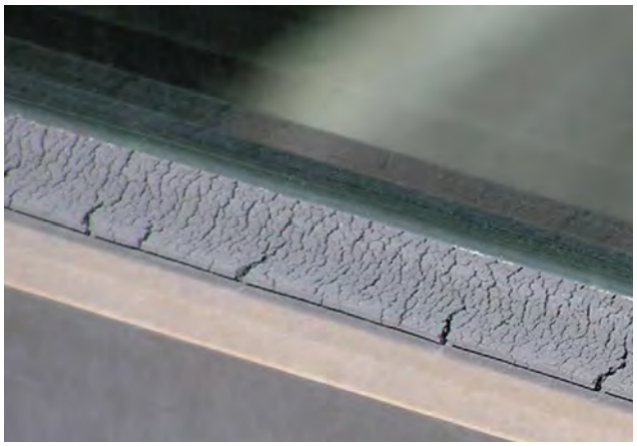
Wet Glazing

Since glass has been used in the facades of buildings there's been a need to keep water and air out of the building. Along the history of sealing glass there has been putties, sealants and most commonly gaskets that are installed with the original units of glass to keep the environmental elements from the inside of the building as well as provide movement of the components since the glazing units are typically framed in aluminum on most commercial buildings.

Since glass itself is impervious to water penetration, glazing waterproofing performance is determined by the glazing method chosen (e.g. wet glazing versus dry glazing) and drainage details of the framing system. The primary function of both wet and dry glazing is to alleviate water infiltration occurring within a window assembly. The window assembly subject to receiving sealing can be an individual punched opening, a storefront system, a structural skylight or a multitude of window wall/curtainwall systems. Wet glazing consists generally of the application of an elastomeric, gun-grade joint sealant at the interface of a glass unit and the adjoining frame and/or gasket of an existing window unit. Dry glazing is the installation of glass using extruded gaskets in PVC, EPDM or Santoprene to one or both sides of the glass to provide a compressed weather seal. Wet glazing offers a better solution in preventing water infiltration into the glazing pocket over dry, gasket systems that have joints in the gaskets.

Identifying Problems

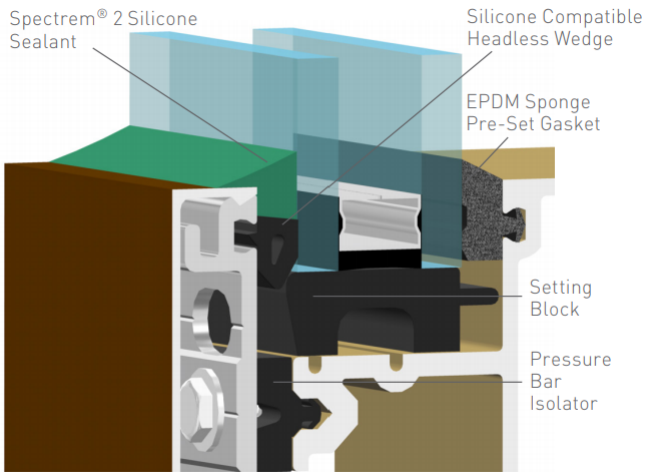


Water infiltration typically occurs at preformed gaskets due to either shrinkage (resulting from weathering/aging) or improper installation. Improper installation is usually in the form of gaps and/or openings between adjoining gaskets that occur at the corners of the sill and jamb intersections. During the installation of the gaskets, adjoining gaskets might not be properly mitered at the adjoining corner or the two adjoining gaskets might be "pulled/stretched" into their original end-to-end positions and then shrink back ("re-coil/relax") to their original length. However, the most common issue is gaskets deterioration due to weathering and aging. Some of the detoriation can include shrinking, drying, cracking and hardness. Since the dry gasket system is the most common application, and as previously mentioned the gaskets are made up of inorganic materials, the oils in the materials can only withstand a finite time period of environmental conditions before detoriation starts.

Once gaskets have aged or improper installation methods have been discovered water infiltration has occurred and other underlying and possibly unidentified issues could be found such as a lack of or inadequate/improper end dams, loose, missing or unsealed fasteners within the assembly and other unsealed joints.

Solutions

Much of the life space and performance of the glazing system is related to keeping the system dry which requires maintaining the gasket or wet seal. After the original installation of gasket, it is most common to wet seal the window. This requires trained craftsman to remove part of the gasket by cutting it with a razor blade and leaving the bottom portion in place to prove for a spacer and backing for the new sealant; alternatively the entire gasket could be removed and a new gasketed wedge can be installed but this more costly than simply cutting the existing gasket . After the original gasket is cut, the craftsman installs a silicone sealant over the gasket mimicking the original gasket profile. With trained craftsman it can be done without taping the joints and an installation that has the same original appearance and superior performance over the initial installation.



Wet glazing sealants can carry up to a twenty-year warranty on most buildings from several different manufacturers.

Mock-ups using the proposed sealant should be performed to test for compatibility issues and adhesion properties.

In summary, wet sealing can be a valid and cost-effective method for alleviating certain water infiltration problems associated with window systems and assemblies. However, as with most sealant applications, assembling mock-ups and collecting pre-job adhesion testing are essential in achieving optimum results. In addition, it is recommended that the sealant manufacturer be involved in the planning phase of the project and buy-in or approve of the application.

Authored by:
Andy Wharton
Vice President – General Manager of Dallas and Oklahoma
Chamberlin Roofing & Waterproofing

Andy graduated from Texas A&M University in College Station, Texas, with a Bachelor of Science in Environmental Design. He has over 16 years of experience working with commercial and industrial properties developing waterproofing solutions to keep water out of their assets. In his position with Chamberlin, he manages new and remedial construction waterproofing jobs, overseeing office and field operations teams. Some significant projects he has been involved with at Chamberlin include Dallas Cowboys Headquarters and The Ford Center at The Star in Frisco, Texas, which was awarded a 2017 TEXO Distinguished Building Award. He is an active member of the A/E/C industry participating in the American Subcontractors Association (ASA), TEXO and Firestop Contractors International Association (FCIA). Additionally, he is a committee member of Build Texas Proud and is involved with KIDstruction and Kidsbuild. Andy can be reached at awharton@chamberlinltd.com or 214-273-9110. www.chamberlinltd.com