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Compass

Let Us Help Set Your Course For
Navigating Water Intrusion Problems

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SEMINARS
on green roofing and
sustainability.

See next issue for:
**Lasting Value and Jobs
from
Effective Restoration**



The **REACH*** is a complete access and connection system for installing rooftop equipment. The primary function is to transport the MEP Services for unit operation to the rooftop. Mounting and connection for ancillary components (such as GFI, disconnects and motor starters) is provided. **REACH** uses industry standard weatherproof connections for all types of conduit, tubing and cable for rooftop installations. The **REACH** is for both new installations and retrofits.

Visit their website:

www.reachmfg.com

* Patent Pending

Product review is for information only
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Sealant Performance and Compatibility The Great Disconnect

Ben T. Hixson



We are convinced the majority of **informed** building Owners and Property Managers will choose the superior performance offered by neutral cured silicone sealants in lieu of short-lived performance from urethane sealants for exterior joint openings. Under direct UV exposure heat oxidation can cause deterioration of urethane sealants in less than three years. The reported satisfactory performance of exposed urethane sealants is in the range of from five to eight years. Few if any Owners or Property Managers budget for and implement replacing failed joint sealant every three to eight years. **The Great Disconnect is the short-term mind set of creating building envelope barrier systems and over all sealing exposed exterior joint openings with urethane sealants.**

Compared with urethane sealants, neutral cure silicone sealants have satisfactory performance service lives exceeding twenty years. After adequate initial testing for compatibility and adhesion and documentation of field peel adhesion testing performance verification, the sealant manufacturers offer twenty-year weatherseal and adhesion warranty coverage. The coverage is to remedy defective materials and includes replacing failed sealants. **The Great Disconnect is not including specification requirements for the caulkers and other sealant installers obtaining twenty-year warranty coverage for exterior joint sealants.**

With the extensive reliance on sealants for building envelope waterproofing and with vastly superior service life from silicone sealants, why does the design-construction team focus on urethane? There are several performance and aesthetic reasons for

past use of urethane sealants. Early silicone sealants were not available in more than five colors. Architects couldn't obtain desired colors to match cladding or to match door and window framing. Likewise, different colors weren't available for accents. Urethane sealants bond more readily to common building materials without use of primers. Early silicone sealants had objectionable staining of adjoining porous cladding and accents. Early silicone sealants took longer to cure and collected airborne dirt. Caulkers charge more to install silicone sealants. Finally, initial cost of urethane sealants was one-third the cost of early neutral cure silicone sealants.

The Great Disconnect in 2009 is that with silicone sealant color options greatly expanded, improved adhesion, no staining of most cladding, fast cure times, competitive installation costs and cost of materials approximately two times the cost of quality urethane sealants, the green building design community hasn't rapidly gravitated to requiring neutral cure silicone sealants. When **sustainability** is a critical design factor exposed exterior joint sealants should be neutral cure silicone sealants or one of the other high performance long-term warranty coverage polymeric joint sealants. Analyzing costs associated with replacing failed exposed exterior joint sealants the life cycle cost advantage clearly goes to neutral cure silicone sealants even without consequential damages.

Sealant compatibility with air barriers, moisture-resistive barriers and self-adhered modified bitumen wraps and flashings is most important to long-term

adhesion. Adequate adhesion can only be obtained with sealant and building wrap and flashing compatibility. Sealant selection needs to be driven by the substrate component manufacturer's recommended sealants. Incompatibility issues arise when a single joint sealant is installed at all joint openings and in conjunction with all types of air barriers, moisture barriers and self-adhered modified bitumen wraps and flashings. Urethane sealants are more compatible with barriers, wraps and flashings than neutral cure silicone sealants.

Too many times we find either no sealant installed or incompatible sealant installed. Consequences with no sealant and an incompatible sealant are similar when it comes to water intrusion. Also, the silicone sealant solvents may be denaturing the plastic and petroleum based barriers, wraps and flashings. That deterioration may make the likelihood for objectionable moisture entry an even greater possibility.

HCI recommends that the design-build team obtain written approval for sealant use when a specific sealant isn't on the barrier, wrap and flashing manufacturer's approved or recommended sealant list. Monitoring the sealant installation for the intended quality is necessary regardless of the sealant selection.

Think Like Water!



We want to share our Building Envelope observations with our valued clients and other individuals who may be interested in receiving our monthly publication.
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