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Handling Guide
OPACI-COAT-300®

Handling Guide

Also to be used as handlers' training and check-off list for certifying the individual person handling and using ICD OPACI-COAT-300®.

I have read this guide and its contents have been reviewed with me. I have also read any references cited herein and I have initialed each section indicating my understanding.

Company: _____

Signature: _____

Printed Name: _____

Date: _____

INDUSTRIAL CONTROL DEVELOPMENT, INC.

Signature: _____

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Table of Contents

Inspiring creativity with sound solutions

Approved Factory Fabricator (AFF) Program Outline

GENERAL

The purpose of selecting, establishing, and identifying certain fabricators as an AFF is so that anyone buying glass products which have been opacified with **OPACI-COAT-300®** or **OPACI-COAT-300®** R.C. can be assured of uniform quality standards with reference to the coating. This quality uniformity will insure to the benefit of each fabricator, to ICD, and will maintain the integrity of the name **OPACI-COAT-300®** or **OPACI-COAT-300®** R.C.

CRITERIA

To be an AFF it will be necessary for each person directing the use of **OPACI-COAT-300®** or **OPACI-COAT-300®** R.C. in the fabricator's facility to be trained and become certified as a trained applicator of **OPACI-COAT-300®** or **OPACI-COAT-300®** R.C. in all aspects of the use of the product. It will further require that the fabricator enter into an AFF agreement with ICD that will assure certain standards of operation both now and in the future.

TRAINING

An ICD field technical representative will spend approximately one full day in the fabricator's facility covering the following subject in detail:

Basic Product Data, Fabrication, Application, Technical Guidelines

Product characteristics - Temperatures, viscosity's, mixing and storage

Product tests, receiving, handling

Glass differences, preparation, cleanliness

Glass handling

Spray applications with demonstrations

Over-spray - problems and solutions

Curtain coater/roller coater application (one full additional day)

Air quality

Coating measurements

Curing

Adhesion and other testing

Shipping, handling and field problems

Insulation use with **OPACI-COAT-300®**

WARRANTIES

At the end of the training session each person present who will be working with **OPACI-COAT-300®** or **OPACI-COAT-300®** R.C. will be individually certified and his or her name made a part of the AFF agreement. A certificate to that individual will also be issued, and he will affirm that he understands the importance of following the procedures covered and established by ICD.

ON GOING INSPECTIONS

ICD will visit fabricator's operation yearly to make sure that the established procedures are being followed and for re-certification. These visits will be at the expense of the fabricator.

AGREEMENT

Fabricator and ICD will enter into an AFF agreement to insure that approved and proper methods will continue to be followed (the agreement further outlines various obligations as well as rights of each party).

CONCLUSION

We all become members of a team or family and will enjoy the respect and credibility of belonging to such a group. As a team, with enthusiasm and integrity, we can insure the success of our product.

BASIC PRODUCT

Basic Product Data & General Product Overview

GENERAL

OPACI-COAT-300® is a one component water base coating designed for use as a colored opacifier on glass for spandrel and interior applications. The product is totally lead free and environmentally safe. After application to the glass the applied coating cures to a tack-free elastomeric film which has excellent adhesion and weatherability ratings.

NOTE: We feel that it is important to review, periodically, technical and application techniques for your continued success with **OPACI-COAT-300®**.

APPLICATION - GENERAL

OPACI-COAT-300® is intended to be applied to glass that has been tempered or heat strengthened thus eliminating potential loss of material in the tempering process. Since **OPACI-COAT-300®** is applied after all fabrication it can be used on high performance glass and can be applied to annealed glass.

COMPATIBLE

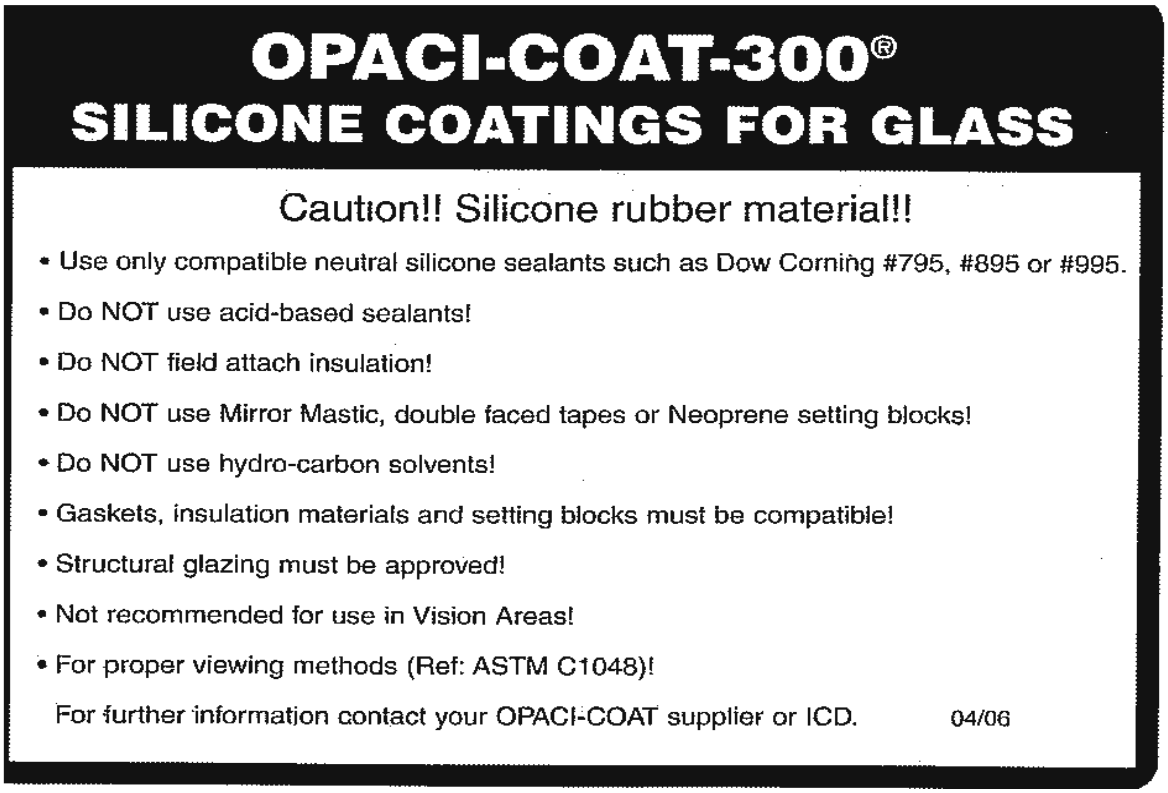
Certain products such as neoprene and some sealants and insulating materials may contain certain chemicals which react adversely when placed next to or on cured **OPACI-COAT-300®**. All products so used should be tested and approved by ICD for compatibility prior to intended use. ICD has previously approved certain products such as Dow Corning 795 and 995.

ICD performs compatibility tests on many sealants and adhesives, as a service to architects and AFF's. Each individual material is applied, cured and tested with ICD products. For example, ICD approves of Dow Corning 795 and we also approve Dow Corning 1199 for use with ICD silicones. These products are tested individually and not in conjunction with multiple sealants. It is important to consult each sealant manufacturer for compatibility information between sealants and other materials.

For information regarding these and other compatible products, contact ICD.

LABELING OF COATED GLASS

Each lite of glass leaving the fabricator's facility following the application of **OPACI-COAT-300®** must bear a warning label such as the following:



SPECIAL APPLICATION PRECAUTIONS

Color uniformity

Color variations may occur from different lot numbers.

Color variations may occur if the product is applied differently.

A roller coated project should be entirely roller coated.

The applications must not be mixed on the same project.

Drying: The product must be dried by like methods. DO NOT mix drying methods, i.e., oven versus ambient cure.

* This is especially true in the case of lighter colors!

Color

COLORS AVAILABLE

All standard architectural colors are available. For customer color matching virtually any color can be achieved.

#0-0020 Snow White	#3-747 Harmony Graylite #14
#0-0186 Light White	#3-820 Harmony Gray
#1-0016 Charcoal	#3-967 Black-Gray
#1-818 Black	#4-0925 Neutral
#2-0225 Evergreen	#4-822 Harmony Bronze
#2-743 Harmony Solex	#4-975 Lava Bronze
#3-0586 Medium Gray	#6-0025 Harmony Blue
#3-0770 Warm Gray	

Ordering – Samples - Color Matching

ORDERING

Different viscosity's are required for spray, curtain coater or roller coater applications. Please specify when ordering the method of application to be used. Remember to order adequate amounts so that batches will not be mixed on the same project – especially custom colors.

COLOR MATCHING

For proper matching of colors the larger the sample of the color to be matched the better the match will be by ICD. ICD must receive several samples of the glass on which the **OPACI-COAT-300®** will be used, or very exact specification of the glass that is going to be used.

SAMPLES

ICD will provide 100 mm x 200 mm (4" x 8") color matched samples for customer approval free of charge. Telephone ICD for information on larger or additional sample requirements.

BATCH VARIATIONS

ICD maintains rigid color matching specifications with **OPACI-COAT-300®**. In any color matching program there is the possibility of slight batch to batch variations in color. ICD recommends utilizing the same color batch on one project.

GLASS COLOR VARIATIONS BETWEEN MFG'S

Glass color variations from different float glass producers are common. This variation of color is related to the different raw materials utilized in the manufacture of glass. The variations of color, specifically the greenish tint in clear float, can cause color differences. Variations in tinted float glass can cause significant color and shading differences. NEVER inter-mix glass types, colors, manufacturers on the same job.

FABRICATION

General Handling & Storage, Preparation, Application, Equipment, Shipping & Handling

General Handling

HANDLING CAUTION

The uncured, liquid emulsion can cause eye irritation. Skin and eye contact should be avoided. In case of eye contact, flush eyes with water for at least 15 minutes and obtain medical attention. For skin contact, flush affected areas with water as soon as practical.

RESPIRATORS

The spraying of **OPACI-COAT-300®** creates a certain amount of overspray. This is true even under ideal conditions and there is no way to avoid it entirely. Anyone who is in the area should wear an Organic Vapor Respirator. This type of respirator covers the nose and mouth and has replaceable cartridges.

SHELF LIFE

The shelf life of **OPACI-COAT-300®** is six (6) months from date of shipment. Any product older than this should not be used.

STORAGE

OPACI-COAT-300® is a water based material. THE PRODUCT MUST NOT FREEZE! Storage temperature should be between 32°F – 72°F (0°C – 22°C). Higher temperatures may be detrimental to product stability.

Be aware of outside temperatures when shipping the product over any distance or where it might remain outside for any period.

DARK & LIGHT COLOR HANDLING

Extreme care should be taken when using darker colors and then lighter colors.

The equipment should be thoroughly cleaned, especially when changing from a dark color to a light color.

The lighter colors require a consistent, even coating so that there is consistent shading throughout

The lighter colors may also need a thicker coating, depending on the opacity required.

Preparation and Application

BLENDING

Some layer separation may occur in **OPACI-COAT-300®**. Separation is not detrimental to the product, however, re-blending is required.

Prior to using **OPACI-COAT-300®**, it must be gently agitated. Blending and mixing seems to be a simple procedure, however, it is sometimes overlooked because of the difficulty in actually seeing the separation.

The silicone will, upon sitting, rise to the top of the solution. **OPACI-COAT-300®** must be blended before each use. Each time the product is used it must be blended. .

Recommended mixing equipment:

A dispersing or mixing blade must be used with a spinning motion for the best dispersion.

A mixing stick will not accomplish a fine dispersion. Poor mixing of the material can result in color variances and potential poor coating because of the lack of adequate applied silicone, and may lead to poor adhesion and future separation from the glass.

Blending should be done so as not to introduce air and cause any foaming or air entrapment.

Never dilute **OPACI-COAT-300®** with water or any other liquid. The only exception shall be if there is a pH adjustment required. Be sure to drain all water from equipment prior to charging.

FOAMING & AERATION

Foaming or aeration of **OPACI-COAT-300®** can occur with excessive agitation at or near the surface of a container. A moderate spinning dispersing blade near the bottom of the liquid in the container (1 inch above the bottom of the pail) produces the best results with the least likelihood of introducing air. Excessive air entrapment may be removed by long term slow agitation. Depending on the amount of air entrapped, mixing may exceed 8 hours.

Once foaming or air has been introduced into **OPACI-COAT-300®** R.C. version, removing the air may not be possible. When the material cures on the glass, “minor” pin holing will occur. The application of a second coat will be required to eliminate this “minor” pin holing.

GLASS PREPARATION OPACI-COAT-300®

Surface preparation is required for successful use of. A good grade of detergent must be used so that proper adhesion will be assured. All foreign contamination must be removed from the surface before application of **OPACI-COAT-300®**. Not doing so can lead to failure of adhesion.

Refer to “Recommended Techniques for Washing Glass” brochure

WASHING (GENERAL)

Many articles have been written about proper glass cleaning procedures and methods by the major glass manufacturers. Please, however, see and follow exactly PPG Industries “Recommended Techniques for Washing Glass”. **OPACI-COAT-300®**, as well as other opacifiers and sealants require peak quality control, with reference to surface cleanliness, to perform at their maximum capabilities.

AUTOMATIC WASHING

Mechanical glass washers are the best known productive means for washing glass and should always be used where any quantity of glass is being cleaned. Glass washers require the proper amount and kind of detergents, appropriate rinse water and temperatures to ensure glass cleanliness. In some cases the normal water supply must

be examined for proper purification. Water rinse temperatures and proper maintenance of the glass washing equipment must be followed as recommended.

MANUAL WASHING

Hand washing is extremely difficult. Rags, towels, and other materials will impart more contaminates and often just move contaminates around. When proper detergents are used, flushing with large amounts of water is required to remove the detergent and contaminates.

SPECIAL NOTE ON WASHING

In order to meet the requirements of being an AFF, an inline horizontal mechanical washer must be located just ahead of and/or in close proximity to the coating operation and used at all times just prior to the application of **OPACI-COAT300®**.

Always, inspect glass just prior to the application of **OPACI-COAT-300®**. Store and protect from airborne debris. Re-wash as required.

HANDLING OF CLEAN GLASS

Once the glass has been cleaned, extreme care should be exercised in the handling of it. Since the oil from finger or palm prints can affect adhesion, clean cotton gloves should be worn if the glass has to be manually handled prior to the product application.

OVERSPRAY

Any overspray should not be allowed to reach the reverse side of the glass being coated, or for that matter, any other glass. This can best be avoided by laying the glass to be sprayed on a flat paper-covered surface for spraying. Overspray can be removed within 1 hour by the use of a non-detergent industrial grade ammonia. Thereafter, it may be virtually impossible to remove. Please contact ICD office for further details.

DRYING

OPACI-COAT-300® will dry with evaporation of water.

Ambient drying will take place at room temperature 70°F (21°C), 50% relative humidity in approximately 2 to 8 hours (depending upon ambient conditions). Coated glass can be shipped in 12 hours.

Oven: Acceleration of this dry rate can be accomplished by passing the coated glass through a drying oven. Drying rates vary depending upon heat and humidity. When passing through a heating oven the glass surface temperature should be a maximum of 195°F (90°C). Air movement should be held to a minimum. Thicker films and uneven coatings will require longer drying times.

Maximum physical properties (cured) will be reached in approximately seven days. Upon evaporation of water the product can be handled and shipped.

ADHESION TESTING

It is highly advisable, and mandatory on all jobs over 500 square feet, to perform a peal adhesion test and enter the results in the job log. Several samples should be run alongside the job using the same glass, cleaning techniques, etc., as the actual lites and then after drying a careful test done. This test will highlight any quality deficiencies.

INSULATION APPLICATION

DO NOT glue insulation directly to **OPACI-COAT-300®**.

See Insulated Spandrel detail for proper shop application recommendations. Insert # 88.

INSULATED GLASS (IG) UNITS

Edge deletion is recommended.

Fabrication Equipment

SPRAY & CURTAIN COATING PROCEDURE

WET FILM THICKNESS; Coating thickness should be held to a wet thickness of 8 mils (.2 mm) to 13 mils (.33 mm) [Dry thickness 3.5 mils (.09 mm) to 5.75 mils (.145 mm)]. Less thickness affects the product's durability and coating much thicker may result in cracking, depending on dry times. Lighter colors require thicker coatings for total opacification.

SPRAY APPLICATION GUIDE

Review ICD Spray Application Guide

STARTING & ADJUSTING THE PUMP

Be sure that the air regulators and bleed-type master air valve are closed. **Do not install the spray tip yet!**

1. Place the suction tube in the 20 liter container of **OPACI-COAT-300®** which has been thoroughly mixed.

2. Open the fluid drain valve to prime the pump. Open the bleed-type master air valve. Hold the spray gun firmly to the inside of a pail and trigger the gun.

3. Slowly open the fluid air regulator until the pump starts. Run the pump slowly until **OPACI-COAT-300®** comes from the fluid drain valve. Close the fluid drain valve and continue to run the pump until all the water is pushed out of the fluid lines and **OPACI-COAT-300®** is observed coming from the spray gun. Release the trigger and engage the safety latch; the pump will stall against the pressure.

4. With the pump and lines primed, and with adequate air pressure and volume supplied, the pump will start and stop as the spray gun is triggered and released.

5. Install the spray tip and air cap.

6. Use the pump air regulator to control the pump speed and fluid pressure. Always use the lowest pressure necessary to achieve the desired results. Higher pressures will waste material.

7. Never allow the pump to run dry of **OPACI-COAT-300®**. A dry pump will quickly accelerate to a high speed, possible damaging itself. If your pump accelerates quickly, stop it immediately and check the material supply.

CLEANING & FLUSHING THE PUMP

Fluid under high pressure can be injected through the skin and cause serious injury. To reduce the risk of an injury, always relieve the pressure from the system whenever you are servicing the pump or spray gun.

1. Engage the spray gun safety latch.

2. Close the bleed-type master air valve.

3. Shut off the air regulators.

4. Remove and drain the suction tube from the **OPACI-COAT-300®** pail.

5. Place the suction tube in a pail of warm, clear water.

6. Remove the air cap and spray tip.

7. Disengage the spray gun safety latch.

8. Hold the spray gun firmly to the inside of a pail and trigger the spray gun to relieve the pressure.

9. Once the pressure is relieved point the spray gun at the side of the pail containing the **OPACI-COAT-300®**.

10. Engage the master air valve. Engage the fluid air regulator until material starts to flow from the spray gun.

11. Empty all the material from the fluid line. When water is observed coming from the spray gun release the trigger.

12. Hold the spray gun in an empty pail and trigger the gun. Once semi-clear water is observed coming from the gun release the trigger.

13. Close the fluid air regulator and release the pressure in the fluid line by triggering the spray gun into the pail.

14. Remove the fluid filter housing and clean the housing and screen.

15. Remove the fluid filter housing.

16. Open the fluid drain valve located under the fluid filter housing.

17. Place the suction tube into a pail containing fresh warm clear water.

18. Engage the master air valve.

19. Slowly engage the fluid air regulator.

20. Once clear water drains from the fluid drain valve, close the valve.

21. Trigger the spray gun until clean water is flowing from the fluid line.

22. Disengage the master fluid air regulator.

23. Trigger the spray gun to release fluid pressure.

If you suspect that the spray gun or hose is completely clogged, or that pressure has not been fully relieve after following the steps above, very slowly loosen the hose end coupling and relieve the pressure gradually.

ROLLER COATER COATING PROCEDURE

WET FILM THICKNESS; Coating thickness should be held to a wet thickness of 8 mils (.2mm) to 13 mils (.33 mm) [Dry thickness 3.5 mils (.09 mm) to 5.75 mils (.145 mm)]. Less thickness affects the product's durability and coating much thicker may result in cracking, depending on dry times. Lighter colors require thicker coatings for total opacification.

Roller Coater - The Process

EQUIPMENT MANUFACTURER

Always follow the roller coater manufacturer's set up specifications and recommendations.

INSPECT ROLLS

Carefully inspect rolls for debris and dust. Clean as required prior to beginning the process.

WARNING

WARNING; Before working on the coating and doctor rolls, make sure that the power to the machine is OFF and cannot be turned on accidentally.

PROCESS

After proper blending and mixing of **OPACI-COAT-300®** R.C., place tape along the stainless steel doctor roll. This helps identify fill levels as well as protecting the roll from cured material deposits. Start machine.

Pour a single line of the coating into the rolls pouring into the outer edge of the rolls first and then into the center. Material will naturally work to the center of the rolls.

Run a couple of glass samples through the coating line and check the coating for wet thickness, coating quality, pin holes, and debris, etc. before beginning the project fabrication.

WET MIL THICKNESS VERIFICATION

Adjust the rolls, as per roller coater manufacturers' specs or until the coating is checked and meets 8 to 13 wet mil thickness. As the coated glass passes through the rollers, check thickness by using a wet mil gauge as provided by ICD.

PERIODICAL INSPECTION

Always inspect coating in the rolls every one (1) hour.

Periodically mist coating in the rolls with water.

It is particularly important to inspect the coating in the rollers every 30 minutes while rolls are running with no glass being coated.

Depending on ambient air conditions material in the rolls can begin to cure, creating a skin or chunks may appear at the edge of the rolls.

If skin/chunks do begin to appear, mist with water and lightly scrape off any cured residue. Add fresh material as needed.

QUALITY & WET MIL THICKNESS

Always, inspect each piece of glass for coating quality and mil thickness using a wet mil gauge.

If "major" pinholes are present, allow to dry to the touch and then re-coat. If using an oven for cure, re-coat must be done immediately or when the coating is dry to the touch.

Please note: If coated glass is stored for more than one (1) to two (2) hours (depending on ambient air and humidity conditions) or is ambient air cured, the coating MUST be re-washed prior to re-coating.

Roller Coater – Clean Up

TIMELY CLEAN UP

The most important maintenance procedure for trouble free coating is "timely" clean up of the coating material. Spills, splashes, drips, etc., should be cleaned before the silicone coating dries.

AFTER THE LAST LITE OF GLASS

After the last lite of glass has been coated, lift the rollers (as per equipment manufacturers recommendation) or until the water in the clean up pan clears. The pan is located under the coating and doctor rolls.

Fill two (2) pitchers with warm to hot water. Make sure that only one has soap in it.

WARNING

WARNING: Before working on the coating and doctor rolls, make sure that the power to the machine is OFF and cannot be turned on accidentally.

CAUTION

Do not use towels to clean the rubber coating roll. Carefully scrub the rubber coating roll with a rag or soft brush that will not damage the surface of the roll.

SOFT SCRAPER OR SCOTHBRITE®

Do not use a metal blade to clean the steel doctor roll. Use a soft plastic scraper and/or Scothbrite® pads may be helpful.

CLEANING

When the clean up pan is in place, open the rolls so there is about one (1) to two (2) inch space between the two rollers. Remove the tape from the doctor roll, adjust and reverse rollers, (as per equipment manufacturers' recommendation), pour hot water with soap into the rolls and rinse with clean warm water to hot water. Once the excess coating if off, remove the end dam plates and soak in water. Use paper towels, soft brush or lint free rags to remove remaining residue.

ISOPROPYL ALCOHOL

Continue to add warm to hot soapy water and rinse. Repeat the process until the liquid residue has been removed from the coating roll and doctor roll. Use IPA for final wash on the doctor roll.

WARNING

Never reach in to touch the rotating rolls. Do not attempt to clean the rolls while they are powered, even with a tool.

CAUTION

Always separate the rolls before leaving the machine. Never leave any roll in contact with another roll for more than ten (10) minutes unless they are turning. Rolls left in contact will develop a permanent flat spot on the rubber roll at the point of contact.

Shipping and Handling

SHIPPING & HANDLING

Handling should be with great care and held to a minimum until drying is complete (air drying must be at least 12 hours).

Due to uncontrollable ambient conditions air drying must be at least 12 hours.

For shipping, the lites should be so packed that there will be no opportunity for abrasion of the **OPACI-COAT-300®** by any rough or sharp objects.

Best packaging is 1/8" poly foam interleaved.

Surfaces may also be packaged face to face without movement possibilities.

Paper interleaving should be approved by ICD.

No acidic material should be used for packing.

No materials with hydrocarbon base solvents.

Crates should be lined with polyethylene.

Contact ICD.

TECHNICAL GUIDELINES

Technical Bulletin #1 Insulation Compatibility

OPACI-COAT-300®

Date: March 24, 1989

Revision Date: August 30, 1999

Supersedes Date: October 16, 1994

Bulletin Number: 0001R

Subject: Insulation Compatibility

Specifically: Firestone Ridged Insulation

a.k.a. Therma Gard or T.S.I.

ICD continuously test products that might come in contact with or be installed in close proximity to *OPACI-COAT-300*®.

Polyisocyanurate insulation appears to present a potential problem when mounted behind *OPACI-COAT-300*® coated glass. The insulation is manufactured by Firestone Ridged Insulation (previously known as Thermax (Salt Lake City and Denver)) and carries the trade name of Therma Gard or T.S.I. This urethane insulation appears to give off potentially harmful gas vapors which can effect *OPACI-COAT-300*® and perhaps other glass substrates. Therefore, the above insulation is not approved for use with *OPACI-COAT-300*®. Please be aware of this possible problem and pass on this information to your customers.

Technical Bulletin #2 Importance of Color Matching on Proper Glass

OPACI-COAT-300®

Date: March 24, 1989

Revision Date: October 21, 1994

Bulletin Number: 0002

Subject:61 IMPORTANCE OF COLOR MATCHING ON PROPER GLASS

We recently had an incident where 1/4" (6mm) clear float was the medium on which a color match was made. The user then coated 7/32" laminated glass with the color that was developed on clear float.

The color was very badly "off". The laminated was many shades greener than the sample.

Please, always in seeking exact color matches (particularly with light colors) specify exactly or send a sample of the glass on which OPACI-COAT-300® will be used.

Remember also that glass will vary between manufacturers, and even between float plants it will sometimes not be exactly the same.

Technical Bulletin #3 Matching OPACI-COAT-300® to Glazing Adhesives

OPACI-COAT-300®

Date: March 23, 1998

Revision Date: October 21, 1994

Bulletin Number: 0003

Subject:: MATCHING OPACI-COAT-300® TO GLAZING ADHESIVES

When silicone coated spandrels are structurally glazed there is often the need for the silicone coating to match the glazing adhesive so that the cutback edge of the spandrel (that part of the glass which has not been coated) will not be a different color when viewed from the outside.

When the spandrel is not a reflective or tinted glass there is a greater likelihood that it will appear to have a "frame" around it if the OPACI-COAT-300® and the glazing adhesive do not match.

Although ICD has coating colors that have been formulated to match certain adhesives it has no control over the color consistencies of these products which are manufactured by others.

The recommended procedure would be for ICD to be supplied with a sample of the adhesive that is to be used so that the coating can be matched to it exactly. A sample of the glass or a complete description of it would also be required.

It is always advisable in such cases to build a mock up of the unit with all components that are going to be used so that everyone is assured that everything in its final stage will be as intended.

Please call ICD if you have any questions regarding this type of installation.

Technical Bulletin #4 Mismatches From Differing Application Methods

OPACI-COAT-300®

Date: March 23, 1990

Revision Date: October 21, 1994

Bulletin Number: 0004

Subject: MISMATCHES FROM DIFFERING APPLICATION METHODS

In the case of light colors, mismatching may occur if a part of the job is curtain coated and a part spray coated. It is always best to try to run the whole job by one method or the other (if possible). If some spraying must be done, see that conditions, thicknesses, cures, etc., are as common as possible.

Differing cures may also, with light colors, have detectable differences in the coating.

As with all things regarding color: Consistency in all aspects of the job is preferable!

Technical Bulletin #5 Compatible Adhesives – Specifically Labeling

OPACI-COAT-300®

Date:	September 10, 1990
Revision Date:	April 21, 2006
Bulletin Number:	0005
Subject:	COMPATIBLE ADHESIVES SPECIFICALLY: LABELING

Recently a contractor installed some OPACI-COAT-300® coated wall cladding glass with a mirror mastic (solvent based) adhesive with the expected deleterious results. There is a good chance that the contractor was not fully informed about compatibility and that the lites going to the job did not have the required labels. Please make sure this doesn't happen to one of your jobs. Give your glazier copies of the installation information from your Technical Manual, and be sure each lite is labeled. We still are happy to provide labels at our cost. Sample below:

Technical Bulletin #6 Uniformity & Adequacy

OPACI-COAT-300®

Date: October 3, 1991

Revision Date: October 16, 1994

Bulletin Number: 0006

Subject:: UNIFORMITY AND ADEQUACY OF COATING THICKNESS

A couple of our customers have experienced some real and some perceived problems with jobs where the coating was applied in a less than uniform manner giving spandrels thin spots. Often this error causes no problem because of the opaque back up of the spandrel glass.

ICD's minimum required thickness for OPACI-COAT-300®, spray, curtain coater or roller coater viscosity is 8 mils (.2mm) wet and 13 mils (.33 mm) when fallout protection is required. The products warranty is, of course, based upon meeting these called out minimum.

We are aware that employees get tired, that lighting is often poor, and that supervision is not always the closest. We therefore recommend that a light table be incorporated into the production stream. This item is inexpensive and could possibly save thousands when an unacceptable product is detected the moment it begins to appear. The use of wet gages is also imperative

The problem is, of course, more likely to occur in spray application; therefore, it might be well to re-train your people in proper spray techniques which involve cross spraying and careful attention on the part of the sprayer.

A light table will immediately call attention to any problems.

Technical Bulletin #7 Primary Application

OPACI-COAT-300®

Date: May 19, 1992

Revision Date: October 21, 1994

Bulletin Number: 0007

Subject:: PRIMARY APPLICATION

- OPACI-COAT-300® is a colored water-borne silicone coating that cures as an elastomeric film.
- The coating is applied to the second surface of clear, tinted, reflective and high performance glass surfaces.
- The colors are designed to match, contrast or harmonize with vision glasses.
- The primary application of OPACI-COAT-300® is in non-vision areas.
- It is suitable for spandrel lites as well as interior decorative glazing.
- OPACI-COAT-300® requires a dark background for total opacity.
- OPACI-COAT-300® is NOT recommended for vision areas where diffused light may be a concern.

Technical Bulletin #8 Dow Corning® 1199 Clear Silicone for Wall Cladding below 72”

OPACI-COAT-300®

Date: August 2, 2006

Revision Date: April 30, 1997

Bulletin Number: 0008

Subject:: DOW CORNING® 1199 CLEAR SILICONE FOR WALL CLADDING BELOW 72”

ICD has evaluated Dow Corning® 1199 clear silicone. We find the silicone to be compatible with and adheres well to OPACI-COAT-300®.

This material is approved for wall cladding applications below 72” in height. All other instructions remain the same.

Technical Bulletin #9 Vacuum Lifting Cups

OPACI-COAT-300®

Date: August 30, 1999

Revision Date: N/A

Bulletin Number: 0009

Subject: Vacuum Lifting Cups

ICD continuously test products that might come in contact with or be installed in close proximity to *OPACI-COAT-300*®.

DO NOT USE VACUUM LIFTING CUPS ON COATING!

The use of vacuum lifting cups in direct contact with OPACI-COAT-300® can cause staining in the silicone coating. This is due to the rubber used in the cups. The staining is especially obvious in the mid to light range of colors.

Technical Bulletin #10 OPACI-COAT-300® & Low-E in an IG Unit

OPACI-COAT-300®

Date: May 24, 1999

Revision Date: September 25, 2001

Bulletin Number: 0010

Subject:: OPACI-COAT-300® and low-e in an IG unit

This update is in regards to the use of OPACI-COAT-300® in specific insulated glass applications.

It has been found that when using OPACI-COAT-300® on the #3 surface with Low-E on the #2 surface of the IG unit that a haze or discoloration may occur.

OPACI-COAT-300® has been used on #3 and #4 surfaces of IG units for over a decade with excellent results on all substrates. This appears to be an application specific problem when using Low-E glass. The use of Low-E glass in the spandrel area is unusual, however, occasionally a designer will choose.

Technical Bulletin #11 OPACI-COAT-300® Structural Glazing

OPACI-COAT-300®

Date: May 29, 1999

Revision Date: September 29, 2001

Bulletin Number: 0011

Subject:: OPACI-COAT-300®

Structural Glazing

It is now possible to perform two-sided structural glazing without edge deletion of glass coated with OPACI-COAT-300®.

Dow Corning has completed adhesion testing with Dow Corning® 995 Silicone Structural Adhesive. The tests performed indicate that the sealant has acceptable adhesion to be approved for structural application in contact with OPACI-COAT-300®.

Dow Corning will approve the use of Dow Corning® 995 Silicone Structural Adhesive for adhesion to glass coated with ICD's OPACI-COAT-300® on jobs where project specific adhesion testing has been successfully completed. As on other substrates (metal or glass) Dow Corning only warrants adhesion of the sealant onto the spandrel coating.

ICD warrants OPACI-COAT-300® adhesion to glass when OPACI-COAT-300® has been applied by certified Approved Factory Fabricators.

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

The accompanying information is for your review. Generally, the glazing contractor would be responsible for component submittal to Dow Corning.

Please contact ICD with any questions that you may have.

Please refer to Technical Bulletin #0012

Structural Glazing

- The possibility now exists for two sided structural glazing with OPACI-COAT-300®. Dow Corning® 995 Building Sealant has been determined to be compatible and possesses superior adhesion to OPACI-COAT-300®.

Structural Approval Process

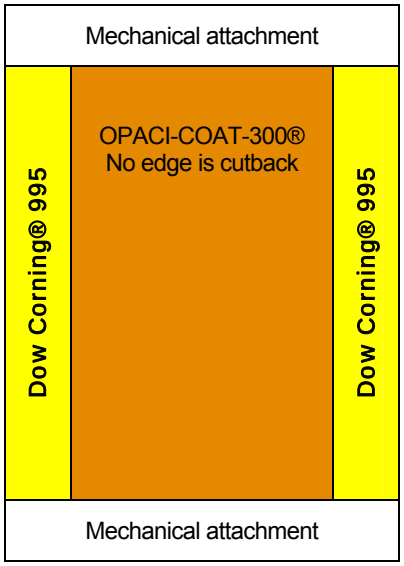
The system must be an approved structural system. All sub-components must be submitted through the local Dow Corning testing facility. For warranties Dow Corning testing must be performed. For any questions regarding this information, please contact ICD. Normal compatibility testing will still be directed to ICD.

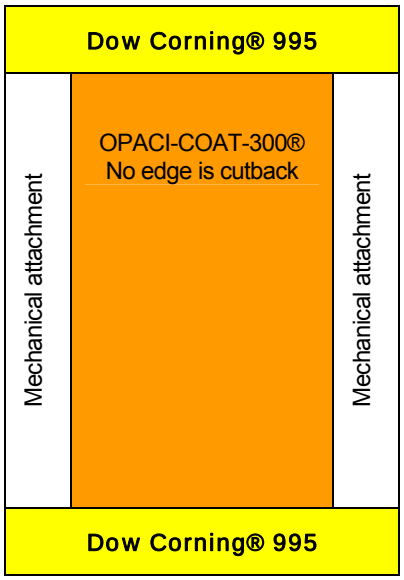
Structural Definition

- When two sides of glass have mechanical captivation, OPACI-COAT-300® will not require cutbacks.

Structural Glazing Methods

Two Sided Structural – No Cutbacks





ICD Construction Project Submittal

Date Sent: _____
Project Name: _____
Project Location: _____
_____
Job Number: _____

Prints sent: □ Yes □ No

Job Size: _____
Project is: □ Exterior □ Interior
OPACI-COAT-300® Color Number: _____
OPACI-COAT-300® Color Name: _____

Respond to *(name and address)*:

_____
_____
_____
_____

Attention: _____
Phone: _____
Fax: _____

Spandrel Glass	Glass Manufacturer: _____ Thickness: _____ Glass Type: _____
Structural Glazing 2 Sides	□ Yes □ No
Insulation	Manufacturer: _____ Type: _____ Distance to be held back: _____
Sealant	Manufacturer: _____ Type: _____
Gaskets	_____
Setting Blocks	_____
Capture Method	_____
Other Products	Please list other products in glazing system, i.e. fire stop, etc. _____ _____ _____
OPACI-COAT-300®	Recommended coating thickness: _____ Note: Some colors will require a thicker coating.
Special Requests	_____

Please be as explicit as possible when identifying samples. For backup materials such as gaskets, spacers and tapes, identify chemical compound (silicone, epdm, neoprene, etc.), shape and supplier.

ICD USE ONLY

Date received: _____ Test start date: _____
Project Log No.: _____ Response date: _____

Technical Bulletin #12 Proper Cure of Silicone

OPACI-COAT-300®

Date: September 25, 2001

Revision Date: NA

Bulletin Number: 0012

Subject:: Proper cure of silicones

ICD performs compatibility tests on many sealants and adhesives, as a service to architects and AFF's. Each individual material is applied, cured and tested with ICD products. For example, we approve of Dow Corning 795 and we also approve Dow Corning 1199 for use with ICD silicones. These products are tested individually and not in conjunction with multiple sealants. The resulting test combinations would be endless. It is then important to consult each sealant manufacturer for compatibility information between sealants and other materials.

A good rule of thumb, if one sealant is used to attach wall cladding in the recommended ICD methods, some time should pass for cure of the attaching sealant prior to the addition of a perimeter sealant. Not all silicones, spandrels or sealants, have the same chemistry. There are instances where using two incompatible silicones will result in a reaction that can harm the spandrel silicone and or the sealants. Above all, consult each material manufacturer prior to starting any job.

It is important for installation contractors to consult with adhesive/sealant suppliers for proper use.

Technical Bulletin #13 Jobsite Protection of Coated Glass

OPACI-COAT-300®

Date: November 18, 2003

Revision Date: NA

Bulletin Number: 0013

Subject: Jobsite Protection of Coated Glass

Once architectural glass products have arrived on the job site, proper storage methods can help to insure protection from damage caused by prolonged exposure to moisture, construction site dust and debris, caustic chemicals, and exposure to other construction chemicals and activities. Improper storage and handling can lead to damage of any architectural glass product including spandrel glass products. As well, failure to follow these instructions may void an ICD AFF Warranty on the project.

New Release: The Glass Association of North America (GANA) recently issued a Glass Information Bulletin (TD-03-1003), of which is attached to this Technical Bulletin.

"GANA TD-03-1003: *Construction Site Protection of Architectural Glass; Steps must be taken to Avoid Permanent Damage to Glass."*

ICD's Handling Guide refers to proper fabrication, shipping and handling, as well as proper installation procedures. The handling guide is a part of all start-up and certification training required and provided by ICD.

Please consult ICD for specific job site storage recommendations specific to **OPACI-COAT300®** coated spandrel glass.

Remedy:

Open Storage: Over wrap with water-proof material.

Cased Goods: Line case with APPROVED barrier material.

2945 SW Wanamaker Drive, Suite A Topeka, KS 66614-5321
(785) 271-0208 Fax: (785) 271-0166
www.glasswebsite.com

Glass Informational Bulletin GANA TD 03-1003

Construction Site Protection of Architectural Glass

Steps Must Be Taken to Avoid Permanent Damage to Glass

Architectural glass products used in windows, doors and skylights for today's residential and commercial building projects are more sophisticated than those used in earlier fenestration applications. Performance requirements call for glass to be coated and insulating in order to be more energy efficient; and often heat-treated and laminated to provide greater strength, safety, and security. As a result of increased performance capabilities, more glass is being used in both residential and commercial construction. The higher valued products have increased the importance of proper site storage, handling, installation and protection throughout the construction process.

During glass manufacturing, fabrication and installation, products are carefully handled to prevent surface and edge damage. Materials are packaged to provide protection during shipment and delivery. Once finished materials are placed on a construction site, they become exposed to a variety of conditions and influences that can adversely affect product aesthetics and functionality. Irreparable glass damage can occur from improper storage and handling, exposure to chemicals and leaching agents, prolonged exposure to moisture, mechanical attack and breakage, damage related to adjacent construction activities and improper cleaning methods.

Site Delivery and Storage

Windows, doors and skylights for residential construction typically arrive on construction sites preglazed, while commercial construction applications often require that individual lites of glass be delivered to the site and glazed at a later date. In both types of construction, it is vital that materials be properly stored. The complex nature of construction projects and site management require well-planned and executed material delivery and storage. The following is a list of recommended practices for site delivery and storage of fenestration materials:

- Glass and glazing system suppliers should be consulted for specific recommendations on the site storage, handling, installation, and protection of their materials before any work is started.

- To the extent practical, glass deliveries should be coordinated to minimize on-site storage durations.

- Subcontractors should work with the general contractor or builder to select on-site under roof storage locations that avoid direct rain and water runoff; work areas of other trades; areas of high traffic; and to minimize material movement and handling.
- Individual cases of glass and preglazed materials should be secured, blocked, and braced to prevent falls.

- Blocks or supports should ensure that the bottom edge of materials will be kept well above potential puddles of rainwater.

- Provide secure, temporary covering that prevents direct water flow but ensures ventilation and combats condensation buildup on the glass.

- Clearly mark protected areas of glass cases and preglazed materials using colored ribbons or tape.

- Ensure that stored materials are not subjected to corrosive agents, such as concrete and masonry runoff.

- Ensure that stored materials are not exposed to activities of other trades such as welding, painting, insulating, and fireproofing.

- Establish a program for daily inspection of stored glass and glazing systems to monitor conditions and ensure prompt corrective action when needed.

Trade Awareness
As fenestration materials are delivered to a residential or commercial construction site, it is recommended that all construction trades be made aware of the potential for permanent damage and their level of responsibility in the event materials are subjected to harmful conditions. Site supervision must ensure that, in the event of damage, prompt attention is called to the conditions and a trained professional properly cleans the fenestration materials.

Site Handling and Installation
Trade professionals should execute site material handling and installation of fenestration materials. Residential and light commercial windows, doors, and skylights should be installed in accordance with ASTM International document E 2112 – *Standard Practice for Installation of Exterior Windows, Doors and Skylights.* Glass for commercial glazing applications should be handled and installed in accordance with guidelines set forth in the Glass Association of North America (GANA) *Glazing Manual.*

Post Installation Inspection and Protection
After installation, special attention should be given to construction activities in order to prevent exposure of glass in windows, doors and skylights to welding, paint, plaster, sealants, fireproofing, and alkali and chemical attack. The subcontractor and general contractor or builder should inspect and document the condition of the glazed materials on a daily basis. At this stage of construction, the general contractor or builder is encouraged to remind other construction trades of the potential for damage to the glazed materials and to implement systems for protection. The following is a list of common conditions and causes that damage glass after installation:

Condition: Wet glass – resulting in permanent surface corrosion/staining

Cause: Outside, uncovered or extended storage; inadequate ventilation; improper glass separation

Condition: Glass surface or edge damage

Cause: Inadequate on-site protection; storage locations; exposure to other trades

Condition: Chemical attack and surface corrosion

Cause: Overspray and runoff of chemicals from sealing/cleaning of concrete, masonry, roofing, etc; inadequate protection and/or poor storage location

Condition: Weld-splatter surface damage and reduction in strength

Cause: Location of glass near welding; inadequate protection of stored or installed glass

Condition: Surface corrosion and stain from concrete and masonry runoff

Cause: Poor storage and/or protection of uninstalled glass; absence of prompt, interim cleaning of installed glass during construction

Construction Clean-Up
If glass is exposed to harmful materials or conditions during construction, the general contractor or builder and all trades should be immediately advised of the potential damage. The glazing contractor and glass fabricator/supplier should be consulted for damage assessment and corrective actions.

TD 03-1003
4
Deep surface scratches, contact by hot weld-splatter and edge damage threaten the structural integrity of glass and may require glass replacement. Surface contact with harmful materials will require prompt cleaning by a trained professional

window cleaner. Glass should be cleaned in strict accordance with the Glass Informational Bulletin - *Proper Procedures for Cleaning Architectural Glass Products.* General contractors, builders, owners, and window cleaners should also consult the Glass Informational Bulletin – *Heat-Treated Glass Surfaces are Different* for additional considerations when cleaning heat-strengthened and tempered glass products. Both documents are published by the Glass Association of North America and are available for free download from the GANA website: www.glasswebsite.com or by contacting the association headquarters at (785)-271-0208.

If harmful exposure results in conditions that cannot be cleaned using the industry guidelines, the glass fabricator/supplier should be consulted for recommendations on more aggressive glass polishing and chemical cleaning procedures. The use of a more aggressive procedure may itself damage the glass. Careful thought and discussion must precede the use of aggressive cleaning procedures. The general contractor or builder may need to schedule regular cleaning during the construction process. Extended construction schedules and site conditions often result in dirt and debris build-up. Professional cleaning at the initial signs of build-up can decrease the potential for glass damage.

Long-Term Building Maintenance & Performance

Following the completion of the construction project and throughout the life of the building, windows, doors, and skylights should be properly cleaned. Building facades may be exposed to sealant rundown, pollutants, dirt and debris, which can attack and damage glass surfaces over time. Building maintenance schedules should include frequent cleaning to ensure long-term glass aesthetics and performance. Building owners should ensure that individuals cleaning fenestration materials are well aware of the products in the building and are knowledgeable of cleaning procedures and practices recommended by the manufacturer and the glass industry. Proper protection of glass in windows, doors, and skylights throughout the construction process and the life of a building is essential. Planning and execution of the practices offered in this bulletin will enable the glass to meet the aesthetic and performance expectations, and the needs of the building occupants.

This bulletin was developed by the GANA Tempering Division - Construction Subcommittee and approved by the Tempering Division - Standards & Engineering Committee and GANA Board of Directors. This is the original version of the document as approved and published in October 2003.

Technical Bulletin #14 Color Matching Guide

OPACI-COAT-300®

Date: August 2, 2006

Revision Date: 7/21/06 4/21/06

Bulletin Number: 0014

Subject:: Color Matching Guide

When a sample order is placed, it is ICD's standard procedure to inquire as to whether the project is for an exterior application or an interior application.

ICD color matching personnel follow very strict restrictions on exterior application formulas. There are no exceptions. These same restrictions apply to those AFF fabricators who utilize the ICD Primary Color Program.

There is a group of primary colors that may never be used in an exterior application. There is a group of primary colors that may not exceed 20% White 9401 in an exterior application.

Exterior: The following group of primary colors may be utilized with ***any amount of 0-9401 White:***

0-9401 White	2-9423 Inorganic Green #5
5-9451 Red Oxide 214M	5-9452 Red Ro
6-9462 Inorganic Blue #214	7-9472 Inorganic Yellow Lt 7G
7-9471 Yellow Oxide 1075A	1-9412 Black
5-9551 Bright Red	6-9561 Phthalo Blue
2-9521 Phthalo Green	

Exterior: 7-9571 Bright Yellow and 9-9592 Quinacridone Violet may NEVER be used in any exterior application formula.

Interior: Every color in any combination with any amount of 0-9401 White may be utilized.

Technical Bulletin #15 Freeze Alert Inspection Procedure

OPACI-COAT-300®

Date: January 1, 2006

Revision Date: na

Bulletin Number: 15

Subject: Freeze Alert Inspection Procedure

Due to the freezable nature of our product, ICD takes all necessary precaution to protect your material from damage or freeze while enroute to your location.

Freeze Watch Indicators are attached to each order. These ***Freeze Watch Indicators*** should be used as an **indication** system only. This **does not** mean that the product is unusable. If you receive a container with a ruptured **freeze watch indicator** (the indicator has turned red in color) or has been damaged in any way, the following steps should be taken:

1. As part of your normal receiving procedure, ALL DRUMS AND PAILS SHOULD BE OPENED AND INSPECTED IMMEDIATELY.

   INSPECT MATERIAL PRIOR TO SIGNING DELIVERY RECEIPT.

   If the carrier is unable to wait for the inspection, note on the delivery receipt POSSIBLY FROZEN SUBJECT TO FURTHER INSPECTION.

   Write the number of drums or pails damaged (or frozen) on the delivery receipt.

2. Upon opening the drums and/or pails look for the following:

   Lumps in material; ice crystals on the sides of the drums; discoloration of product; or abnormally high viscosity.

   Typically, if the emulsion of the silicone is destroyed, mixing will be difficult.

3. If you suspect that the material is frozen, you may contact ICD and they will advise you how to handle the situation, or you may follow this procedure:

   a. Allow material to reach room temperature: approximately six (6) hours. Do NOT expose to direct hear.

   b. Inspect material for excess lumps – slow agitation.

   c. Blend material at slow agitation to smooth consistency,

   d. Apple to a small piece of glass and inspect for color and adhesion.

Freeze alert is our way of reminding fabricators and carriers that any emulsion is affected by freeze/thaw conditions and that preventative measures are required during the winter months to reduce the risk of material freezing.

70-15 TECH BULL #15 FREEZE ALERT INSPECTION PROCEDURE.DOC
INSERT 70-15 1/06

Technical Bulletin #16 Spray Application – Wet Mil Thickness & Importance of Back Lighting

OPACI-COAT-300®

Date: November 6, 2005

Revision Date: NA

Bulletin Number: 16

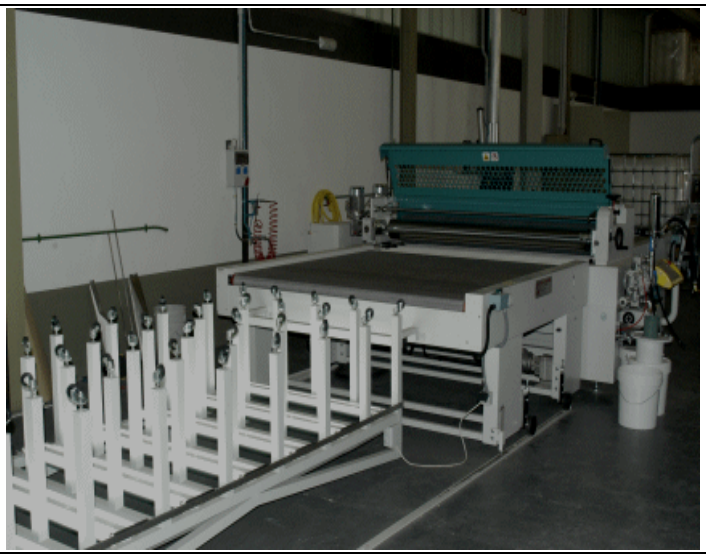
Subject: Spray Application - Wet Mil Thickness and Importance of Back Lighting

Lack of color uniformity may occur as stated in the "Special Application Precautions" section of our Handling Guide. These features can be seen as; pinholes, blotches, or light/dark areas. All of which can lead to a lack of consistent color.

One of the biggest reasons for inconsistent color uniformity is a lack of adequate thickness at the time of application. This will be most important when working with lighter or pastel colors.

ICD recommends a coating thickness of no less than 10 wet mils for all manual spray applications. Testing the applied thickness is done with a "wet mil gauge", its use is instructed during all certification/re-certification trainings. Failure to include thickness checks during Quality Control routines have shown to lead to more problems at the time of installation.

One solution, to ensure proper wet mil thicknesses and good thickness consistency, is the use of a florescent light source for back lighting. This will assist with proper inspection and ensure color uniformity and recommended wet mil thickness.



"This light source is at the end of a Roller Coater, the same could be used for a spray system.

Technical Bulletin #17 Importance of Proper Glass Washing

OPACI-COAT-300®

Date: November 6, 2005

Revision Date: NA

Bulletin Number: 17

Subject: Importance of Proper Glass Washing

Many articles have been written about proper glass cleaning procedures and methods by the major glass manufacturers. ICD recommends and endorses the following of PPG Industries method; "PPG Industries Recommended Techniques for Washing Glass". This method must be followed per the Approved Factory Fabricator Program (AFF).

- In-line horizontal or vertical mechanical glass washer installed ahead of or in proximity of the coating line is a requirement of the AFF Program.
- Surface preparation is required for successful use of **OPACI-COAT-300®**.
- A good grade of detergent must be used.
- All foreign contamination must be removed from the glass surface.
- Always inspect glass just prior to the application of **OPACI-COAT-300®** and protect from airborne dirt and debris, re-wash as needed.
- Water temperatures should range from 100˚ F to 140˚F to ensure solubility of detergents.
- Hand washing is not an approved method under the AFF Program.
- Once clean handle glass with care, even skin oils can lead to a lack of coating adhesion.

Technical Bulletin #18 Use of Edge Deletion Tape

OPACI-COAT-300®

Date: April 26, 2006

Revision Date: NA

Bulletin Number: 18

Subject:: Use of Edge Deletion Tape

This update is in regards to the use of **OPACI-COAT-300®** in insulated glass applications.

OPACI-COAT-300® has been used on #2 and #3 surfaces of insulated glass (IG) units for over a decade with excellent results. To ensure quality, edge deletion is required and proper edge deletion tape must be used during the fabrication of **OPACI-COAT-300®** in this application.

- Edge deletion tape must be heat resistant to withstand oven cure temperatures.
- Depending upon edge seal width requirements, a variety of widths are available.
- Please contact ICD for tape recommendations and ordering.

Application:

Just prior to the application of **OPACI-COAT-300®,** carefully apply edge deletion tape, by hand, to a clean and dry glass surface. Apply slight pressure to tape to ensure continuous attachment. Failure to do so may cause bleed through at the tape edge.

Remove tape immediately after exiting the oven or when drying in ambient air conditions. Allow coating to slightly skin over before removing tape. This will ensure a clean, straight edge at the unit edge seal / coating interface.

DO NOT allow **OPACI-COAT-300®** to fully cure prior to removing tape.

JH757 Edge Deletion Tape

Data Sheet

This conformable and abrasion resistant film tape is coated with a low tack adhesive. This minimizes adhesive residue. Typically used for masking applications, JH757 provides a sharp marking line by preventing liquids to “bleed” under the tape. JH757 is vulnerable to ketones, chlorinated hydrocarbons and esters.

Color Yellow

Adhesive System Rubber-based

Total Thickness .007”

Adhesion 20 oz./si

Tensile Strength 18 lb./inch

Elongation 200%

Operating Temperature -20 to 170°F max.

Values shown are typical and are not to be used for writing specifications. All data is subject to change without notice. Before using, user shall determine the suitability of the product for its intended use. User assumes all risk and liability in connection therewith.

Date: September 08, 2003

Revision Date: NA

Subject: OPACI-COAT-300®

Project Submittal Packet Form

The Project Submittal Packet has been designed to ensure quality product performance of **OPACI-COAT 300®**, and to qualify for a 10 Year Limited Warranty, please review the following requirements.

The accompanying Project Submittal Form is for your use. Complete this form and submit to ICD for evaluation “prior” to spandrel fabrication. Generally, the glazing contractor will have access to the spandrel specification and details.

It is important to consult with ICD as well as each manufacturer for compatibility information between their products and other materials.

“All” products being specified for use within the spandrel cavity, should be tested and approved by ICD for compatibility “prior” to intended use.

Certain products such as neoprene, some sealants, insulating materials and some interleafing for shipping, may contain certain chemicals which react adversely when placed next to or on cured **OPACI-COAT-300®**.

ICD performs compatibility tests on many sealants, adhesives, tapes, gaskets, setting blocks, insulation, package interleafing, as well as other building materials exposed to, and in contact with **OPACI-COAT 300®**. ICD provides this as a service to our AFF’s and architects. Each individual material is applied, cured and tested with ICD products. Please contact ICD for an Approved Materials List.

ICD warrants **OPACI-COAT-300®** adhesion to glass when **OPACI-COAT-300®** has been applied by certified an AFF.

Successful testing of compatibility and adhesion must have been completed for a 10 Year Limited Warranty to apply.

Please contact ICD with any additional questions that you may have.

ICD Construction Project Submittal Form

Date Sent:

Prints sent: □ Yes □ No

Project Name:

Project Location:

Job Size:

Project is: □ Exterior □ Interior

Job Number:

OPACI-COAT-300® Color Number:

OPACI-COAT-300® Color Name:

Respond to (name and address):

Attention:

Phone:

Fax:

Spandrel Glass	Glass Manufacturer: _____
	Thickness: _____
	Glass Type: _____
Structural Glazing 2 Sides	□ Yes □ No
Insulation	Manufacturer: _____
	Type: _____
	Distance to be held back: _____
Sealant	Manufacturer: _____
	Type: _____
Tapes/Gaskets	Mfg.: _____ Type: _____
Setting Blocks/Spacers	Mfg.: _____ Type: _____
Capture Method	_____

Firestop, Wall Vapor Barrier & Other materials	Please list other products in glazing system that will be exposed within the spandrel cavity, i.e. fire stop, vapor barrier materials, other adhesives, etc.….
	_____
	_____
OPACI-COAT-300®	Recommended coating thickness: _____
	Note: Some colors will require a thicker coating.
Is Fallout Protection required?	□ Yes □ No
Special Requests	

Please be as explicit as possible when identifying samples. For backup materials such as gaskets, spacers and tapes, identify chemical compound (silicone, epdm, neoprene, etc.), shape and supplier.

ICD USE ONLY Date received: _____ Test start date: _____

Project Log No.: _____ Response date: _____

Warranty

WARRANTIES All warranties for **OPACI-COAT-300®** are dependent and contingent upon strict adherence to the methods, etc., laid out herein, so IT IS ABSOLUTELY IMPERATIVE THAT THIS GUIDE BE FOLLOWED EXPLICITLY.

LIMITED WARRANTY

OPACI-COAT-300®

Industrial Control Development, Inc. (ICD), Vancouver, Washington, warrants only:

1. That **OPACI-COAT** will meet ICD's sales and technical specifications which are in effect on the date these goods are manufactured, reserving the right, without prior notice, to change any such sales or technical specifications and other descriptive material, as the goods are altered or improved;

2. That **OPACI-COAT** will not flake, peel, chip, blister or develop any noticeable color change for a period of ten (10) years from the date of manufacture, when used, installed and applied in accordance with the following terms and conditions:

   a. That the goods have been applied by an AFF in a facility covered in an AFF Agreement, and under the direct supervision and direction of personnel trained and certified by ICD and with the prerequisite knowledge in accordance with the application instructions and specifications in effect from ICD on the date of application, and

   b. That the finished product has not been damaged from mishandling, misuse, abuse or purposeful neglect either before, during or after application or installation of the goods.

3. That ICD will convey good title to the goods, and;

4. That the goods will be delivered free from any lawful security interest, lien or encumbrance unknown to the original purchaser.

The above warranties are made in lieu of all other written or unwritten, express or implied warranties, and this sale is made on the express understanding that there is no implied warranty of merchantability and that there is no implied warranty of fitness for a particular purpose of the goods sold. Original purchaser acknowledges that it is not relying on ICD's skill or judgment to select or furnish goods suitable for any particular purpose and that no other representations were made to it or relied upon by it with respect to the quality and function of the goods.

The above warranties are extended only to the original purchaser of this product, which as used in this warranty, shall be deemed to mean the person to whom the goods were originally sold by ICD. In those areas or countries where ICD products are sold through a reseller/distributor, original purchaser shall be deemed to be that person originally purchasing the product from the reseller/distributor rather than from ICD. Original sale shall be that sale from reseller/distributor to user/purchaser.

ICD shall not be liable for any incidental or consequential damages. Original purchaser's exclusive remedy, and ICD's sole liability for any claim or cause of action arising under this agreement, or from the goods supplied, is expressly limited to either:

a. Replacement or refund of the purchase price of all goods shown to be other than as warranted, at ICD's option, or;

b. Payment not to exceed 300 percent (300%) of the purchase price not including freight actually paid for the specific goods for which damages are claimed.

Except for the warranty in Part 2, above, any refund or replacement is conditioned upon original purchaser giving ICD notice within fifteen (15) days from the date of shipment by ICD that the goods are other than as warranted. Failure by original purchaser to give this notice within the fifteen day period constitutes a waiver by the original purchaser of all claims under this agreement as with respect to the goods. If requested by ICD, all unconsumed goods alleged by original purchaser to be other than as warranted, shall be returned to ICD, transportation charges prepaid.