

THE NEW EIF SYSTEM



Installation of water-barrier system

New EIF System Gives Contractors More Control over Quality Control

By Gerald Migeon

With the issue of exterior insulation and finish systems in North Carolina, a new type of system is born: EIFS with drainage.

The innovation is not merely a product change; it triggered manufacturers selling EIFS in the residential sector to develop systems that overcome the concerns from North Carolina, such as lack of sealant around windows, leaky windows, improper or no flashing.

In this process, the following questions were raised:

- How to design the drainage plane and the protection of the substrate?
- How to attach the system?
- How to preserve design flexibility and ease of application?
- How to select and supply the new components of the system?

continued on page 33

- How to provide training programs, applicators and builders for this new system?
- What warranty to offer?

Meanwhile, at an industry level, many questions about the testing of these new systems have been reviewed by EIMA with code authorities and official testing organizations.

Drainage EIFS adds to new concepts: a moisture barrier to protect the sheathing and a drainage plane allowing the water to exit at the bottom termination of the system

The approach that Parex took for the development of its drainage system focused on meeting the needs of the builders and owners while facilitating the applicator's job.

COMPLETE SYSTEM

Drainage EIFS adds two new concepts to a traditional system: a moisture barrier to protect the sheathing and a drainage plane allowing the water to exit at the bottom termination of the system.

Water Master, the Parex drainage system, ensures this function with four easily installed products: Water Master

House Wrap, flashing membrane, insulation board and vented track.

The system is completed with a sealant specially formulated for the Parex system. Each of these products has been developed to work together as a system to optimize the performance and ensure the fastest and easiest application.

Drainable EIFS offers an effective secondary moisture barrier as an integral part of the system sold. Parex Flashing Membrane is a self-adhesive rubberized asphalt membrane. It creates a flashing system to protect the rough openings such as windows, doors or deck attachment. Combined with the Water Master House Wrap, it creates a water-resistant, secondary barrier.

Water Master House Wrap is a Grade D, 60-minute sheathing paper as required by the Uniform Building Code for drainable EIFS over wood substrate. It provides twice the water resistance of Grade D, 30-minute sheathing paper while maintaining the vapor permeability necessary for the system.

Water Master Insulation Board is a unique design with a patent pending. It is cut with waves that provide the drainage plane, eliminating the need for a lath or furring strips under the insulation board.

Moreover, the channels are cut so that the drainage will perform regardless of the alignment of the board, making installation even simpler. This board is attached to the substrate with mechanical fasteners.

The use of fasteners to attach EPS board isn't as customary as adhesive,

Installation of the weather-resistant barrier for an EIF system with drainage is essentially the same as standard systems, with the addition of the following:

- A moisture protection of the sheathing, or weather-resistant barrier.
- A drainage plane behind the insulation to allow the water any moisture that might enter around penetrations to escape.

The weather-resistant barrier is installed in the following steps:

- Installation of Vented Tracks at bottom termination to allow water drainage.
- Installation of House Wrap under windows.
- Installation of the Flashing Membrane in the openings (window, door).
- Complete protection of the sheathing with building paper.
- Installation of flashing and termination with tracks above windows.
- Installation of drainage plane and insulation board (could be one component or two, according to the manufacturer) over the secondary barrier.
- Layers of the weather-resistant barrier are always lapped in a shingle fashion to direct water to the outside of the house.

Linkhorn Bay, Va.

- Job size: 200,000 square feet
- Substrate: wood sheathing on wood framing
- EIFS system: Parex Water Master with Parex DPR Finish



A key element in the decision of owner/developer Joe McCutcheon of Linkorn Associates to select Water Master was the fact that Parex

is the single-source supplier of all the components of the system. He also was especially influenced by the design of the channel on the Water Master board, which ensures excellent drainage. The Parex Water Master System was supplied by Glazed Products, Inc. of Martinsville, Va.

commonly used for traditional EIFS. However, it can become a time saver because the attachment of the board and the application of the base coat and mesh can be done in the same day.

Track provides straight termination lines that improve the look of the finished job. The Parex Vented Track, which is designed to resist cracking and exterior aging, is perforated at the bottom to allow incidental moisture to escape from the system. It can be installed at the bottom termination line and above doors and windows in combination with flashing. By encapsulating the termination of the system, it can cut the time required for backwrapping by 50 percent.

While providing a means for drainage of incidental water from behind the insulation, drainage EIFS, like other wall claddings, relies on flashing and sealants to prevent excessive moisture from entering behind the face of the cladding.

Sealants are an effective means of closing the system for two reasons: They seal and protect the juncture between abutting materials from the weathering elements, and they are resilient in accepting expansion and contraction as a result of thermal changes. Parex is the only EIFS supplier who offers sealant as a part of their drainage system. Parex Silicone Sealant 390 is an ultra low-modulus, one component silicone sealant.

Put simply, modulus is the amount of force required to elongate a sealant. The lower the modulus, the less force required to elongate. In turn, the less force required to elongate, the less stress put on the bond of the sealant.

SINGLE SOURCE SUPPLY

To simplify the purchase process for the applicator and give the builder/owner additional confidence in the quality of the job, Parex supplies all the new components included in the Water Master System, from House Wrap to Sealant.

Parex has successfully optimized the logistics to conveniently offer the complete package of components to applicators at competitive prices. Moreover, the applicator can now control the installation of moisture barriers, which in some areas is done by another trade. This means significant time saving and improved quality control.

TRAINING

Introducing a new system requires new training programs for the applicator. The recent controversy on EIFS also placed more focus on EIFS application and coordination with other trades.

The performance of EIFS and drainage EIFS is a function of the related components in the building and of the attention to the details where these components meet the EIF system.

However, this is no different than other

cladding. The objective of the Water Master training program is to inform the applicator of these issues. The training is administered to Parex Currently Trained Applicators, who already master the application of other Parex systems. It covers Construction Physics,

the history of drainage systems, installation procedures and details, and the warranty program.

A UNIQUE WARRANTY

The Water Master Warranty is

unmatched by any other exterior wall cladding. This warranty is a key advantage of the system because it implies a thorough review of the installation conditions and a guaranty of the system's integrity. It not only gives the homeowner a transferable warranty for mate-

rial and labor, but also includes a drainage warranty, which ensures that incidental water will drain out.

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The issuance of this warranty is conditioned by several elements: all and only Water Master components being used, the applicator being trained in the application of the Water Master system, the builder and applicator submitting a signed checklist on preparation and installation procedures.

TESTING

EIMA has recently adopted the ASTM E 331 along with modifications to test and measure the drainage performance and drying potential of EIFS. The test is conducted on a 4' by 8' panel of EIFS wall (including wood sheathing) which is exposed to a spray of water. An opening is cut in the front of the panel to allow water to go between the insulation board and the weather resistive barrier. The water spray is equivalent to a wind driven 8 inch per hour rain. The panels are exposed to water spray for a minimum of 60 minutes.

To pass this test, the system must provide free uninterrupted drainage for the duration of the test, and the sheathing


behind the system must remain dry. Parex Water Master exceeded this requirement. Parex Water Master is listed with the Southern Building Code SCBBI under the Report No. 9728.

Current jobs under construction with the Parex Water Master system include several multi-family complexes and numerous homes. A recent example is the Linkhorn Bay, a waterfront condominium in Virginia Beach (see sidebar). Designed by the nationally renowned architectural firm Cox, Kliewer & Company, P.C., this four-story building will be completed this month.

Jerry Cox, Architect, says they are “always looking for better details” and this system gave added assurance of the highest construction components. Tidewater Applicators, part of the selective group of Parex Medallion applicator companies, are confident in the performance of the system and proud of the classic architectural EIFS features of the job.

As new products evolve and the market progressively adopt them, manufacturers make their marks through the attention they pay to quality and to the needs of their customers. In construction products, the challenge is to offer the best performance while optimizing

the design flexibility, the ease of application and the overall cost effectiveness of the system.

At Parex, we call it practical technology: simple solutions to complex construction problems. With quality products, strong technical support, training programs, and comprehensive warranties, Parex builds trust into EIFS walls. Water Master is a prime example of Parex’s commitment to the future of the EIFS industry. 

About the Author

Gerard Migeon is the marketing manager of Parex and chairman of the EIMA Education Subcommittee.