Winter 2008

UP-DATE

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PROJECT

Built in 2001, Brighton Condos at Kingston Plantation in Myrtle Beach, South Carolina, began experiencing widespread water leakage problems soon after construction. An engineering study revealed failed sealant joints and unsealed gaps around the stucco envelope's flashing and accessory points. The stucco facing also displayed isolated hairline cracking typically found on stucco-clad buildings. Both the consulting engineers and waterproofing contractors agreed that most of the failed joints should be replaced with Dow Corning® 790 Silicone Building Sealant and Dow Corning® AllGuard Silicone Elastomeric Coating after the joint repairs had been completed.

Silicone Sealants and coating stop leaks, provide extra protection under extreme weather conditions

Brighton condos at Kingston Plantation is a 500-unit luxury housing project built in 2001. A study by engineering consulting firm R.J. Kenney Associates, Inc., revealed failed sealant joints and unsealed gaps around the stucco envelope's flashing and accessory points. The exterior stucco panels also had isolated hairline cracks typically found on stucco-clad buildings.

Michael Kenney, director of technical services for R J. Kenney Associates, explained that the building's exterior envelope required extra protection because of its height and location on a beach in a hurricane zone. "Some external systems, such as one-coat stucco, don't tolerate long exposure to water. **So if you're in an area with frequent rainfall, you have to make the outer skin of the building as watertight as possible.** That's why it's so important to upgrade to the best waterproofing products available, like *Dow Corning* silicone sealants and AllGuard," he said.

R.J. Kenney Associates and contractor Pro-Tec Finishes recommended to the condominium's owner association that *Dow Corning* 790 and 795 sealants be used to replace most of the old sealant. (The failed joints had been filled with a combination of urethane and non-*Dow Corning* silicone sealants.) In addition, the structure's envelope would be sealed with AllGuard coating after the joint repairs had been completed. The entire project cost an estimated $525,000 and required six months to complete with a crew of about a dozen workers.

According to Kenney, "*Dow Corning* 790 displays excellent durability and bond to porous substrates like stucco and concrete, while 795 is a great all-around sealant." He was also enthusiastic about AllGuard Coating's ability to bridge minor surface cracks. "It has greater hydrophobic properties than acrylic coatings and better color retention," he said. "The owners will also be able to avoid frequent recoating because AllGurad doesn't break down under UV light like an acrylic would." Koehleer estimates that the building owners will save about $1 million in recoating costs over 20 years. ▯

Congratulations Nick

4:58 pm, 26 Feb., Nick Harpel (our inside sales specialist) and Ashley became proud parents to their 7 lb., 20½" tall, baby boy, "Jaxon". WOW!

CONGRATULATIONS BIG DADY!

GRACE Construction Products

The First Truly Effective *Blind Side* Waterproofing System

In the past, specifiers had little choice in blind side waterproofing systems. Problems in accessing the positive side of the structure led to either partial solutions or to no waterproofing at all.

Now there is a first truly effective means of providing blind side waterproofing protection.

With Bituthene Preprufe Waterproofing Membranes and compatible Bituthene and Hydroduct products, you can specify a blind side waterproofing system that you can be confident will keep water out for a very long time.

The two blind side waterproofing applica

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APPLICATION NOTES

Early Joint Movement and One-Part Sealants

Early movement of a dynamic joint, after a sealant has been applied and before it has time to cure, will sometimes result in cracking or crazing of the sealant. The problem only seems to arise when one-part moisture curing sealants are used; not the two-part catalyzed cure sealants.

Although some one-part sealants are capable of up to 50% joint movement, this only applies after the sealant is fully cured. A freshly supplied sealant may only be able to experience 10% movement before failure.

South and west building elevations, unlike north and east elevations, are extremely susceptible to this type of failure. They typically experience a higher temperature differential. Darker color materials are also more susceptible to this, than lighter or heat-reflecting colors.

This problem is most commonly experienced in sill and head can splice sleeves due to the thermal expansion associated with aluminum (which has a relatively high coefficient of expansion), and in highly dynamic joints.

As a *CURE*—if necessary, use two-part sealants in problem areas. If necessary, use two-part sealants in problem areas. If joints such as splice sleeves are involved, allow a few days before the installation of the remaining metal to see if the sealant shows any sign of cracking or crazing. If so, re-sealing will be necessary. Also, installation of sealants at the median temperature can lessen the extreme movement in any one direction. ▯

Sealant Performance Testing

In order for a sealant manufacturer to market a sealant, that sealant must undergo extensive testing to determine it's limitations, as well as any advantages it might have over other sealants on the market. This testing, usually performed by the manufacturer in-house, goes beyond the requirements of the federal specifications that were developed by the National Bureau of Standards for industry or testing institutions. It should be noted that NBS will no longer sponsor specifications and ASTM specs for construction will be utilized.

Manufactures of polyurethanes and silicones have no problem passing these tests, but they continue to test extensively trying to come out with a product superior to those now available.

Sealants that successfully adhere to certain substrates without the use of primers in the laboratory will, in some cases, fail in the field. This happens not because the sealant is defective or formulated wrong, but because the substrate that was tested in the lab, although supposedly the same material, is not what was encountered in the field.

This is especially true with concrete and concrete associated substrates. The variables in the formulation of concrete are vast, even though the end product is always called concrete. The chances that the properties of any two concrete panels or slabs are exactly the same are slim. This can be attributed not only to the formulation of the concrete, but also other factors such as from release agents, the moisture content at the time of sealant application, and the sealers of special coatings that may be applied to the concrete before the sealant is applied.

For these reasons, it is advisable to test all substrates, especially concrete substrates, for proper sealant adhesion. ▯

PACIFIC POLYMERS INTERNATIONAL, INC.

Pacific Polymers' ELASTO-DECK 6500 Series

2-Component Aliphatic, 100% Solids, Low / No Odor, Zero VOC, Liquid Elastomeric Pedestrian and Traffic Coating Systems

ELASTO-DECK 5600 PT

ELASTO-DECK 6500 PT is a two component, liquid applied, flexible, Low odor, aliphatic, 100% solids, Zero VOC, elastomeric polyurea, traffic coating system for walking deck surfaces. Concrete or Plywood substrates.

Basic Uses

For waterproofing walking decks, balconies plazas, mechanical room floors, etc. Designed for pedestrian traffic.

Limitations

All surfaces must b e completely free of foreign matter and primed with ELASTO-POXY PRIMER (Zero VOC), where necessary. ELASTO-DECK 6500 PT has a relatively short work life, so once it is mixed, the coating must be poured onto surface and applied immediately.

Colors

Concrete Gray and Tan. Custom matched colors are available with minimum required quantities.

Packaging

Available in 1.5 gallon kits and in 4.5 gallon kits.

ELASTO-DECK 5600 VT

ELASTO-DECK 6500 VT is a liquid-applied, two component, aliphatic, 100% solids, Zero VOC, flexible, virtually no odor, elastomeric polyurea, traffic coating system for parking deck surfaces.

Basic Uses

For waterproofing walking decks, balconies plazas, parking decks, mechanical room floors, etc. Designed for pedestrian and vehicular traffic.

Limitations

All surfaces must b e completely free of foreign matter and primed with ELASTO-POXY PRIMER (Zero VOC), where necessary. ELASTO-DECK 6500 PT has a relatively short work life, so once it is mixed, the coating must be poured onto surface and applied immediately.

Colors

Concrete Gray and Tan. Custom matched colors are available with minimum required quantities.

Packaging

Available in 1.5 gallon kits and in 4.5 gallon kits.

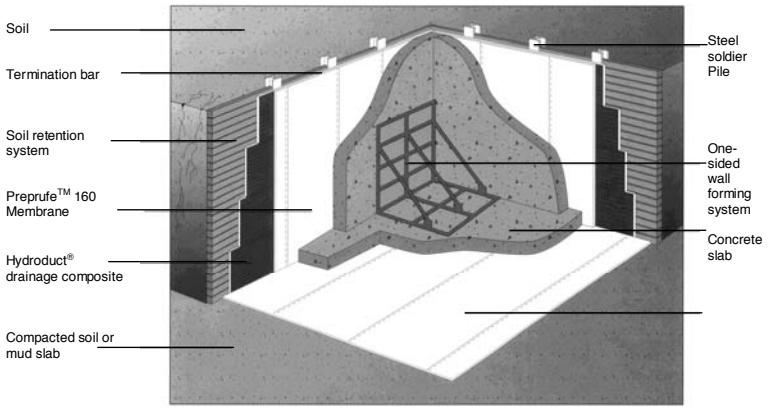
(Continued from Front Page)
tions you'll confront most frequently are under concrete slabs and on foundation walls cast against soil retention systems—often timber lagging.

In both of these situations, you can now specify a blind side waterproofing system utilizing Preprufe Membranes and compatible accessory products that will provide the performance you expect.

Preprufe Membranes are installed before the structural slab is poured or prior to casting the foundation walls. Once the concrete is placed, a strong, continuous, mechanical bond develops between the membrane and concrete.

With Preprufe membranes, you can now effectively "tank" or envelop the entire below grade structure from the positive side and protect it from the devastating effect of water.

Preprufe Membranes are also supremely weatherable and durable. Each one has a unique weather-resistant surfacing which protects it from nature's unpredictable elements. It will retain its properties no matter what the weather. If it rains or snows, you won't have to worry about protecting it. There's no concern about premature activation, hydration or deterioration before or after the concrete is placed.



As a result, the membrane is ready to bond to the concrete when they're ready to pour the concrete—up to 30 days after the membrane is installed. And the waterproofing protection will remain in place long after the concrete is poured.

As a practical matter, this provides much greater flexibility for the construction schedule. A few days delay here and there won't compromise the quality of your waterproofing system. In short, you no longer have to be concerned about meeting an impossible schedule...or seeing your waterproofing wash away in a sudden rainstorm. ▯

Why the membrane bonds so effectively to the concrete.

The ability of Preprufe Membranes to form a watertight bond with cast concrete is based on the unique properties of the membrane. The bond should not be confused with a chemical bond. It is an exceptionally strong mechanical bond created when the liquid concrete becomes interlocked with the soft, conformable pressure sensitive adhesive and protective coating layers of the membrane.

The pressure sensitive adhesive is coated onto the high density polyethylene (HDPE) backing film. It in turn is covered with a protective coating which provides its weathering characteristics. These two materials work in synergy to form a strong bond to the concrete which is cast against it because both layers are soft, conformable, and have high internal cohesive strength.

Adhesion depends on the alliance of two properties: the ability to conform to a surface and the internal strength of a material to resist movement. Materials that are too conformable or "water like" easily develop full surface contact but offer little internal strength. Conversely, materials that are too stiff or "glass like" have a high internal strength but do not develop enough contact with the surface.

When liquid concrete is poured against the surface of the Preprufe Membrane, the soft, conformable nature of the two layers allows the liquid concrete to easily conform to the membrane. On a microscopic level, the membrane becomes interlocked with the tiny ridges and crevices present at the interface. It is in complete contact with the concrete almost immediately.

The two layers also have a high internal "cohesive" strength. Therefore, it takes a substantial force to overcome the internal strength of the layers and pull the membrane from the concrete surface.

It is the combination of these two properties along with the microscopic bonding and surface interlocking that makes the membrane bond so aggressively to concrete. ▯

GRACE Construction Products

The Professional's Choice

Building & Construction

GAPS & CRACKS

GREAT STUFF™ Pro Gaps & Cracks Insulating Foam Sealant has long been recognized as a superior solution to filling and air-sealing small gaps & cracks found to be a leading cause of drafts and energy loss in a home.

The same **GREAT STUFF** has now been successfully tested as a penetration sealant fireblock building material for use in residential Type V applications. Concealed spaces within exterior and interior residential walls are full of holes created by penetrating water and gas pipes, HVAC ducts, and electrical cable. Sealing the annular space surrounding these penetrations is code required to maintain the integrity of the original fireblocking. Sealing these holes also saves energy! Properly used, **GREAT STUFF Pro Gaps & Cracks** has been found equivalent to the IRC and IBC code prescribed sealing techniques for fireblocking.

WINDOW & DOOR

With **GREAT STUFF Pro Window & Door** insulating foam sealant, you will achieve a better window or door installation. **GREAT STUFF** prevents drafts, repels water and more, resulting in a higher-quality installation, improved home comfort and greater customer satisfaction.

GREAT STUFF Pro Window & Door is proven more effective than other gap-sealing alternatives. The exclusive formulation remains pliable, so it won't bow window and door frames, when installed properly. In full-scale testing, **GREAT STUFF Pro Window & Door** easily met window and door manufactures' strict limitations for window jamb distortion, while more conventional foam sealants exceeded the recommended units.

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