



Incompatibility of Sealants & Glazing Components

Date: Aug 20, 2021

Supersedes Date: Nov 25, 2014

Bulletin Number: #19

Guidelines for Compatibility of Components

It is critical that all materials and components in a glazing system are evaluated for compatibility. Compatibility ensures long-term performance and health of the building. In today's construction landscape, the amount of materials and components is vast and growing. In this bulletin, we will discuss the difference between ICD's single component compatibility program and whole system evaluations. This bulletin is intended for design professionals, fabricators and contractors.

ALWAYS Contact the component supplier for suitability!

Use only one sealant type—DO NOT mix sealants in proximity!

ICD's Single Component Compatibility Testing

ICD offers a Component Compatibility program by which, we test a single component in conjunction with one of our products. The testing is in accord with ASTM C1087 - Standard Test Method for Determining Compatibility of Liquid-Applied Sealants with Accessories Used in Structural Glazing Systems. This test produces a "yes" or "no" result if a component is compatible with our coating. A "yes" does not mean that any one component is also compatible with another on our list of tested materials—it only indicates that the single component tested did not adversely react with ICD's single product with which it was tested.

Whole System Compatibility Approval

In the field, we see many different configurations of sealants and components. Although different sealants from multiple manufacturers may be used on the same glazing, more often we see the same manufacturer used. Even so, the components used are not always approved by the manufacturer to be used together or in proximity to each other. It is critically important to seek a compatibility approval from each component manufacturer and disclose all materials intended for use on the project. Due to the amount of materials used in glazing, it is virtually impossible to test every component and some degree of risk must be accepted.

Definition of Incompatible Components

Two of the most prevalent consequences of using incompatible components are staining (where usually yellow or brown staining is observed on the glass, coating, sealants, adhesives and/or other components) and adhesion loss. The factors that affect incompatibility are quite varied. In general, compatibility is a chemical phenomenon. Incompatibility may be seen immediately due to improperly cured or applied sealants. It may also be seen over time in the presence of water, UV exposure and oxygen. Any one may not be the exact cause but, in combination, many chemical reactions may occur over time—a key reason why design elements such as adequate weep systems are so important to glazing systems. Testing for individual component compatibility can greatly reduce unknown risk in the life of a glazing system.

Resources & Related Test Methods:

- ICD Contractor Manual – <http://www.icdcoatings.com/contractor-portal/>
- ICD Approved Factory Fabricator Technical Manual (Only available for current AFF)
- NGA Glass Technical Paper FB28-11 - Assessing the Compatibility of Glazing Materials and Components
- GANA Engineering Standards Manual (Section 4 D.3.4)
- GANA Glazing Manual
- GANA Sealant Manual
- ASTM C1021 - Standard Practice for Laboratories Engaged in Testing of Building Sealants
- ASTM C1087 - Standard Test Method for Determining Compatibility of Liquid-Applied Sealants with Accessories Used in Structural Glazing Systems

Conclusion

Because there are many possible components that go into a glazing, it is critically important that contractors and glass fabricators work with component manufacturers in seeking adequate assurance on compatibility. ICD can offer a single compatibility test between a component and its coatings. This test does not constitute approval of any products not manufactured by ICD to be used in a glazing system. Component producers must be brought into a project to add comment or testing about the suitability of one or more components that will come in contact with one of their products.

Consult the AFF Portal & Contractor Portal section of the ICD website (www.icdcoatings.com) for additional Bulletins and flat glass industry reference resources.

ICD High Performance Coatings has produced this Bulletin solely to provide information regarding Incompatibility of Sealants and Glazing Components. This bulletin makes no attempt to provide all information or considerations in the Incompatibility of Sealants and Glazing Components. The user of this Bulletin has the responsibility to ensure the design engineering and installation guidelines are followed. ICD disclaims any responsibility for any specific results related to the use of this Bulletin, for any errors or omissions contained in the Bulletin, and for any liability for loss or damage of any kind arising out of the use of this Bulletin. The data presented in this Bulletin are valid only for the samples tested, and the results presented and are not necessarily representative of all configurations, compositions and substrates or for conditions other than those tested.

Please call ICD Technical Services, at (360) 546-2286, regarding any questions about the information provided in this bulletin.