

## TECHNICAL BULLETIN

### IG Unit and Glazing Material Compatibility

Nowhere in the glazing industry do a wider variety of chemical or synthetic materials come into close proximity with each other than in the installation of insulating glass units (IG units). Aside from the components found in standard IG units, such as poly-isobutylene (PIB), polysulfide, desiccant, silicone, hot-melt butyl; there is also a varied assortment of additional materials used in their installation. These are backer rods, setting blocks, gaskets, weather seal sealants, structural glazing adhesives; plus surrounding finishing materials (e.g. paint, stain, wall covering adhesives, etc.). All of these materials, if not properly selected for their compatibility with each other, can lead to a slow chemical reaction eventually resulting in migration of materials and/or seal failure.

Material compatibility is achieved when two or more components in contact or close proximity do not react in such a way as to compromise the relevant performance of each. Responsible manufacturers of insulating glass units take great pains to assure that the individual components of their IG units are compatible. The glazing contractor should not need to concern himself with this element of the product selection if the IG units for a project are being supplied by a reputable manufacturer. Once the IG unit has been assembled and shipped to a jobsite, however, it then becomes the responsibility of the glazing contractor to assure that any additional components used in the IG units' installation are also compatible.

When non-compatible glazing materials are used the result can be a change in the chemical structure, color, and/or consistency of the IG unit's seals, and thus the unit's overall integrity. The most conspicuous symptom of this is a migration of IG materials into the airspace. An "oozing" of the primary and/or secondary seal past the spacer and into the airspace is the visual result. In addition, the spacer may also be pushed into the airspace. This spacer migration can occur with any type of spacer material (metal, synthetic, extruded, flexible or warm-edge).

Choosing the proper (compatible) glazing materials for a project will depend upon what materials the IG manufacturer uses in the construction of the IG unit. This relationship between glazing materials and IG unit components needs to be considered on every project. Inasmuch as the compatibility between glazing materials and the IG unit components is the glazing contractor's responsibility, the glazing contractor should solicit the IG manufacturer to provide guidelines for this selection.

#### TPS Spacer System

SureSeal® Insulating Glass Units utilize an extruded thermoplastic spacer with integrated molecular sieve desiccant and a butyl-based thermoplastic edge seal. The secondary seal is a two-part, neutral cure, structural silicone (DOW Corning 982-S). These components have been thoroughly tested and approved for their inter-compatibility.

**Glazing Material Compatibility:** DO NOT USE sealants or glazing materials containing solvents, oil, or extenders (e.g. plasticizers not based on silicone materials); products which generate aggressive "curing by-products (e.g. acetic acid, amine, acetone, etc.); setting blocks containing plasticizers (or less than the overall thickness of the IG unit); impregnated, open cell backer rods.

#### **Incompatible Materials** (partial list):

DOW Corning 790 series sealants

EDPM glazing materials

GE Ultrapruf series sealants

#### **Recommendations** (partial list):

Non-extended 100% silicone glazing products

Weather Sealants - Dow Corning 991 Silicone High Performance Sealant

Dow Corning 995 Silicone Structural Glazing Sealant

Structural Glazing - Dow Corning 995 Silicone Structural Glazing Sealant

Back Bedding - Dow Corning 1199 Silicone Glazing Sealant

Dow Corning 899 Silicone Glazing Sealant

Setting Blocks - Plasticizer-free VMQ-Silicone rubber

Polypropylene or Polyethylene

Backer Rods - Polypropylene or Polyethylene

#### **Important:**

Weather sealants and glazing sealants should never come in direct contact with IG units' secondary seal.