Technical Bulletin-Glazing Compatibility: October 2012

Some Things Never Change

Sealants have improved remarkably during their long history as a critical component, as they continue to extend the life of insulating glass. Some things, however, have not changed. One of these, for example, is the age-old issue of glazing compatibility. Information that appeared in the trade press many years ago may be as relevant today as it was when it appeared. We have included excerpts from one of these articles in this issue.

Current data from our laboratory also details the importance of glazing compatibility and is supplemented with descriptions of glazing compatibility tests—a technical service that is available—and test results.

Recognizing the importance and practical nature of on-line learning seminars, we have developed "Selecting Insulating Glass Sealants for Durability and Energy Efficiency" which is now available.

We will continue to provide useful information—even if some things never change-- through ***FENZI FACTS .***

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Online Sealant Learning Seminar

A one unit course, accredited by AIA and USGBC, "Selecting Insulating Glass Sealants for Durability and Energy Efficiency," is now available. Developed to provide a basic introduction to IG, it includes information on components and materials. For details, contact: Paul Chackery (416)674-3831, pchackery@fenzi-na.com

Glazing Compatibility — what's new?

What's new? Everyone wants to keep up with the latest information, whatever that may be. But there are times when the relevancy of data remains unchanged. That is the case with some information on glazing compatibility testing. The question is not whether it is dated or current, but how useful it is today in preventing failures (or shortening the life) of the IG unit. One of the best examples is an article that appeared in the trade press more than three decades ago. ("*More Information on Proper Glazing Techniques Is Being Developed With Particular Emphasis on Glazing Compatibility"* by Michael J. Scherrer, Glass Digest, 1981.)

Segments of this article have been excerpted because the facts and tests that were presented then are no less critical in 2012. The most logical place to begin, as Scherrer points out, is to define (and categorize) glazing materials. There are dry glazing materials, which are tapes and gaskets, and wet glazing which is primarily one-component caulks applied by a gun. Dry glazing materials have a base polymer, such as butyl, vinyl or neoprene and are often compounded with fillers and plasticizers. The base polymer in wet glazing materials includes polysulfide, butyl, urethane, silicone or acrylate which are compounded with fillers, plasticizers and oils. As Scherrer explains, the use of plasticizers in either type of glazing is where there

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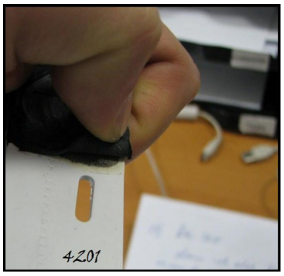
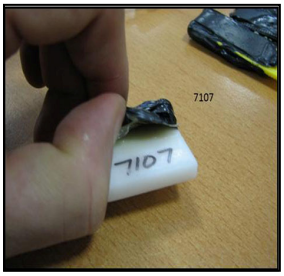
is the potential for incompatibility with the insulating glass sealant. When incompatibility occurs between the sealant used by the manufacturer and the glazing compound at the job site, there is a deterioration of the organic sealant's properties and that breakdown can affect the longevity of the sealed unit. Scherrer's recommendation, to avoid these problems, is to test all glazing materials with the insulating glass sealant. He mentioned that these kinds of tests are performed by industry organizations as well as by many manufacturers.

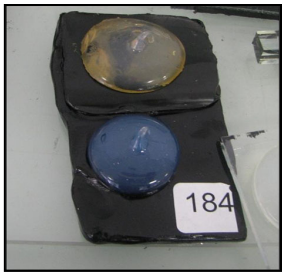
Today, Fenzi performs glazing compatibility tests as part of its technical service. The lab follows the recommended IFT guidelines for glazing compatibility (for a copy of "Usability of Sealants," IFT Guidelines, contact Paul Chackery). The images on this page show the use of setting blocks and examples of incompatibility.



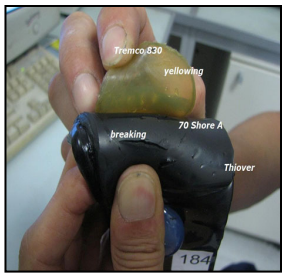


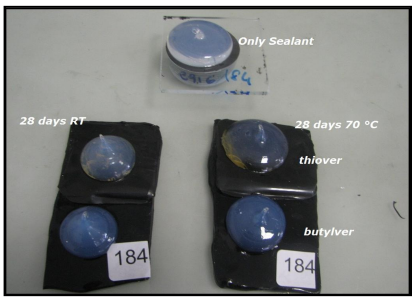
Setting blocks are materials used for the fixation of IG units in the glazing rebate and for the load transfer of the individual glass panes. They should be included in tests because (environmentally friendly) blends of reclaimed material that is currently being used could be incompatible with the sealant system.

The lab strongly recommends that any material that comes in contact with the sealant should be tested, even if prior data indicates it is compatible.



These examples, based on IFT testing, show that any change in the materials — such as color, hardness, liquefying, migration of plasticizers — is an indicator of incompatibility. Glazing incompatibility occurs when the solvent from the glazing sealant penetrates through the secondary sealant to soften the primary sealant.





Early stages of incompatibility are shown, as PIB appears to be softening. Note the "drips".