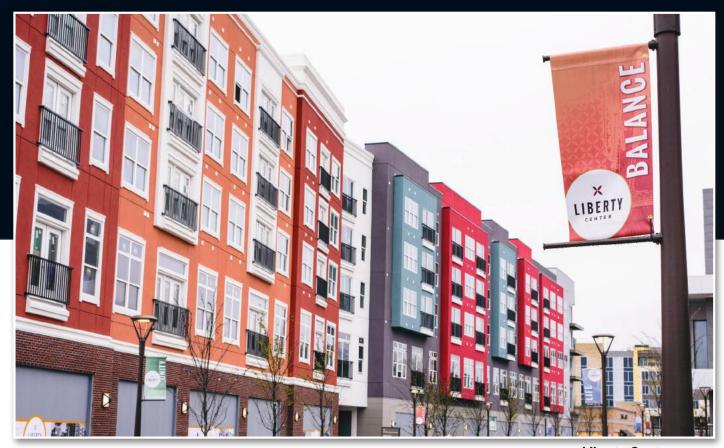


# OUTSULATION® SOLUTIONS FROM DRYVIT



Office Buildings Salt Lake City, UT



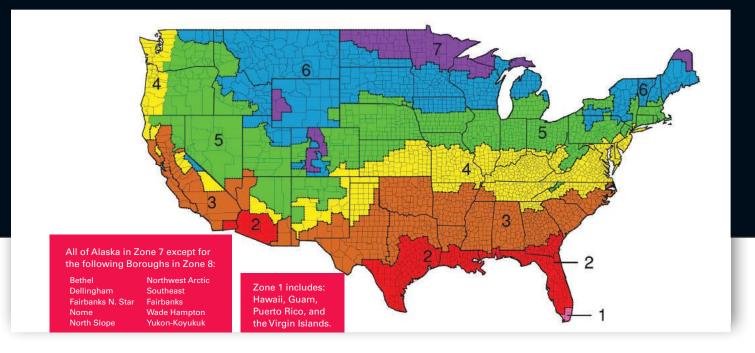
**Liberty Center** Columbus, OH

### **WELCOME TO OUTSULATION, BY DRYVIT.**

As the name suggests, Outsulation systems place insulation on the outside of the building, and are the most effective solution for meeting today's energy code requirements for continuous insulation (CI).

But there is much more to Outsulation than Cl alone. Outsulation systems deliver the latest in building science solutions for building envelopes, resulting in operational energy efficient, cost effective construction, low maintenance, low embodied energy building solution. Outsulation delivers:

- Engineered moisture drainage for incidental moisture
- Air & water resistive barrier membrane
- Anti-crack, impact resistant scrim
- High R-value with continuous insulation
- Durable and seamless finish veneer that provides a range of aesthetically appealing results



### **ENERGY CODES AND CI REQUIREMENTS**

The Department of Energy (DOE) has mandated that all states comply with the ASHRAE 90.1-2010 design standard by September 26, 2016, which requires the use of continuous insulation (CI) on commercial buildings in over 90 percent of the United States. Other design standards and codes — such as ASHRAE 189.1, IECC 2012, IgCC 2012; Title 24, (Section 6) and CALGreen — will also require the use of CI, as well as air barriers, as they become adopted. The bottom line is that nearly all new commercial projects in the U.S. will soon require the use of an air barrier and CI as an integral part of exterior wall construction.

CI is much more efficient than the use of insulation in the wall cavity, and 2 inches of CI can have the effective R-value of 8 inches of cavity (batt type) insulation! As such, consider eliminating the use of cavity insulation altogether by using the right amount of CI to meet your total exterior wall insulation goals. An empty wall cavity improves airflow and reduces the dirt and moisture retention associated with batt insulation.

Rigid insulation, such as Expanded Polystyrene (EPS), can also be easily cut and shaped to provide dramatic architectural details and design effects, such as reveals, quoins, cornices and trim, that are much more difficult and expensive to achieve with heavier materials. Using an Outsulation system to combine the design flexibility and CI benefits of EPS is unique and extremely cost-effective.



Ronald McDonald House Salt Lake City, UT



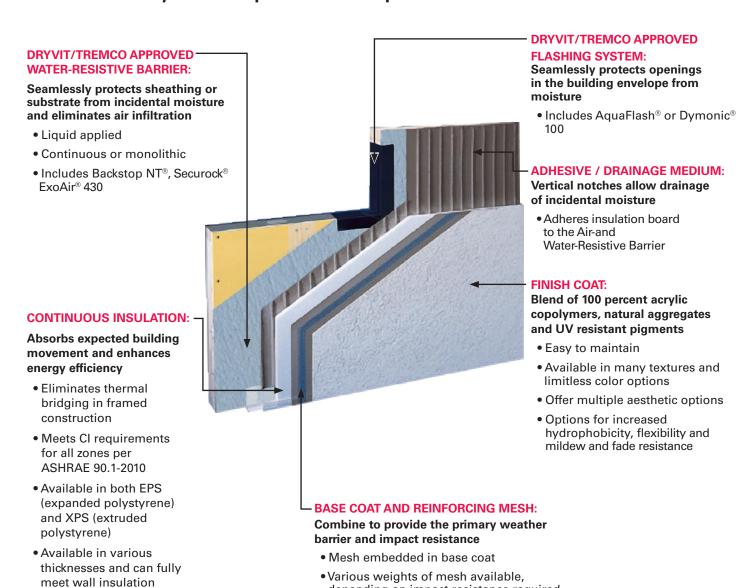
Sarkis & Siran Gabrellian Child Care Learning Center Hackensack, NJ

### **SYSTEM OPTIONS:**

All Outsulation systems include adhesive, continuous insulation (CI), fiberglass mesh embedded in base coat, and finish, which are installed sequentially by a trained professional contractor as specified by the design team, and as required by code. Some Outsulation systems protect the underlying wall with an air- and water-resistive barrier under the CI, which maximizes the energy efficiency. Outsulation systems can be installed in either "barrier," "moisture drainage" or "pressure equalized" configurations, and these systems are engineered to perform in all climates and on all types of structures. On certain types of construction (high-rise) and in certain job conditions (cold weather), lift-in-place, prefabricated wall sections may provide certain benefits.

#### **HOW IT WORKS**

Outsulation systems typically consist of the following components, as determined by code and performance requirements.



depending on impact resistance required

requirements

### **SUSTAINABLE SOLUTIONS:**

Outsulation systems have been evaluated by the National Institute for Standards and Technology (NIST) and have less environmental impact than other common claddings. They can also contribute toward achieving LEED credits, depending upon project design and location.

Outsulation systems are more cost-effective throughout their lifecycle because the manufacturing process requires less energy than other common claddings, and the lightweight composition reduces fuel costs associated with transport. After application, Outsulation systems continue to keep heating and cooling costs low for the life of the building. Visit **dryvit.com** for more information.

All Dryvit North American manufacturing facilities are ISO 9001:2008 and ISO 14001:2004 certified.

#### **OUTSULATION**

# OUTSULATION PLUS MD SYSTEM

# OUTSULATION MD SYSTEM

# OUTSULATION HDCI<sup>TM</sup>

### OUTSULATION X™ SYSTEM

# **OUTSULATION LCMD SYSTEM**

# OUTSULATION PE SYSTEM

## OUTSULATION RMD SYSTEM

OUTSULATION SYSTEMS WITH SE430

- Intended for use in commercial construction or over masonry
- · Insulation adhered directly to substrate
- · Designed as a barrier system
- · Qualifies for all construction types
- Incorporates a liquid-applied, air-and water-resistive barrier
- Vertical adhesive beads facilitate moisture drainage
- · Corrugated strip or track is incorporated at the base of the wall
- · Passive drainage
- · Qualifies for all construction types
- Incorporates a liquid-applied, air- and water-resistive barrier
- · Grooved insulation board facilitates moisture drainage
- Vent track and vent assembly are incorporated at the base of the wall
- Engineered drainage
- Provides a 20-year warranty on puncture resistance
- Incorporates a liquid-applied, air-and water-resistive barrier
- Corrugated strip or track is incorporated at the base of the wall
- Features DOW<sup>®</sup> XNERGY<sup>™</sup> Extruded Polystyrene (XPS) insulation board
- Incorporates a liquid-applied, air- and water-resistive barrier
- Vertical adhesive beads facilitate moisture drainage
- Drainage strip is incorporated at the base of the wall
- Qualifies for all construction typesSupplemental fasteners required

Provides a 20-year warranty on

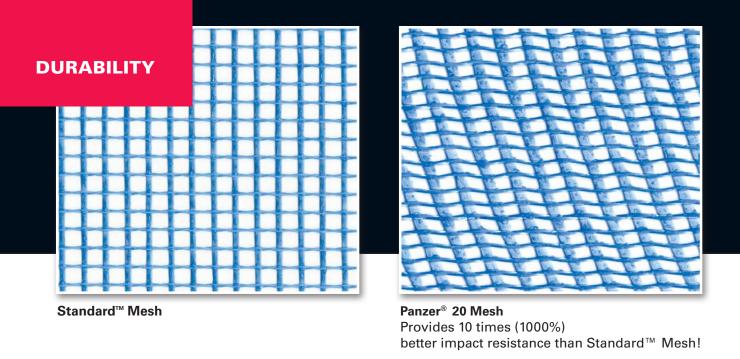
puncture resistance

Passive drainage

· Qualifies for commercial construction

Passive drainage

- Qualifies for all construction types
- Mechanically fastened over sheet type water-resistive barriers (by others)
- Corrugated strip or track incorporated at the base of the wall
- Multiple drainage and attachment options available
- · Qualifies for all construction types
- Incorporates a liquid-applied, air- and water-resistive barrier
- Closure blocks are configured to "compartmentalize" the wall for pressure equalization
- Vent track and vent assembly are incorporated at the base of the wall
- Engineered moisture drainage and pressure equalization
- Intended for residential, wood framed (one and two family) construction
- Can incorporate a liquid applied air- and water-resistive barrier or sheet membrane and drainage mat
- Drainage strips or track incorporated at the base of the wall
- Multiple drainage and attachment options available
- Outsulation MD Securock ExoAir 430
- Outsulation Plus MD Securock ExoAir 430
- Outsulation HDCI Securock ExoAir 430
- Outsulation PE Securock ExoAir 430
- Outsulation X Securock ExoAir 430



### **DURABILITY**

All Outsulation systems incorporate alkali and fire-resistant fiberglass mesh that is embedded into the base coat over the entire surface of the insulation board.

This combination provides the primary weather barrier, as well as tensile strength and impact resistance for the system, and these factors all play a critical role in protecting the physical integrity and beauty of the building exterior. The mesh is available in several weights and is specified according to the anticipated level of exposure to potentially damaging impact.

The heaviest and strongest — Panzer 20 Mesh — is intended for use at all ground floor locations and high-traffic areas such as balconies. Hurricane-prone regions may have building codes that require assemblies reinforced with Panzer Mesh. Panzer 20 is also the required mesh in Dryvit's Outsulation HDCl system, which comes with a 20-year puncture resistance warranty. Consult Dryvit's Engineering Department or your local Dryvit representative for more information on these circumstances.

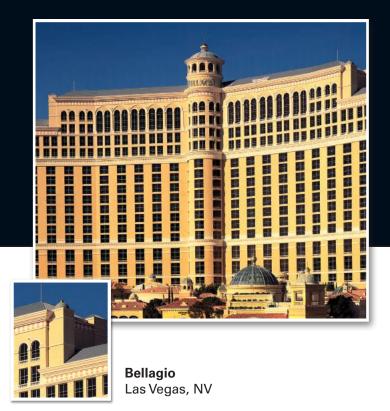
### **DRYVIT REINFORCING MESH OPTIONS:**

**Standard™ Mesh**: Recommended for normal-wear applications on the second story and above

Corner Mesh: Used to reinforce corners and recommended on all ground-floor applications

Intermediate™ Mesh: Recommended for medium-level traffic and impact requirements on the second story and above

Panzer® 20 Mesh: Recommended for all high-traffic areas

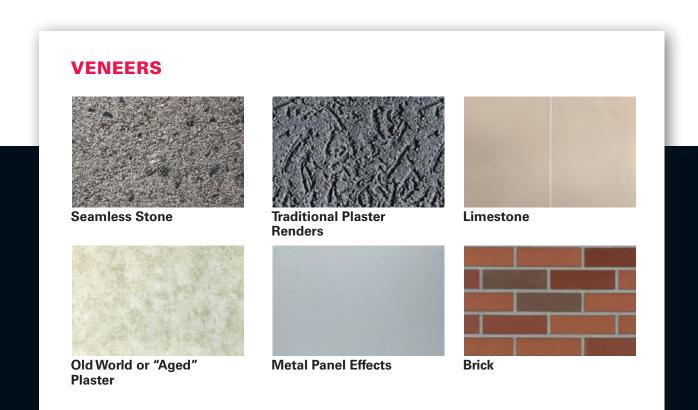




### THE PERFECT SOLUTION FOR ANY DESIGN.

Dryvit Outsulation systems offer unlimited design flexibility to suit any architectural style, and are available with a wide range of finishes that can be customized to meet virtually any color or texture desired.

The ability to easily create a vast array of architectural designs using decorative shapes and reveals is one of the hallmarks of an Outsulation system.



#### **FINISHES**



Office Building Schenectady, NY



### **BRICK VENEER**

Like the traditional look and feel of brick? No problem. Dryvit provides the look and feel of brick combined with all the benefits of continuous insulation that results in a highly energy efficient brick wall.

Dryvit provides the latest in brick wall technology that includes a water management system and a high R-value through the use of CI that meets the latest building code. All backed by a single source warranty that covers the entire assembly from the air/water-resistive barrier to final brick veneer.

### **Options:**

- NewBrick® is a lightweight insulated brick that matches the size, appearance and texture of claybricks while reducing the overall wall cost and accelerating the dryin process
- Custom Brick is a templated acylic finish that creates a realistic brick masonary finish

### AVAILABLE IN UNLIMITED COLORS, TEXTURES AND PATTERNS

Some examples include but are not limited to:





Office Building Salt Lake City, UT

### **TERRANEO**®

T E R R fl N E O

Like clay brick, granite is heavy and energy-intensive to find, produce and transport, and it can take months to get materials from the quarry to the jobsite.

Made from a blend of quartz, minerals, and mica, TerraNeo finish offers a 21st century alternative to granite that is environmentally sustainable, readily available, easy to apply and, best of all, looks fantastic!

### **AVAILABLE IN 10 STANDARD COLORS**

Custom matches to an existing building or granite sample can be developed.



Mica Colors: Available in silver/white, gold and black.



**Hyatt Place** St. Louis, MO

### **REFLECTIT**<sup>TM</sup>



Reflectit finish offers a rich, pearlescent look that can be used to coat other textured Dryvit finishes, or to achieve a smooth, metal panel look. With Reflectit, you can make your next project literally shine!





Retail Center Sioux Falls, SD

### **TEXTURED FINISHES**

Dryvit also offers numerous finish textures more commonly associated with the look of stucco, concrete and limestone. Made from a blend of 100 percent acrylic polymers, high-performance pigments, natural aggregates and utilizing DPR (Dirt Pickup Resistant) chemistry, they are beautiful, durable, and can be stained after drying to provide a dazzling old-world or antique look.



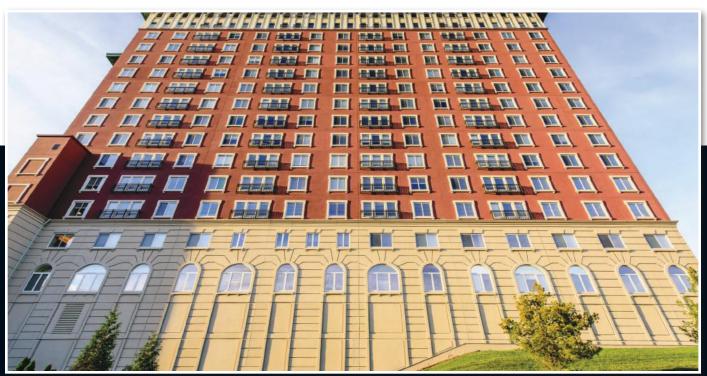


**High School** Anchorage, AK

### HIGH STYLE MEETS HIGH PERFORMANCE.

All Dryvit finishes are formulated with superior quality raw materials and have been thoroughly tested to perform in a wide range of expected conditions, but options exist to further enhance performance in particularly harsh or challenging environments.

Assisted Living Facility Cincinnati, OH





**Shopping Center** Phoenix, AZ

### THESE INCLUDE:

Fade resistance: High-performance pigments are used to formulate vivid colors that would otherwise be prone to rapid UV breakdown. This state-of-the-art technology is also VOC and APEO free. Refer to DS269.



**Elasticity**: Special elastomeric and proprietary "V Rock" technology is used to provide increased flexibility, which performs exceptionally well when used in finishes applied directly to stucco or other rigid surfaces. Refer to DS249.

**Hydrophobicity**: Advanced water-repellent technology minimizes dirt accumulation and helps keep the wall looking like new. Refer to DS267.

Mildew resistance: Dryvit's "PMR" technology utilizes advanced biocides for use in damp or shady environments where algae or mildew growth is likely. Refer to DS223.



### **MULTIPLE BENEFITS OF USING OUTSULATION SYSTEMS**

Using Outsulation Systems can reduce material use, shorten construction time, and lower building operating costs, and architects, contractors and building owners enjoy these measurable benefits every day. Fred Quinn of Quinn & Associates is one such architect. He chose the Outsulation Plus MD system for the Metro Career Academy in Oklahoma City, and exceeded the expectations of the project stakeholders by using the energy efficient, design-flexible, single-source cladding.

Brick is so common in Oklahoma City that a section of the city is actually nicknamed "Bricktown," so it was logical that the original design of the Metro Career Academy building specified 24,000 square feet of clay brick and 13,000 square feet of cast stone. Knowing the high price for both these materials and their installation, Quinn was open to considering a more cost-effective and sustainable solution, as long



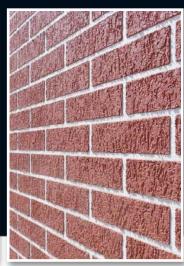
Find out more and watch a video case study

as his aesthetic intent could be maintained. Dryvit's Outsulation Plus MD System with Custom Brick™ and Lymestone™ finish fully met both objectives.









### **PROJECT HIGHLIGHTS:**

## MATERIAL SAVINGS

Outsulation Plus MD (using 4 inches of EPS) allowed the construction team to achieve the performance R-values required of the exterior wall, and eliminate the use of cavity insulation entirely. Substituting the 1.5-pound per square foot Outsulation Plus MD system for the 40-plus pounds per square foot masonry reduced the amount of concrete and structural steel needed to support the weight of the wall, and overall, 1.4 million pounds of materials — 96 percent of the original cladding weight — were eliminated from use!

### LABOR SAVINGS

All components of the Outsulation Plus MD System were installed by a single trained subcontractor, simplifying the construction schedule.

### CONSTRUCTION TIME SAVINGS

Using less structural material and a single contractor for the Outsulation Plus MD system reduced overall construction time by 15 weeks, which saved money and enabled the owner to move into his building ahead of schedule.

## SINGLE WARRANTY

Outsulation systems are engineered, tested and fully-warranted by Dryvit, whereas a brick wall is composed of a variety of materials supplied by different manufacturers.

### LEED CERTIFICATION

The Outsulation Plus MD system contributed to earning maximum EA category credits and LEED Gold certification.

## **ENERGY SAVINGS**

Measured against the modeled performance of an identical structure built to meet local building and energy codes, this building was predicted to have an energy savings of 34.8 percent and an energy cost reduction of 42.8 percent annually. After one full year, the actual energy cost reduction was 52.6 percent — more than the modeled expectation!

By choosing Dryvit's Outsulation Plus MD system, the design and construction team were able to meet the owner's aesthetic and performance goals ahead of time, and under budget. With numerous challenges to overcome and ambitious goals to meet, Outsulation by Dryvit delivered measurable results above and beyond expectation, and will continue to do so for the lifetime of the building.

### **BUILDING ENERGY CODES ARE CHANGING.**

The international movement to improve energy performance and lower environmental impact is dramatically affecting the way buildings must be designed and built, particularly with the requirements for air barriers and continuous insulation. Outsulation by Dryvit is a tested and proven solution to this challenge.

Best of all, with Outsulation systems, performance and aesthetics aren't mutually exclusive. The wide variety of finishes, textures and colors can make nearly any architectural vision a reality.

The benefits of Outsulation have been realized in hundreds of thousands of projects around the world, and the systems provide a single-source, seamless and sustainable cladding solution for buildings of any shape, size and type.

Simply put, Outsulation systems provide everything you need from a building code perspective, and everything you want from a performance and aesthetic standpoint.

Visit dryvit.com or call 800-556-7752 to learn more about Outsulation by Dryvit.



Dryvit Systems, Inc. One Energy Way West Warwick, RI 02893 401-822-4100 dryvit.com

Dryvit Systems, Inc and Tremco are a part of Tremco Construction Products Group.

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Installed on over 8 million homes\* from coast to coast, James Hardie® fiber cement siding products are designed to resist the most extreme conditions while delivering long term beauty and lower maintenance. Enjoy the warm, natural look of wood with unprecedented peace of mind. It's easy to see what makes James Hardie the market leader.

### UNIQUE FORMULATION

We use the highest quality raw materials and proprietary additives for enhanced strength and moisture protection.

# FINISHING TECHNOLOGY

Baked-on color delivers a beautiful finish that resists fading and makes a lasting impression.

## COMPLETE EXTERIOR

Offers homeowners an unrivaled collection of design options with exceptional warranties through a single, trusted manufacturer.

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<sup>\*</sup>Estimate based on total James Hardie siding sales through 2016 and average housing unit size.

### HardieZone® System

Only James Hardie® fiber cement products are Engineered for Climate®. In the northern U.S. and Canada, HZ5® products resist shrinking, swelling and cracking even after years of wet or freezing conditions. HZ10® products help protect homes from hot, humid conditions, blistering sun and more.

With James Hardie® siding and trim, homeowners have an exterior that's tougher than the elements and easy on the eyes.

### **NO MATTER WHAT NATURE BRINGS**







# TOUGHER THAN THE ELEMENTS



Stands up to storms and harsh weather



Water resistant to protect against swelling, warping and cracking



Won't be eaten by animals or insects



Fire resistant



Helps reduce time and money spent on maintenance

# **Unique Formulation** HZ5® Substrate

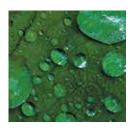
Not all fiber cement is the same. The James Hardie HZ5 product formulation contains the highest quality raw materials. Proprietary additives, combined with an innovative manufacturing process and product design, create a substrate specifically engineered to reduce moisture and resist damage from wet or freezing conditions.

### PROPRIETARY ENHANCEMENTS CREATE **DURABLE JAMES HARDIE® SIDING**



### Perfect balance of strength and workability

Our balance of high-quality Portland cement, sand and cellulose fiber delivers the best combination of strength and workability.



### Enhanced moisture resistance for unmatched durability

Patented and proprietary additives are chemically bonded within the HZ5® substrate matrix to provide durable moisture resistance.



#### **Increased dimensional stability**

Our siding is engineered at the microscopic level to create a fiber cement composite with superior dimensional stability that helps protect against shrinking and splitting.









### The advanced design of HZ5° lap siding improves drainage from top to bottom.

In addition to the enhanced moisture resistance of our product formulation, HardiePlank® HZ5® lap siding features a modified profile with a sloped top and bullnose drip edge for improved drainage over the entire outer face of the board.



#### **Sloped Top**

Positive slope at top drains moisture to outer face of lap



**Profiled Drip Edge** 

Bottom bullnose drip edge allows moisture to drain away from lap

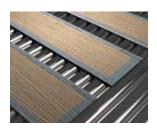
### **Finishing Technology**

### Primer

A quality primer is the first step to ensuring that the paint color you select beautifully expresses a home's true character now — and for years to come. Our distinctive primer is climate-tested and engineered to enhance the performance of paint on James Hardie® fiber cement siding products. It helps to provide consistent, long-lasting paint adhesion, even in the most demanding conditions.

### ColorPlus® Technology

Our advanced ColorPlus® Technology finishes deliver the ultimate in aesthetics and performance. Our products aren't simply painted at the factory. Our proprietary coatings are baked onto the board, creating a vibrant, consistent finish that performs better, lasts longer and looks brighter on your homes.



### **Exceptional finish adhesion**

Our proprietary coating is engineered for exceptional adhesion to our substrate and applied to the surface, edges and features for durable performance.



#### **Superior color retention**

Finish is cured onto boards for a stronger bond, which allows for exceptional resistance to cracking, peeling and chipping.



#### **Superior UV resistance**

ColorPlus® Technology finishes retain vibrancy longer when compared to vinyl siding and typical field paints on other siding products.



**ColorPlus**® Technology



#### Our finishes help eliminate stress and reduce costly weather delays when

it's too cold or damp to paint for extended periods. Now there's no reason to question whether or not sub-optimal painting conditions will negatively affect your paint job. In fact, there's no longer any need to paint on-site during installation.

ColorPlus® Technology finishes are fully cured in a controlled environment and arrive on your job site ready for year-round installation.







### **James Hardie Complete Exterior**™

Top to bottom, our exterior product line is defined by excellent performance, aesthetics and design options.

Provide protection from the elements, showcase a homeowner's individual style and install peace of mind with exceptional warranties through a single, trusted manufacturer.



HardieShingle® Siding



HardiePanel® Vertical Siding & HardieTrim® Batten Boards



HardiePlank® Lap Siding



HardieTrim® Boards



HardieSoffit® Panels

### **Hardie**Plank®

Sleek and strong, HardiePlank® lap siding is not just our best-selling product – it's the most popular brand of siding in America.

With a full spectrum of colors and textures, homeowners can enjoy protection from the elements and the versatility to make their dream home a reality. From Victorians to Colonials, HardiePlank lap siding sets the standard in exterior cladding.



### **Hardie**Plank®

Thickness 5/16 in Length 12 ft planks

#### **SELECT CEDARMILL® & SMOOTH**

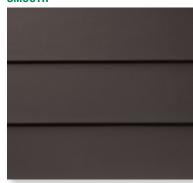
Width	5.25 in	6.25 in	7.25 in	8.25 in
Exposure	4 in	5 in	6 in	7 in
Prime Pcs/Pallet	360	308	252	230
ColorPlus Pcs/Pallet	324	280	252	210
Pcs/Sq	25.0	20.0	16.7	14.3

#### SELECT CEDARMILL®



Width	5.25 in	6.25 in	7.25 in	8.25 in	
STATEMENT COLLECTION™	$\checkmark$	$\checkmark$			
DREAM COLLECTION™	<b>√</b>	$\checkmark$	$\checkmark$	$\checkmark$	
PRIME	$\checkmark$	$\checkmark$	$\checkmark$	<b>√</b>	

### **SMOOTH**



Width	5.25 in	6.25 in	7.25 in	8.25 in
STATEMENT COLLECTION™	$\checkmark$	<b>√</b>		
DREAM COLLECTION™	$\checkmark$	$\checkmark$	$\checkmark$	✓
PRIME	$\checkmark$	$\checkmark$	<b>√</b>	$\checkmark$

### **BEADED CEDARMILL®**



#### **BEADED CEDARMILL® & BEADED SMOOTH**

	DEADE
Width	8.25 in
Exposure	7 in
Prime Pcs/Pallet	240
ColorPlus Pcs/Pallet	210
Pcs/Sq	14.3
STATEMENT COLLECTION <sup>™</sup>	
DREAM	$\checkmark$

#### **BEADED SMOOTH**



JULLEGITON	
DREAM COLLECTION™	$\checkmark$

PRIME ✓

### SNAP-CLAD PANEL

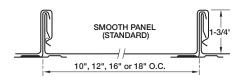
#### **MATERIALS**

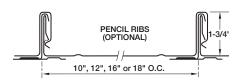
.032 aluminum 24 gauge steel .040 aluminum 22 gauge steel

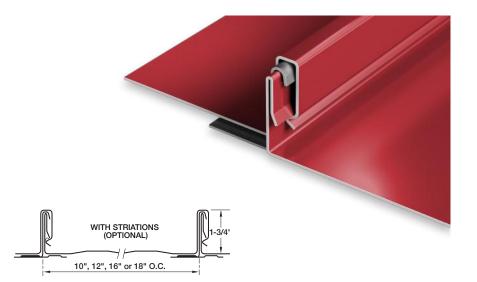
#### **SPECS**

10", 12", 16" or 18" O.C. 1-3/4" High

**UL-90** 







#### PRODUCT FEATURES

- ► Architectural/structural panel
- ▶ Factory-applied sealant available
- ▶ Continuous interlock
- ▶ Labor-saving one-piece design
- ▶ Pencil ribs upon request
- Striations upon request
- ▶ Factory eave notching available
- ▶ 30-year-non-prorated finish warranty
- Maximum factory-produced panel length is 64' (check w/factory for longer lengths)
- ▶ Weathertightness warranty available

- ▶ 43 stocked colors (24 gauge steel)
- ▶ 16 Stocked colors (22 gauge steel)
- ▶ 36 stocked colors (.032 aluminum)
- 22 stocked colors (.040 aluminum)
- ▶ Panels available in Galvalume Plus

#### UL CLASSIFICATION

- ▶ UL-580 Class 90 wind uplift
- ▶ UL-1897 wind uplift
- ▶ UL-790 Class A fire rated
- ▶ UL-263 fire resistance rated
- ▶ UL-2218 impact resistance rated

- UL-90 rated aluminum panel up to 16" O.C.
- ▶ UL-90 rated steel panel up to 18" O.C.

#### ASTM TESTS

- ASTM E1592 tested
- ▶ ASTM E283/1680 tested
- ASTM E331/1646 tested

### FLORIDA BUILDING & MIAMI-DADE PRODUCT APPROVALS

Please refer to pac-clad.com or your local factory for specific product approval numbers for Snap-Clad.

Note: UL 90 is available on steel panels up to 18" on center, and on aluminum panels up to 16" on center.

