

ICD High Performance Coatings

Contractor Manual

OPACI-COAT-300® WATER-BASED SILICONE
GLASS SPANDREL AND WALL CLADDING
APPLICATION AND INSTALLATION GUIDE

April 2020

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CONTENTS

Contractor Manual.....	1
Introduction.....	4
Importance of a Glazing Manual.....	4
Component Testing.....	5
How to Use Sealants & Adhesives.....	6
Preparing the Coated Surface.....	7
Wall Cladding – Wall Preparation.....	7
General Do's & Don'ts.....	8
Monolithic Spandrel Application Diagram.....	9
Insulated Glass Unit Spandrel Diagram.....	10
Wall Cladding Detail <72" in Height.....	11
Wall Cladding Detail >72" in Height.....	12
Plan Review & Two-Sided Structural Glazing.....	13
Most Common Installation Problems.....	14
INDEX.....	15

Introduction

ICD High Performance Coatings manufactures paints and coatings. Historically, we have developed and manufactured coatings for the architectural glass markets; specifically, spandrel coatings and interior wall cladding. Today, we are seen as both experts in silicone coating technology and providers of coatings solutions where none previously existed.

In 1986, we started ICD with the desire to create green and healthy alternatives to glass coatings on the market, which spawned our flagship product **OPACI-COAT-300®**. Headquartered in Ridgefield, Washington, USA, ICD reaches global customers and markets by working directly with customers and by maintaining a representation, networks and strategic manufacturing in other locations.

We reach the glass market by providing architects and designers with tools for success, allowing them to specify our products with sound principles. Our products are sold to glass fabrication plants across the globe, which become part of the ICD Approved Factory Fabricator (AFF) program.

We also make other coating products for glass, as well as for metals and plastics such as polycarbonate.

Importance of a Glazing Manual

The reason this manual is so important is purely due to the many variables that will go into glass

glazing. Even with a full component compatibility testing program, there are too many products that may come in contact with our coating and each other. These interactions can create an undesired effect that may be visible in your finished glazing. In addition, the glass industry has created standardized configurations to ensure success throughout your project that we recommend and share. This manual is an accumulation of over thirty years of experience in the glass and glazing industry.

These are keys to ensuring not only your success with our products, but also with other products you may be using on your project.





is an association of our industry that seeks to serve in advocacy, standard setting, and leadership. One of the best documents to read is the *NGA Glass Informational Bulletin FB28-11 (2017): Assessing the Compatibility of Glazing Materials and Components*. Click the following link to download:

[NGA Store - Glass Informational Bulletins & Technical Papers](#)

Component Testing

Our component testing program consists of a thirty-day UV exposure test of any of the components you wish to have tested, in conjunction with our OPACI-COAT-300® coating. It is a modified version of the ASTM International C1087 test standard.

The reason we use UV and test for thirty days is it is a very harsh test that will accelerate a potential chemical or mechanical reaction that may occur months after a building has been completed. We will issue a letter reporting whether or not the products are compatible with each other and whether or not we approve using that product on the project. If we deem a product is not a good choice, and it is still used, any problems with the installation will be outside our warranty coverage.

If you are not currently familiar with the National Glass Association (NGA), you should seek them out. This





How to Use Sealants & Adhesives

For a complete and updated list of approved sealants and materials that have been tested in our compatibility program, please follow the links provided at the end of this segment (top of page 7).

Please note that compatibility is between the single component and the coating.

ICD does not claim to guarantee the compatibility of other components, like sealants, to each other and to other products used in the glazing. Always obtain a compatibility test and report from all suppliers. When applying adhesives, it is very important to check with the manufacturer to ensure proper use.

Generally speaking, the applied dab of sealant should be no more than a half-inch in diameter. This results in

no more than a one-inch diameter circle of sealant in compression when the glass is pressed to the wall. As well, the applied dabs should not be more or less than twelve to eighteen inches (12-18") from each other. This allows adequate coverage for a proper hold by the sealant as well as enough air space to allow for proper cure of the sealant.

Figure 1 shows the most common configuration for applying the adhesive. Starting at 1/2" when applied, the sealant results in about a one inch circle after the glass has been pressed onto the wall. Please note that it is advised to consult the sealant manufacturer on how long your adhesive will take to cure before applying any perimeter seals. Generally, you should wait twenty-one days to allow for cure and all solvents in the sealant to migrate away from the area. Each sealant and manufacturer will have differing amounts of time for a proper cure, check with them.

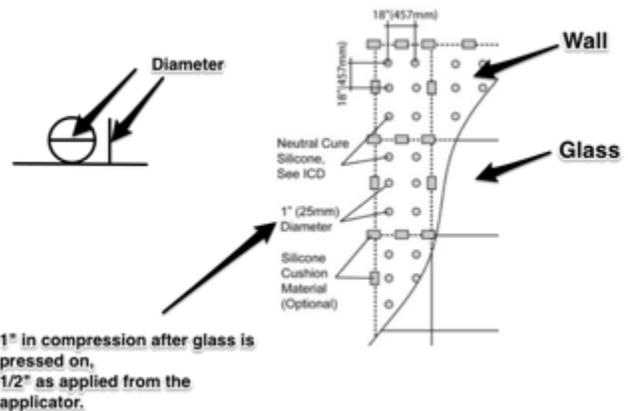


Figure 1

Approved Materials List on AFF Portal (login required): <http://www.icdcoatings.com/aff-portal/>
Approved Materials List on Contractor Portal: <http://icdcoatings.com/contractor-portal/>

If you do not see a component on the list, please contact ICD.

Preparing the Coated Surface

Great care is taken at the fabricator level to ensure the glass is clean and free of debris before applying and curing the spandrel coating. Between the fabricator's facility and the job site, debris can again accumulate on the spandrel coating and glass. Debris may increase in quantity the longer the crates of coated glass sit at the job site. Below is a quick procedure for ensuring the spandrel or wall cladding coating is clean for the best possible sealant adhesion.

“Simple Cloth & IPA Clean”

Clean, soft, absorbent, lint-free cloths must be used. This method uses two solvent wipes. The solvent, isopropyl alcohol, easy enough to find at your corner drug store as “rubbing alcohol.”

1. Remove any obvious visible debris, especially where the sealant will be applied.
2. Pour or dispense the IPA onto the cloth. A plastic (solvent resistant) squeeze bottle works best as dipping the cloth into the solvent bottle may cause contamination.
3. Wipe the coated surface where the sealant is to be applied with the IPA and cloth.

4. Repeat the steps above.
5. Wait 5-10 minutes for the alcohol to fully flash off the coating.
6. Apply the sealant as recommended by ICD and the manufacturer.

Wall Cladding – Wall Preparation

When working with wall cladding, it is important to pay attention to the wall the glass is being adhered to. If you have a bare concrete wall and/or wood, the surface must first be primed with a latex primer and the primer must be allowed to cure. Take care to not install the coated glass over cloth, wallpaper or plastic. Sheet rock must be primed. Glass installed over 72” above the floor will require mechanical supports to carry the glass dead load. This is a code issue; your local code rules need to be consulted.

As always, ensure you are not using hydrocarbon-based gaskets, setting blocks, etc. Do not use EPDM unless it has been approved by ICD. Do not use any neoprene products at all in contact with the glass coating.

To be safe, always use the same sealant to attach the coated glass to the wall as you use for sealing the butt joints. Mixing sealants may cause an adverse effect. Always seek approval from your sealant manufacturer about the suitability of that sealant as a wall cladding adhesive and that it is approved to be used with a different butt joint sealant if you so desire.

General Do's & Don'ts

- Do use only compatible sealants, gaskets, insulation, tapes, etc.
- Do follow the sealant manufacturer's recommendations for application and cure.
- Do seek approval from sealant manufacturers for use in your project.
- Do contact ICD for current lists of approved materials.
- **Do Not** use thin-set mortars.
- **Do Not** use mirror mastics as an adhesive.
- **Do Not** use neoprene products, such as setting blocks, where they may come in contact with the coating.
- **Do Not** use hydrocarbon solvents or materials.
- **Do Not** mix sealants on the same project without manufacturer approval.
- **Do Not** install OPACI-COAT-300® products in a vision area (where light transmission through the glass could occur).

Figure 2, example of a label you may see on the glass as it comes from a fabricator. The purpose of this label is to be a quick reminder of the above points.

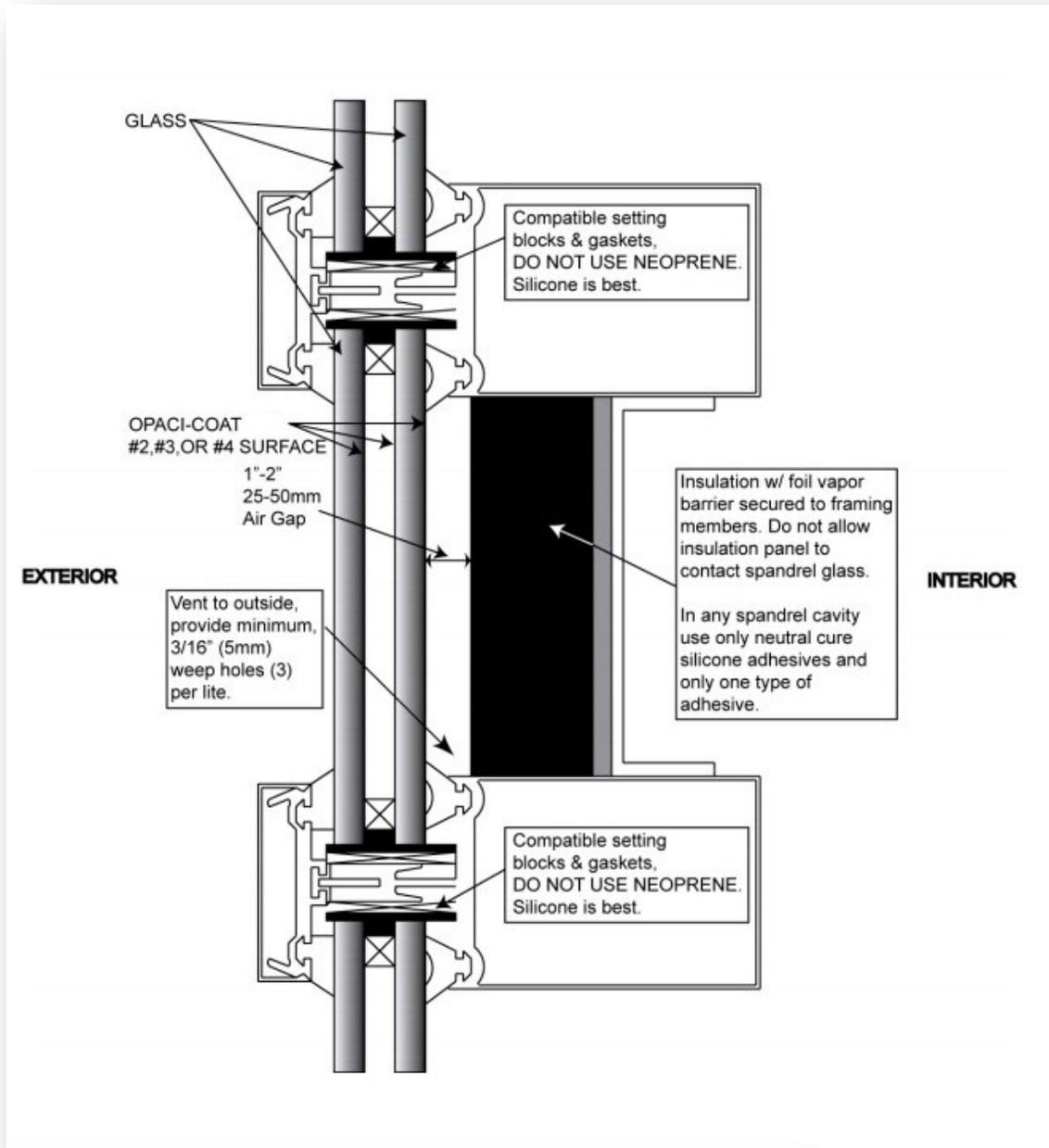
Refer to the Contractor Portal at <http://www.icdcoatings.com/contractor-portal/> for technical bulletins and additional information.



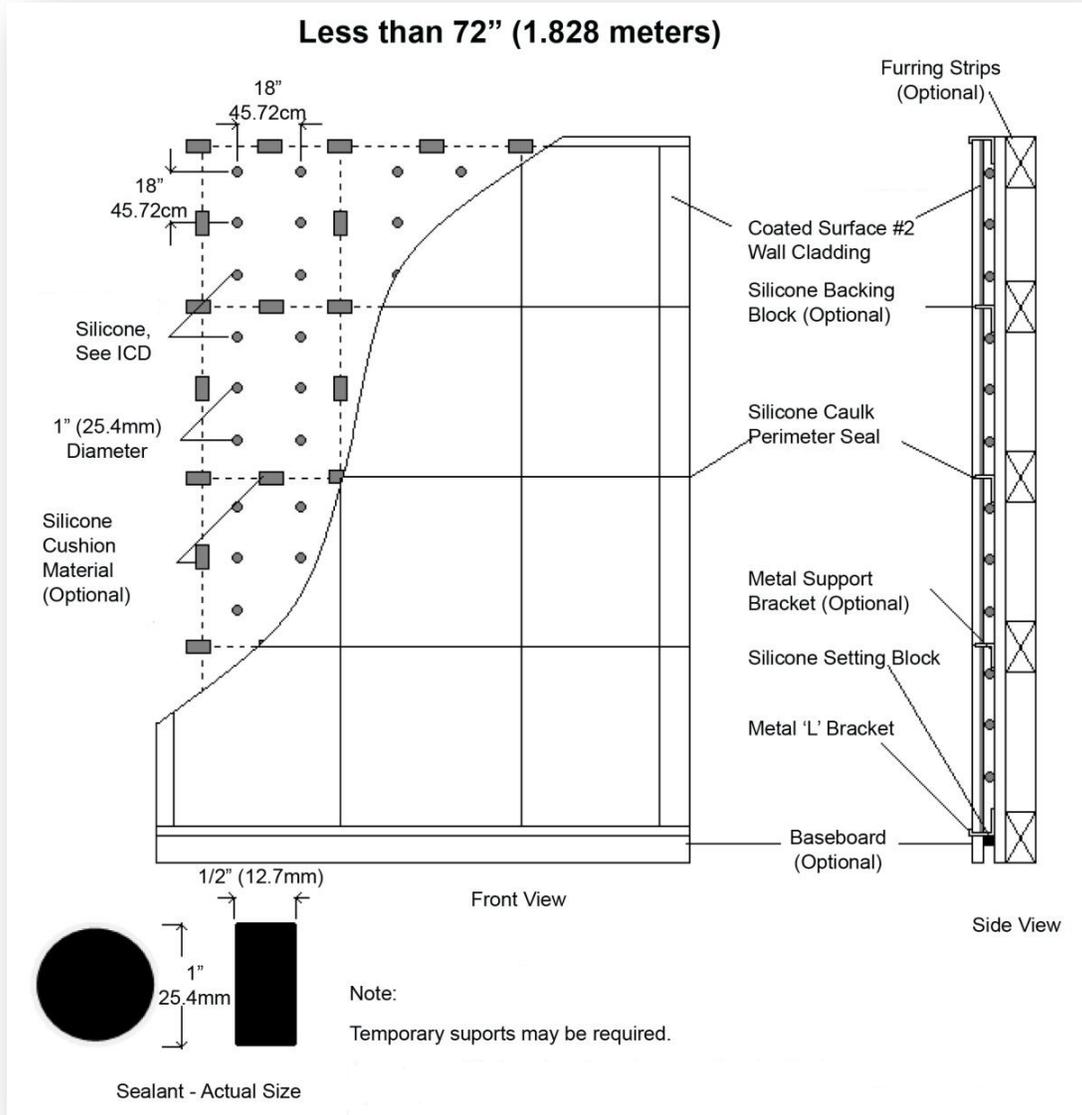
Figure 2

Insulated Glass Unit Spandrel

Please note that OPACI-COAT-300® ***may not be applied*** to the #3 surface if a low-e is on the #2 surface. Doing so may create a “rainbow” haze within the unit.

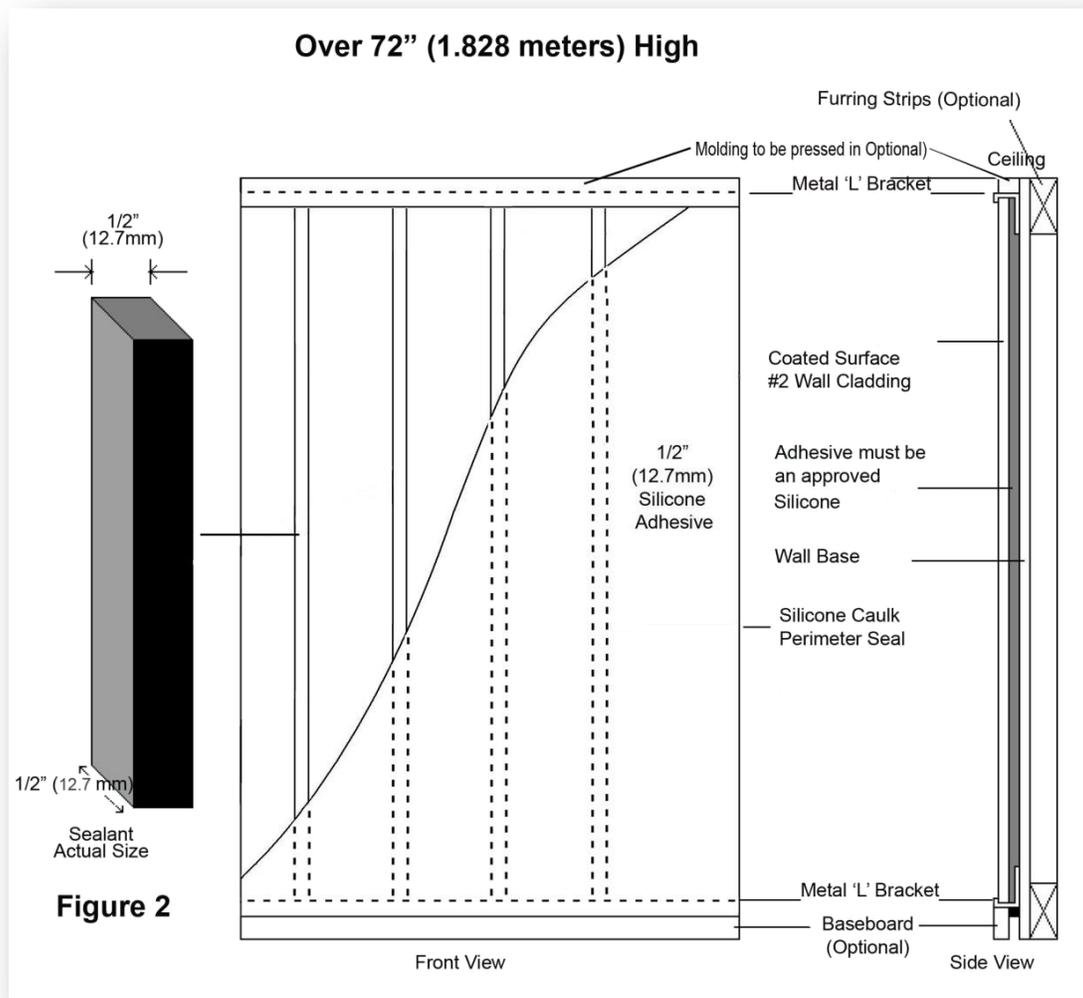


Wall Cladding Detail <72" in Height



- *Allow adequate cure time prior to application of the perimeter seal. Please note that the time required to properly allow a sealant to cure may be up to twenty-one days—seek the proper information from the manufacturer!*
- *Consult with the manufacturers to ensure all glazing components are compatible with each other!*
- *DO NOT exceed the recommended sealant amount—excess may inhibit cure and lead to staining!*

Wall Cladding Detail >72" in Height



- *Wall cladding panels require bracing until cured.*
- *Allow adequate cure time prior to application of the perimeter seal. Please note that the time required to properly allow a sealant to cure may be up to twenty-one days—seek the proper information from the manufacturer!*
- *Consult with the manufacturers to ensure all glazing components are compatible with each other!*
- *DO NOT exceed the recommended sealant amount—excess may inhibit cure and lead to staining!*
- *Vertical sealant only!*

Plan Review & Two-Sided Structural Glazing

It is possible to perform two-sided structural glazing (2SSG) *without* edge deletion of glass coated with OPACI-COAT-300®. Many sealant manufacturers have completed adhesion testing with their silicone structural adhesives. The tests performed indicate that the sealant has acceptable adhesion to be approved for structural applications in contact with our coating.

For example, sealant manufacturers may approve the specific sealants tested for use with our product on jobs where project-specific adhesion testing has been successfully completed.

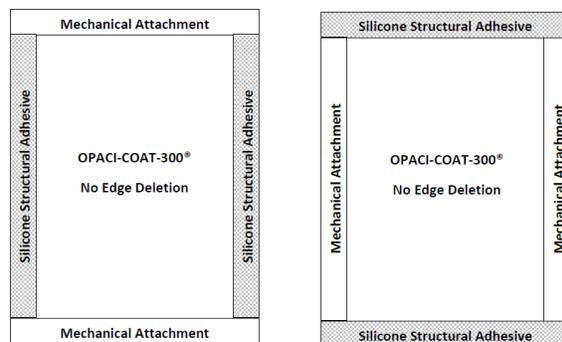
Successful testing of compatibility and adhesion must have been completed for our warranty to apply.

In accordance with our warranty, the coating must have also been applied by an Approved Factory Fabricator.

The glazing contractor is responsible for component submittal to the sealant manufacturer completing the approval testing.

For more information or access to submittal forms, please visit: <http://www.icdcoatings.com/contractor-portal/>

Two-Sided Structural – No Cutbacks



Most Common Installation Problems

Insulation glued directly to the back of the product or otherwise in direct contact with the coating. A minimum 1" air gap must be kept between the coated back side of the glass and the insulation. Anything less may interfere with the weep system (if used in a spandrel application), impede adequate ventilation or create water trap areas.

Staining or loss of sealant adhesion. This is a very common problem that is often caused by not seeking adequate approval from sealant manufacturers when mixing two different sealants (such as when one is used for the adhesive and the other for a perimeter seal), when using incompatible materials or when applying a sealant in a manner that may inhibit adequate cure. This problem is most commonly seen in wall cladding installations. Always seek approval for use from the sealant manufacturers—never assume. Always follow recommended procedures for quantity of sealant, application configuration, and adequate cure time.

Coating loss of adhesion, blotchy look or other staining prior to installation. It is very important to properly store all glass products in accordance with accepted practices. This information can be found on our Contractor Portal as well as through NGA. Improper storage may result in significant problems. A modern job site may have many contaminants and chemicals (including rainwater), which may damage glass products, as well as our coating.

Sealant/adhesive visible through the coating, over time. If you can see the ring of the adhesive and it measures greater than one inch in diameter, it is likely that too much sealant/adhesive has been applied and it is not fully cured. This may result in a staining.

Stained straight-line edge, usually on two sides where the mechanical fastening is. This is an incompatibility usually associated with using neoprene or other incompatible gaskets.

Pin holes, lines, streaks or blotches made visible due to light transmission. OPACI-COAT-300® products (spandrel or wall cladding) must be installed with opaque backup construction. It is not designed for installation in vision areas.

Conclusion: It is essential to handle and store glass products according to acceptable guidelines and to only use ICD approved materials, application methods and installation configurations with OPACI-COAT-300® products.

By observing ICD's recommended practices and by communicating with ICD and glazing component manufacturers prior to installations, every foreseeable problem may be avoided.

At ICD, we know that we share mutual goals of highest quality and superior customer satisfaction with our Approved Factory Fabricators and you, the glazing contractors. Thank you for doing your part in seeking the very best for our customers!

INDEX

#3 surface.....	10	hydrocarbon.....	7, 8
adhesives.....	6, 8	insulated glass unit spandrel	10
air gap	9, 10, 14	insulation.....	14
application and cure	6, 11, 12	IPA	7
approved materials list.....	7	loss of sealant adhesion	14
approved sealants.....	6, 7, 8	low-e	10
ASTM C1087.....	5	mirror mastics.....	8
cleaning	7	monolithic spandrel.....	9
compatibility	6, 7, 8	neoprene	7, 8
Component testing	5	perimeter sealants.....	6, 11, 12, 14
components	6, 8	plan review	13
Contractor Portal	8, 13	staining.....	14
double-faced tapes	8	thin-set mortars	8
edge deletion.....	13	two-sided structural glazing	13
NGA	5	wall cladding detail <72”	11
NGA <i>Glass Informational Bulletin</i>		wall cladding detail >72”	12
<i>FB28-11 (2017)</i>	5	weep system.....	9, 10, 14