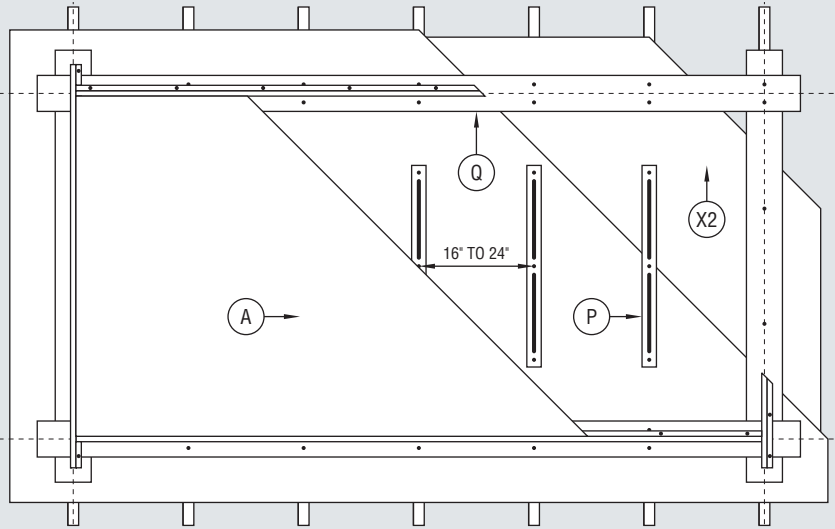
## PROPERTIES

- B1** E-301 Horizontal/Vertical  
12'-6", 2.25 lbs
- B2** E-302 Outside Corner  
12'-6", 3.00 lbs
- B3** E-303 Inside Corner  
12'-6", 2.88 lbs
- B4** E-304 Perimeter J  
12'-6", 1.31 lbs
- B5** E-305 Drip Edge  
12'-6", 1.69 lbs
- B6** E-306 Horizontal/Vertical (Reveal)  
12'-6", 2.81 lbs

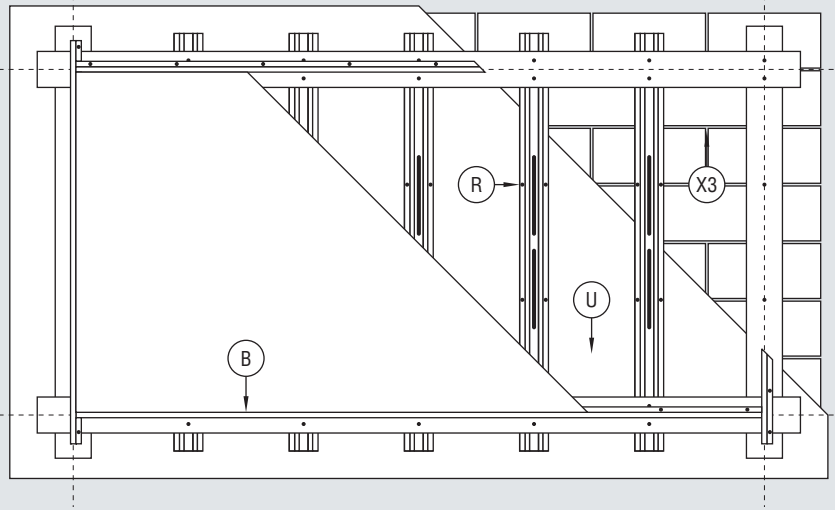
## NAILABLE SUBSTRATE



## NON-NAILABLE SUBSTRATE



## MASONRY SUBSTRATE



## COMPONENTS

- A** SinoCore®
- B** One Piece Molding
- G** Fastener  
As selected by contractor to suit project requirements.
  - panel - secured by sealant/adhesive
  - molding - 12" to 16" along length
- L** Construction Adhesive  
An approved adhesive must be used. Contact Citadel for current list.
  - located 16" to 24" o.c.
  - 3/8" bead x 2/3 panel height
  - for panels 36" x 36" or larger
- P** Field Strapping
  - located 16" to 24" o.c.
  - 1-1/2" (min) x 2/3 panel height
  - 22ga (min) recommended
  - fastened 12" to 16" along length
- Q** Grid Strapping
  - 16ga (min) recommended
  - fastened 12" to 16" along length
- R** Furring
  - metal (hat channels, z-girts) or wood
  - located 16" to 24" o.c.
  - fastened 12" to 16" along length
- S** Shim (not shown)
  - plastic shims recommended
  - flatness tolerance is 1/4" in 20'-0"
- U** Air/Moisture Barrier  
Recommended for this system.
- X1** Nailable Substrate
  - plywood - 1/2" (min) recommended
  - OSB - 1/2" (min) recommended
- X2** Non-Nailable Substrate
  - exterior gypsum board
- X3** Masonry Substrate
  - CMU (block)
  - pre-formed concrete
- Z** Stud Framework
  - metal or wood
  - located 16" to 24" o.c.

NOTE: Combine both SECTION and SUBSTRATE drawings for a complete listing of components.

# LAYOUT AND INSTALLATION

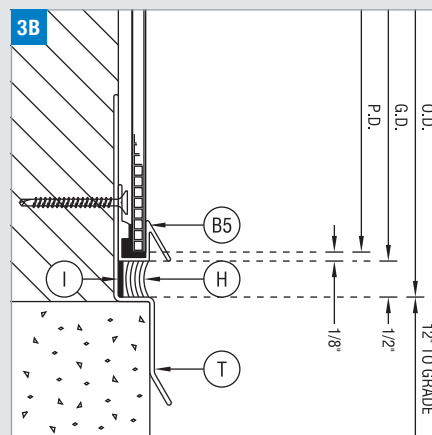
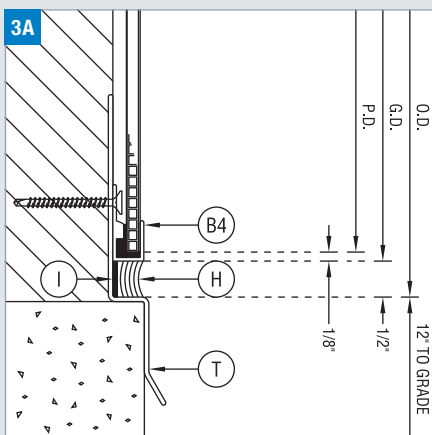
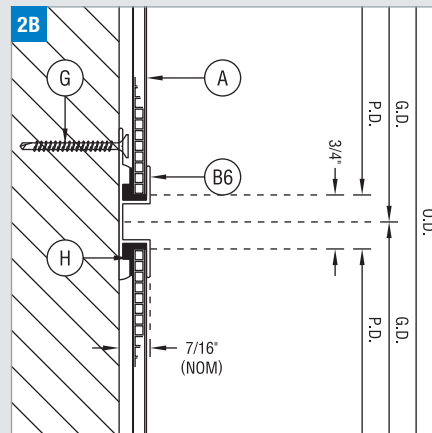
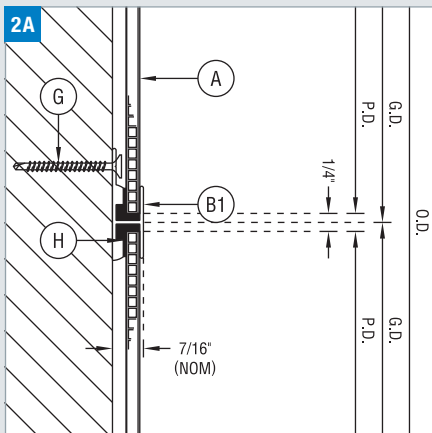
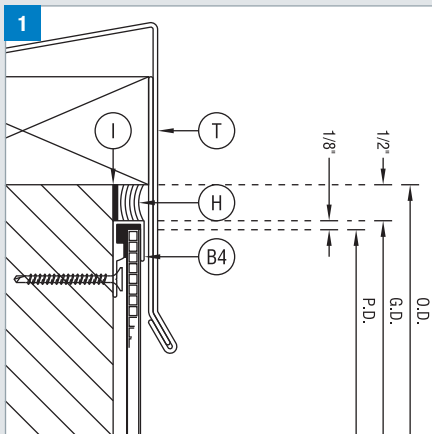
## DESCRIPTION

- **Field Assembled** - all panels and moldings are shipped directly to the jobsite and are cut-to-size in the field, saving significant time and money
- **Barrier Wall** - designed to be completely sealed against moisture intrusion to protect the structural wall assembly of the building
- **Progressive** - each step of the installation process builds off the previous step in a sequential manner, moving up and across the elevation
- **Joints** - one piece aluminum moldings capture the panel edges and may be color matched or painted a complimentary color

### Comparative Installed Cost



**Lead Time:** 15 working days  
**Minimum Qty:** none  
**System Depth:** 7/16" from the face of the substrate to the face of the molding



## HORIZONTAL SECTIONS

### 1: Parapet

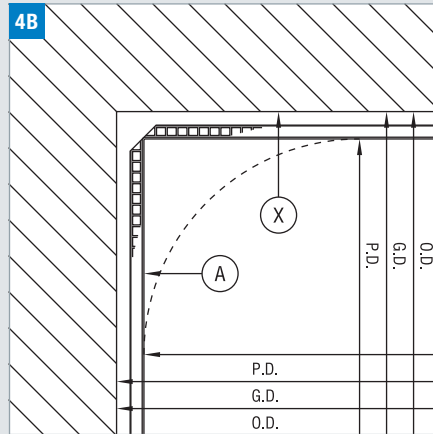
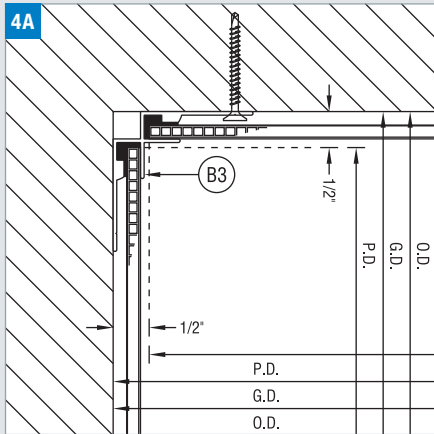
Metal flashing secured over blocking completes the vertical run and prevents moisture from getting behind the cladding system. This molding may be applied using sealant and adhesive.

### 2A & 2B: Horizontal

Sealant is applied into the molding channel and slid over the top of the mounted panel. More sealant is then applied into the top channel of the molding and fasteners are then placed in the top leg of the extrusion. Batten or reveal (1/2") profile.

### 3A & 3B: Base/Foundation

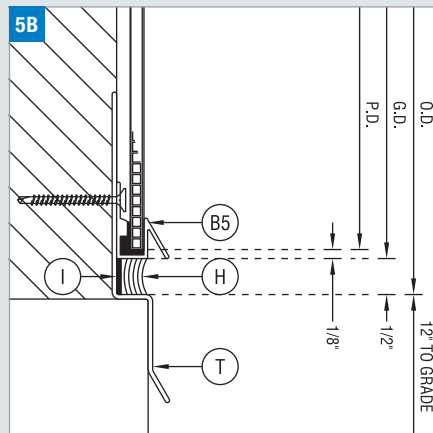
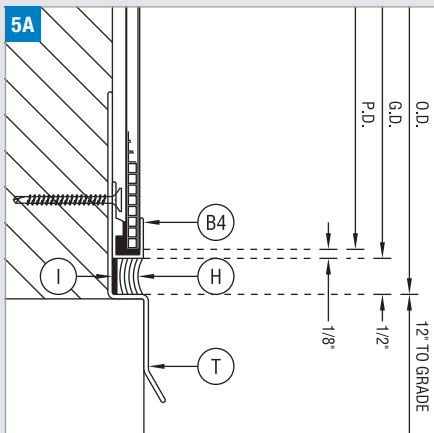
Installation typically begins at the base of the wall and moves vertically. The cladding should be kept approximately 12" away from landscaping grade. However, if the system is installed adjacent to a concrete sidewalk, that dimension may be reduced to 1/2".



## INSIDE CORNER

### 4A & 4B: Inside Corner

The corner molding is slid over the panel edge after sealant has been applied. Then the lead leg is mechanically fastened. The next panel in the sequence inserted into the molding after sealant is placed in the channel. As an option for non-standard corners (or for visual preference), the panels may be routed and bent to form the corner.



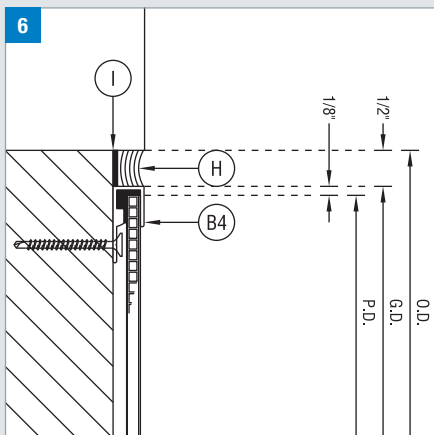
## WINDOW HEAD & SILL

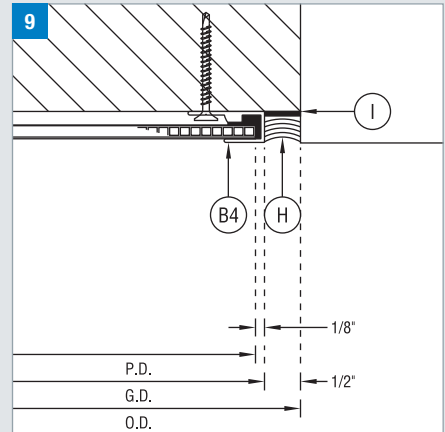
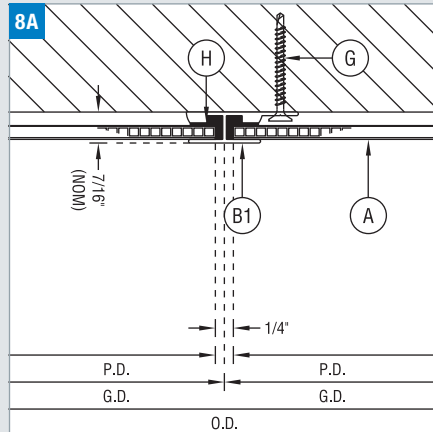
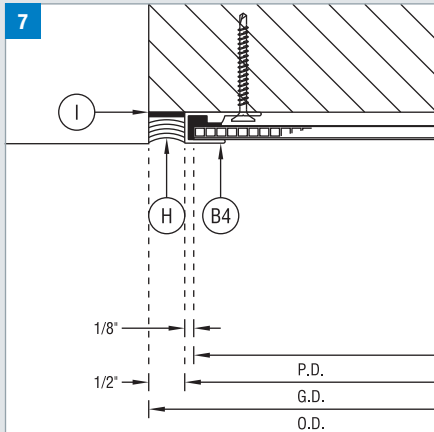
### 5A & 5B: Head

Similar to the base condition, flashing should be used behind the system to direct water away and prevent moisture intrusion. A drip edge molding is also available to further manage runoff.

### 6: Sill

Depending upon visual preference, windows will either extend past the face of the panel or be aligned so that they sit flush. If this is the last panel in the sequence, molding is held in place with sealant and adhesive.





## VERTICAL SECTIONS

### 7: Jamb - Start

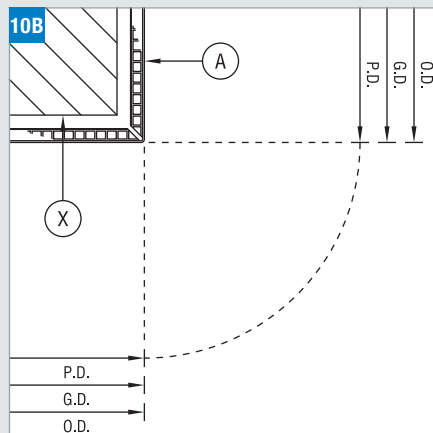
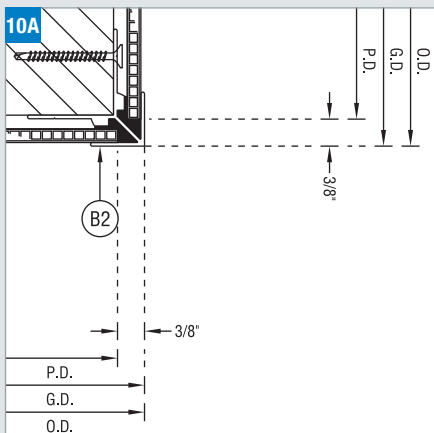
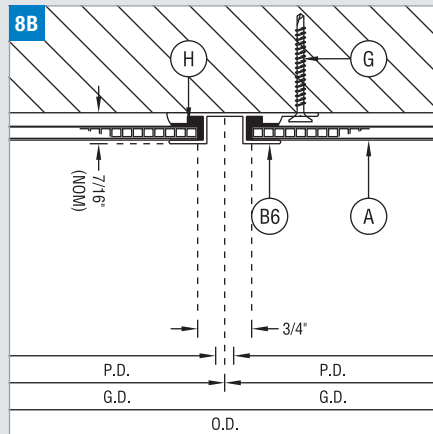
Installation moves left to right (or right to left) across the elevation. When abutting dissimilar material, a sealant joint should be used to prevent moisture intrusion behind the cladding system.

### 8A & 8B: Vertical

Same condition as the horizontal, the fastener is placed on the leading edge. Batten and reveal profile available.

### 9: Jamb - End

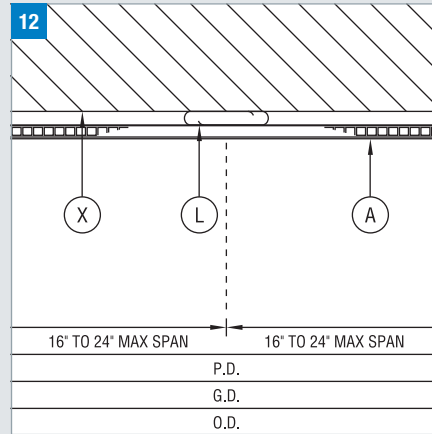
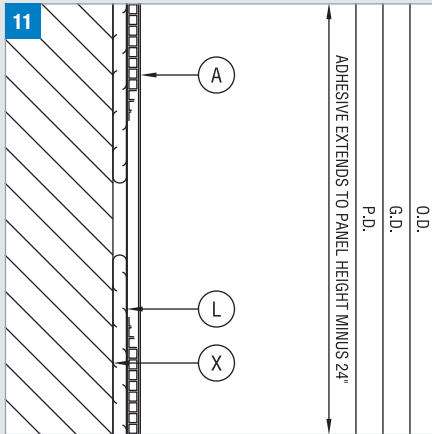
The last molding in the sequence will be held in place with visible fasteners (not shown) or held in place with sealant and adhesive.



## OUTSIDE CORNER

### 10A & 10B: Outside Corner

The corner molding is slid over the panel edge after sealant has been applied. Then the lead leg is mechanically fastened. The next panel in the sequence is inserted into the molding after sealant is placed in the channel. As an option for non-standard corners (or for visual preference), the panels may be routed and bent to form the corner.



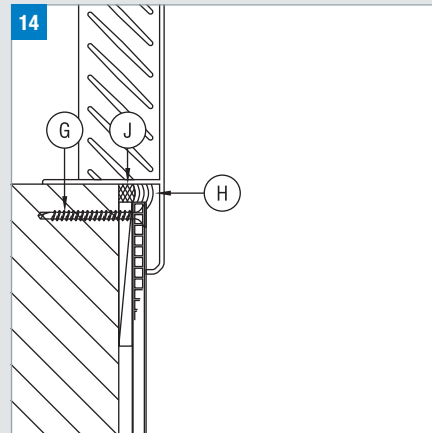
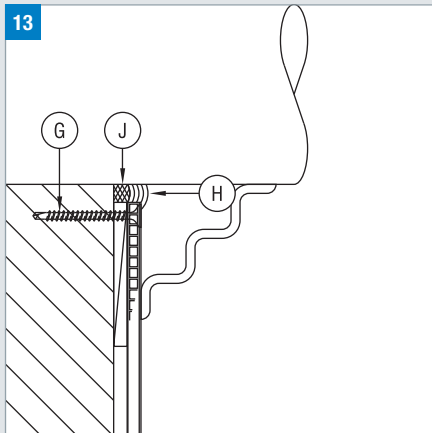
## INTERMEDIATE CONNECTION

### 11: Intermediate Connection - Horz

Construction adhesive secures the field of the panel at intermediate locations. The length of this bead should extend to cover a majority of the panel.

### 12: Intermediate Connection - Vert

The spacing of the adhesive may be dependent upon the type of substrate chosen for the application.



## SYSTEM PENETRATIONS

### 13: Round

When piping or other round penetrations must occur, the hole should be made slightly larger to accommodate a backer rod (when possible) and sealant joint around the object.

### 14: Linear (Square or Rectangular)

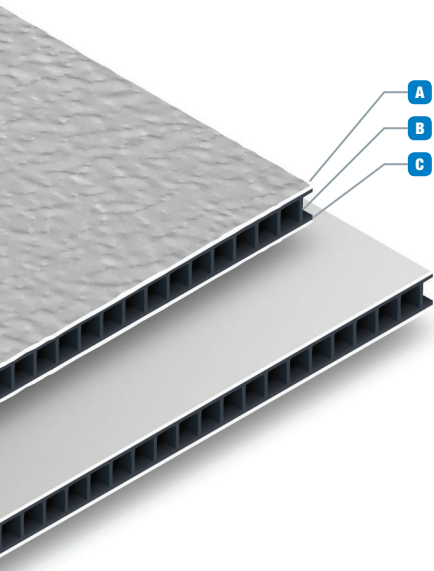
Moldings should be used to trim the panel edge for all linear penetrations. However, if that is not possible, a proper sealant joint should be utilized to maintain system integrity.

## COMPONENTS

- A** SinoCore®
- B1** E-301 Horizontal/Vertical
- B2** E-302 Outside Corner
- B3** E-303 Inside Corner
- B4** E-304 Perimeter J
- B5** E-305 Drip Edge
- B6** E-306 Horizontal/Vertical (Reveal)
- G** Fastener  
As selected by contractor to suit project requirements.
  - panel - secured by sealant/adhesive
  - molding - 12" to 16" along length
- H** Silicone Sealant  
An approved sealant must be used. Contact Citadel for current list.
- I** Bond Breaker Tape
- J** Foam Backer Rod
- L** Construction Adhesive  
An approved adhesive must be used. Contact Citadel for current list.
  - located 16" to 24" o.c.
  - 3/8" bead x 2/3 panel height
  - for panels 36" x 36" or larger
- T** Flashing
- X** Substrate  
As selected by architect to suit project requirements.

NOTE: Combine both SECTION and SUBSTRATE drawings for a complete listing of components.

# SINOCORE® ONE PIECE MOLDING SYSTEM



## STANDARD SIZES

48" x 96"	(121.9cm x 243.8cm)
48" x 120"	(121.9cm x 304.8cm)
48" x 144"	(121.9cm x 365.8cm)
60" x 96"	(152.4cm x 243.8cm)
60" x 120"	(152.4cm x 304.8cm)
60" x 144"	(152.4cm x 365.8cm)

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

## WARRANTY

Panel Composition:	5 years
Polyester Finishes:	5 years
Kynar 500® Finishes:	30 years
Anodized Finishes:	20 years

## RECYCLED CONTENT (BY WEIGHT)

### Panels With Textured Face

Post-Consumer:	1.0%
Post-Industrial:	23.0% to 26.8%

### Panels With Smooth Face

Post-Consumer:	0.8%
Post-Industrial:	33.4% to 36.3%

## BENDING / CURVING

Panels and moldings may be curved on-site (worked along a substrate) or in a factory setting.

Min. Radius On-Site:	25' (most applications)
Min. Radius Factory:	12"

MATERIAL PROPERTIES			
Component	Standard (in)	Metric (mm)	
<b>A</b>	Prefinished Textured Aluminum <sup>1</sup>	.010"	0.25mm
	(or) Prefinished Smooth Aluminum <sup>1</sup>	.024"	0.61mm
<b>B</b>	High Density Polypropylene	.157"	4.00mm
<b>C</b>	Primed Smooth Aluminum	.010"	0.25mm

PANEL PROPERTIES			
Property	Standard (in)	Metric (mm)	
Panel Weight	Textured Face	0.58 lbs/ft <sup>2</sup>	2.83 kg/m <sup>2</sup>
	Smooth Face	0.77 lbs/ft <sup>2</sup>	3.77 kg/m <sup>2</sup>
Nominal Thickness	1/8"	4mm	
Thickness Tolerance	±1/32"	±0.79mm	
Length & Width Tolerance	+0, -1/8"	+0, -3.18mm	
Squareness	1/64" per lineal ft		
Flatness	visually flat		

FINISH PROPERTIES		
Finish	Type	Coating
Textured Polyester	1-coat	0.80 mil color
Smooth Kynar 500®	2-coat PVDF (solid, mica)	0.20 mil primer + 0.80 mil color
	3-coat PVDF (metallic)	0.20 mil primer + 0.80 mil color + 0.70 mil clear
Smooth Anodized	Exterior Standard No. 1 <sup>2</sup>	0.20 mil to 0.45 mil (depending on color)

PANEL PERFORMANCE			
Property	Test	Value	Unit
Flame Spread	ASTM E84	Class A	---

- 1 - Prefinished aluminum skins are furnished with a PVC film for protection during shipment and installation.  
 2 - Class I or Class II anodizing is available as a premium custom finish. However, the warranty remains the same and fabrication difficulties will result (increased crazing, cracking) due to the increased film thickness.

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