

# New Exterior Drainage System Provides All-in-One Solution for North Carolina Builder

**Two Industry Manufacturers Put Their Heads Together, and the Result Is a Product that Puts a Plug in the Water-Intrusion Issue**

Arnold Craven shopping center in High Point, N.C., is protected by an innovative exterior insulation and finish system recently introduced to the North Carolina construction market. Winston-Salem-based contractor Emery Widener installed the new Senerflex CDsystem in the strip mall to help control incidental moisture.

The Senerflex CDsystem uses a special geosynthetic matting to create an unobstructed drainage plane. Called the Senergy Drainage Mat, this material separates the insulation board from the building's substrate, allowing incidental moisture to quickly and completely exit the wall.

In 1996, the North Carolina Department of Insurance and code officials in the state amended state building



**This cut-away illustration displays the components of the Senergy CD System: The outer portion is the stucco finish, with the insulation board beneath it. The Senergy Drainage Mat is next, and it covers the moisture protection barrier (black portion). At the base is wood-frame sheathing, which the drainage layer protects by channeling water quickly out of the stream.**

codes to require all EIFS used on type VI construction (wood-frame construction for residential and light commercial) to include a drainage system, after moisture-damaged wood sheathing was reported in some EIFS-clad homes. The Senerflex CDsystem was developed in response to the new legislation.

The system is the result of a collaboration between EIFS manufacturer Senergy, based in Cranston, RI., and construction products manufacturer Akzo Nobel Geosynthetics. The Senergy Drainage Mat is a thinner version of Enkamat, a three-dimensional core of entangled nylon filaments used in commercial and industrial construction for slopes, channels, ditches and other exterior applications. Enkamat is manufactured by Akzo Nobel Geosynthetics in Enka, N.C.

## The Process

Widener's crew first attached weather-resistant building paper over the wood sheathing. Then they stapled the Senergy Drainage Mat over the entire wall

surface prior to fastening 1-inch-thick insulation board. After a base coat and reinforcing mesh were applied to add strength and weather resistance, the building's outer layer was covered with an acrylic-based finish.

Widener, who also has used the system in residential construction, said it offers superior water resistance and is easy to install.

"It's the best I've seen," he said. "I've dealt with all of the EIF systems, and the Senergy CDsystem by far exceeds them all."

## The Product

The Senergy Drainage Mat is a quarter-inch-thick nylon core that is 90 percent open space, which makes the product lightweight and easy to cut and install. It is shipped in rolls 39

inches wide and 250 feet long and, at approximately 30 pounds, each roll can be transported easily.

The material can be cut with a knife or scissors and lays flat, so there is no curling during installation. The mat drains equally as well whether installed vertically or horizontally, and is rigid enough to hold the system away from the sheathing, yet flexible enough to be easily manipulated during application.

The Senergy Drainage system maintains a space between the insulation board and a weather barrier, which is applied over the substrate. It offers a high level of compressive resistance, ideal for separating insulation board from the surface of the substrate. Consequently, incidental moisture is accommodated by a drainage plane that rapidly channels moisture out of the wall assembly.

Rigorous testing has shown that the CDsystem can drain

one gallon of water out of a 4-foot-high, 3-foot-wide sample wall in less than 30 seconds. Wind-load test results also demonstrate that the system is suitable for virtually all type VI construction in North Carolina locations.

“The drainage area of the Senerflex CDsystem is far greater than the drainage area of competitive systems, so it’s an important development for builders, architects and contractors,” said Senergy National Marketing Manager Kent Stumpe. “It’s also an important development for Senergy and Akzo Nobel because it allows us to provide all the same benefits that have made conventional EIFS so popular: color, texture, energy savings and low maintenance.”

## The Final Word

An evaluation report by the Southern Building Code Conference International officially approved the Senerflex CDsystem. The system has been installed in commercial and residential projects in Raleigh, Greensboro, Winston-Salem and Wilmington, as well as High Point.

While the CDsystem provides an option that accommodates incidental moisture intrusion, Stumpe said Senergy’s written installation procedures—and good building practices—should be followed.

“The use of good windows, flashing and sealants are a necessity for the long-term performance of any cladding, whether it is brick, vinyl, conventional EIFS or the CD system,” Stumpe said. 