



***Senergy***<sup>®</sup>

# Channeled Adhesive CI Design

A systems approach to  
the building enclosure

A brand of  
**MASTER**<sup>®</sup>  
**BUILDERS**  
SOLUTIONS



Ten Oaks Middle School - Myrtle Beach, SC



# SENERGY®

## CHANNELED ADHESIVE

# CI DESIGN

*A systems approach to the  
building enclosure*

There is a lot to consider when designing and constructing a modern building enclosure. Heat, air and moisture need to be managed. Noncombustible construction requires assembly testing to validate fire performance. Details must reflect fire testing, and they need to be constructible. Local building codes must be met.

All with an appearance that is fresh and attractive, at a cost that fits the construction budget.

You can piecemeal it together. Choose your components separately, then assemble them in a way that meets all your needs. Or you can let help with your building science homework, so you can focus on the colors, textures and effects that bring your design to life.

Master Builders Solutions dedicated team of engineers has you covered, with a full set of details that reflect extensive testing, building code compliance and real-world experience. Plus knowledgeable professionals across North America who understand jobsite challenges.

Channeled Adhesive CI Design by Master Builders Solutions is much more than a set of products. It is an insulated cladding system that has been tested, detailed and supported to meet the needs of current building design and construction.

# SIMPLE AND EFFECTIVE

Heat, air, and water management are fundamental to building performance. Fire is a life safety issue.

Senergy Channeled Adhesive CI Design handles air and water with a Senershield fluid-applied air/water-resistive barrier. Per ASTM E2273, the system provides 99% drainage efficiency. Other aspects of air/water-resistive barrier code compliance are confirmed by performance testing according to ICC-ES Acceptance Criteria AC 212.

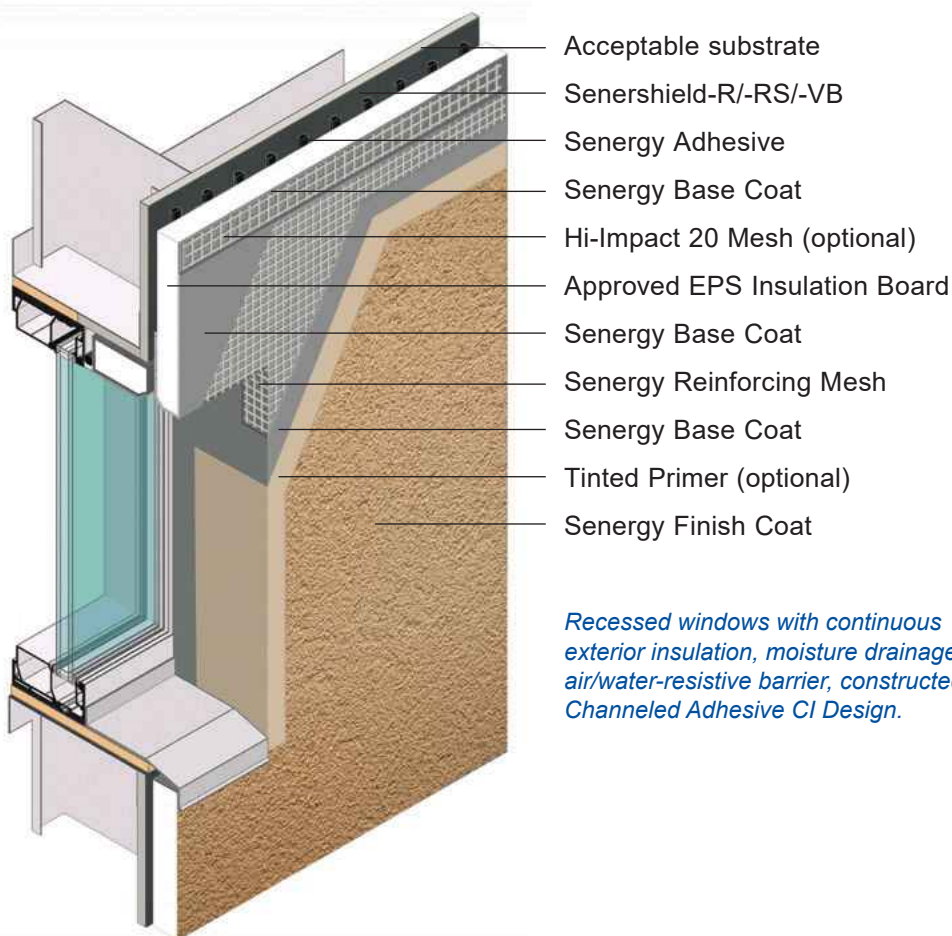
Adhesively fastened continuous exterior insulation reliably moves the dew point outside of the drainage plane. Since lintels and mechanical fasteners are not needed, thermal bridges are practically eliminated.

Fire is a complex thing that is not easily tested. The most rigorous fire tests are performed on wall assemblies, not materials. Channeled Adhesive CI Design has demonstrated compliance with NFPA 285 and 268, and does not affect the performance of a fire-rated wall assembly, tested per ASTM E119.

This test data comes together in ICC-ESR 1878, which confirms compliance with model building codes, and in additional work Master Builders Solutions has performed addressing specific state and local codes. Heat, air, fire, and water are all managed effectively.

To truly be simple and effective, wall systems need to be constructible. Over 50 million ft<sup>2</sup> of Channeled Adhesive CI Design is currently in service. The challenges many claddings face with continuous insulation were solved years ago by Channeled Adhesive CI Design.

Master Builders Solutions stands behind Senergy Channeled Adhesive CI Design, with a 12 year Limited Labor, Material, and Drainage Warranty. Coverage extends to sheathing and framing in addition to Channeled Adhesive CI Design itself. So you can design with confidence.



*Recessed windows with continuous exterior insulation, moisture drainage and an air/water-resistive barrier, constructed with Channeled Adhesive CI Design.*





Green County Detention Center  
Greenville, SC

## BE AS STRONG AS YOU LIKE

The exterior skin of Channeled Adhesive CI Design uses fiberglass reinforcement embedded in Senergy polymer-modified cement base coat. Senergy Base Coat provides water-resistance, resilience, and noncombustibility. Senergy Reinforcing Mesh is the source of strength. More mesh equals more strength.

In most situations, Senergy Flexguard 4 Mesh embedded in base coat creates an optimal blend of strength and economy. For example, Channeled Adhesive CI Design with Flexguard 4 Mesh meets the Miami-Dade County Small Missile Impact test.

The Large Missile Impact test is another matter. This test involves firing a 2x4 lumber stud out of a cannon, directly at the wall! The stud bounces off of Channeled Adhesive CI Design reinforced with Master Builders Solutions Hi-Impact 20 Mesh. Channeled Adhesive CI Design holds several Miami-Dade County Notices of Approval (NOAs).

Some projects need extra strength in high traffic areas, or for special circumstances. Like Building One at the Greenville County Detention Center in South Carolina. To be strong, the exterior was designed with Hi-Impact Mesh 20. To be super strong, portions of the space where detainees exercise use two plies of Hi-Impact Mesh 20. Built in 1994, the Detention Center continues to effectively serve its community.

For most buildings, wear and tear is more prominent on the first eight feet above grade. This is a great place to specify Hi-Impact Mesh 20. Building resilience and damage-resistance is dramatically increased wherever Hi-Impact Mesh 20 is used.

Channeled Adhesive CI Design can be as strong as you like. You can specify high strength wherever it is needed. The choice is yours.



MIAMI-DADE COUNTY  
APPROVED

Seminole Hard Rock Hotel & Casino  
Hollywood, FL



**Westgate Entertainment District**  
Glendale, AZ  
*Shown here, below, and right*



## INSULATION IS A BEAUTIFUL THING

Channeled Adhesive CI Design uses at least one-inch and as much as 12-inches of Type I expanded polystyrene (EPS) insulation board. By placing insulation outside of the framing, thermal expansion and contraction of the framing is reduced. Since there are no lintels or fasteners to channel heat through the wall, insulation in Channeled Adhesive CI Design is 100% effective. You get the R-value you pay for.

With an R-value of 3.85/inch (Type I at 75°F), designers can easily specify the right level of continuous insulation, typically two or four inches of EPS, depending on project's climate zone, wall design, and occupancy. What can you do with the remaining allowable thickness?

Let your imagination run wild. Bumpouts and special design effects can be easily added, at very low cost. With Channeled Adhesive CI Design, you can turn creative inspiration into practical reality.





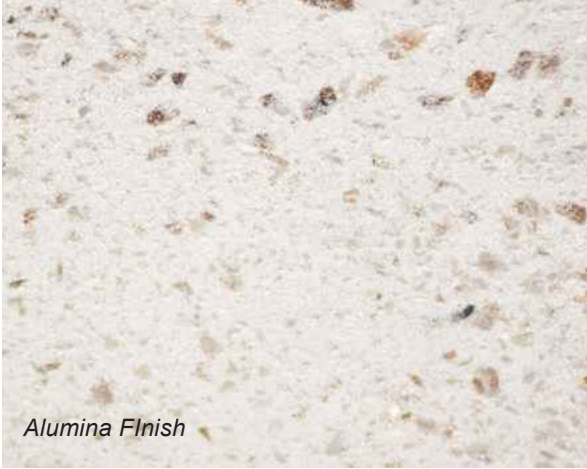
OdySea Aquarium - Dolphinaris Exhibit  
Scottsdale, AZ



*Senerbrick*



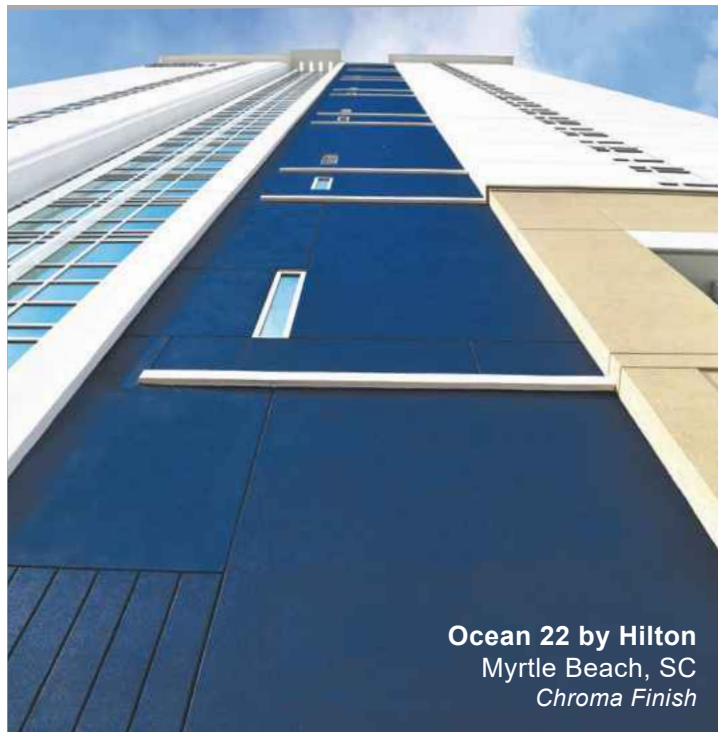
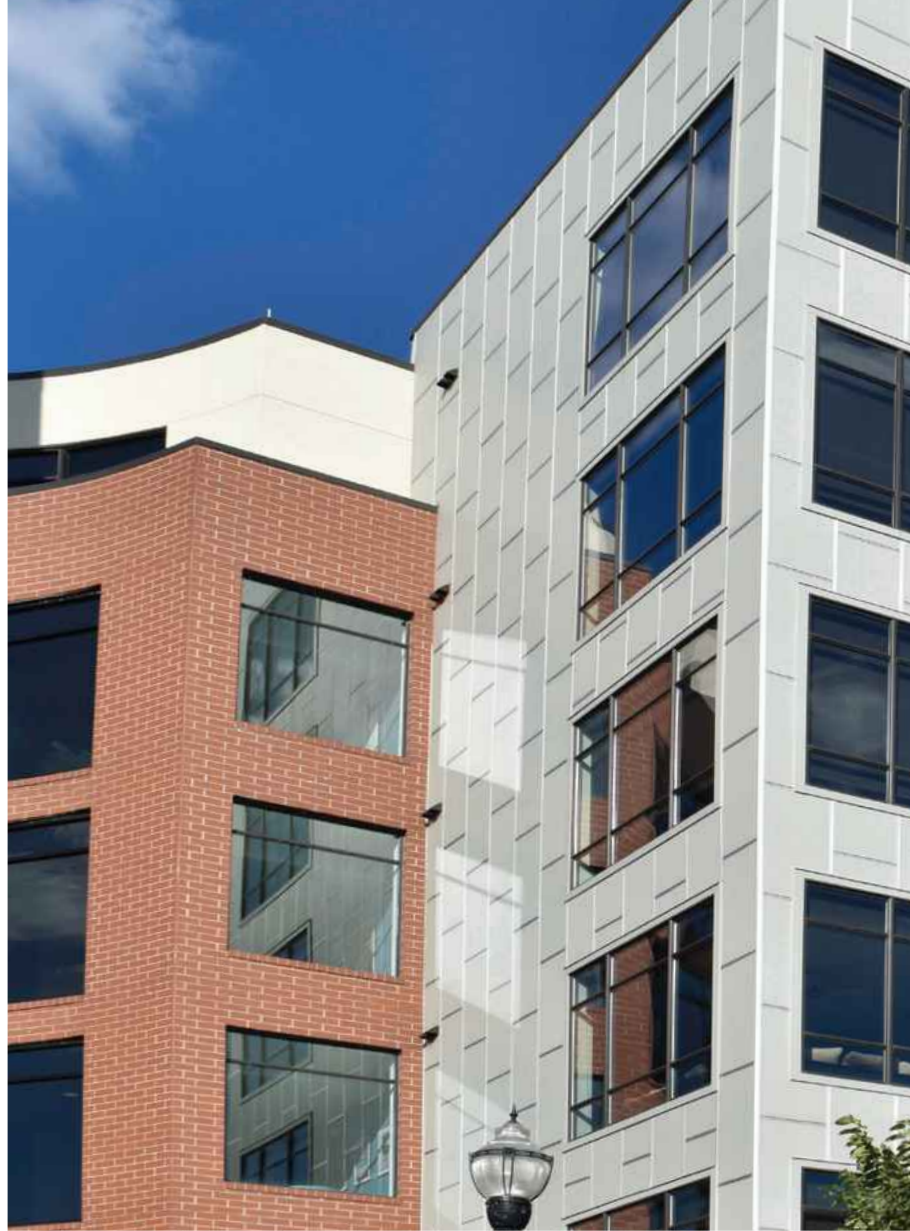
*Sahara Finish*



*Alumina Finish*

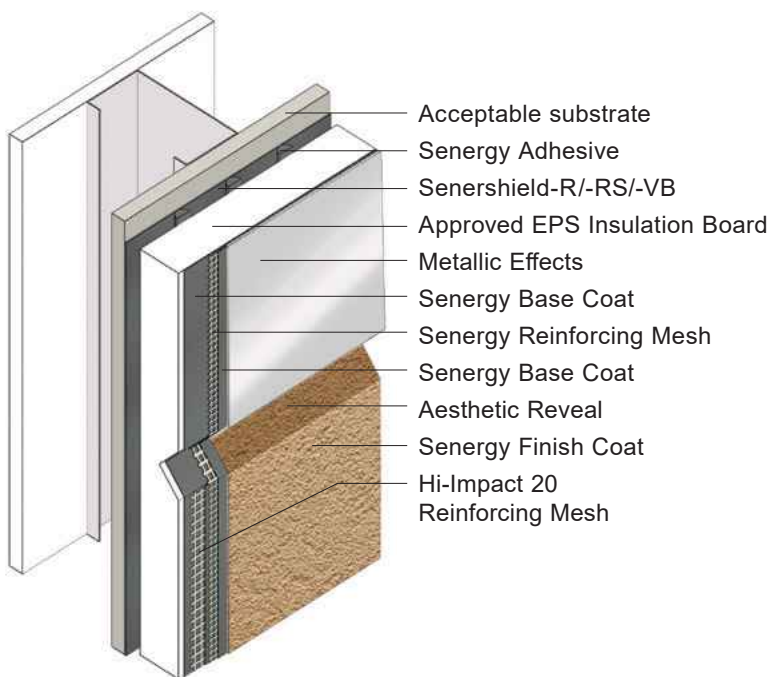


*Metallic Effects*



**Ocean 22 by Hilton**  
Myrtle Beach, SC  
*Chroma Finish*





## LOOKS COUNT

Multiple cladding appearances are visually interesting. From a constructibility point of view, they can be complicated. The air/water-resistive barrier must be monolithic and unbroken, with a defined drainage plane. Continuous insulation must be continuous. Where multiple claddings require multiple application teams, work must be coordinated. Whenever a handoff occurs, opportunities for things to go wrong multiply.

Channeled Adhesive CI Design lets you pick the look you want, then makes it easy to accomplish. Stucco, granite, limestone, metallic, and brick are some of the appearances you can create. Choose from a wide range of colors. Then bring everything together in a way that looks great, with one application team responsible for everything.

Channeled Adhesive CI Design lets you create the look your clients want, with code compliance and building science everyone needs, at a cost that facilitates project success.



**Skysong Plaza 4**  
Phoenix, AZ



**Barrow Neurological Institute**  
Phoenix, AZ



# ECO-EFFECIENCY

All of the Master Builders Solutions products that create Channeled Adhesive CI Design are water-based, with low VOC content. Exterior insulation and a Senershield air/water-resistive barrier help buildings save energy and last longer.

There is much more to the Channeled Adhesive CI Design eco-efficiency story than that. Light weight and high allowable deflection create multiple environmental benefits.

Channeled Adhesive CI Design weighs 6.2 lbs/ft<sup>2</sup>\* compared to 46 lbs/ft<sup>2</sup>\* for brick. That means the amount of material that must be extracted from the earth, shipped to manufacturing sites, processed, transported to the jobsite and put in place can be reduced by up to 86%. This reduces energy use and toxic emissions in addition to minimizing resource consumption.

High allowable deflection (L/240) combined with light weight means that framing can be lightened, further improving eco-efficiency. It also facilitates recladding and reusing existing structures, arguably the most eco-efficient solution of them all.

*\* Includes exterior gypsum sheathing and steel stud framing.  
-2009 Eco-efficiency analysis*



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Myrtle Beach, SC

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