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Certification information and guidelines are included in the twice per year printing of the Certified Products Directory, or are available from IGCC® upon request. Re-printing of this information in any other manual, material or document without the written permission of IGCC® is in conflict with the desire of IGCC® and should not be interpreted as being endorsed by or affiliated with IGCC®.

## **IGCC®/IGMA® Program**

The IGCC®/IGMA® Certification Program is the product of the effort to harmonize the legacy IGCC® and IGMA® certification programs. After several years of reviewing the two former certification processes, best practices were identified and on February 3rd, 2009 an agreement was signed where IGCC® shall license the use of the IGMA® certification mark in the administration of a single combined program known as IGCC®/IGMA®. The single program will operate under one set of requirements and guidelines and allow former participants in either IGCC® or IGMA® certification to label with IGCC®/IGMA® thus enjoying the greater recognition of both marks. IGCC® shall administer and govern the IGCC®/IGMA® program on behalf of IGMA® and IGCC® in accordance with the program requirements as set forth in the IGCC®/IGMA® Certified Products Directory and Procedural Guide.

The IGCC® Board of Governors is responsible, pursuant to the IGCC® Corporate Bylaws, for all corporate decisions concerning certification of products under the IGCC®/IGMA® Certification Program. The IGCC® Board will at all times be composed of individuals representing the public interest and individuals representing the insulating glass industry in equal proportion.

IGMA® may make recommendations to the IGCC® Board regarding the IGCC®/IGMA® Certification Program and may appeal any decision of the IGCC® regarding certification or the IGCC®/IGMA® Certification Program.

## **IGCC® PROGRAM CONCEPT**

Manufacturers of sealed insulating glass units, consumers, specifiers and others who are responsible for or concerned with the quality and performance of products purchased in the public interest, recognizing a need for a sound product testing and performance certification program, have jointly established the Insulating Glass Certification Council (IGCC®). Founded in 1977, all IGCC® meetings are open to the public and public participation is encouraged.

IGCC® is a non-profit organization which sponsors and directs a program of periodic accelerated laboratory testing and plant audits to ensure continuing product performance through specified standards. The testing specifications used are outlined in "ASTM Specification E2190 for Sealed Insulating Glass." It is the policy of IGCC® to remain flexible in referencing specifications and test methods in order to best reflect changing technology and new developments.

IGCC®'s responsibilities through its administrator are to see that periodic audits and independent laboratory tests are performed on participating manufacturers' products and to validate the right of that manufacturer to use the IGCC® label on his product or products information claims. Additionally, IGCC® requires licensees to have a working quality assurance program for the fabrication of insulating glass. Adherence is verified during twice per year plant visits. These requirements were adopted to improve the overall quality of IG units in the program, and also to satisfy requirements established by the Department of Housing and Urban Development, HUD.

Management and control of the program is vested in a Board of Governors made up equally of industry and public interest members. The public interest representatives are empowered with 50 percent of the voting power to ensure against undue industry influence of IGCC® action.

The program is under the supervision of a qualified administrator who is not affiliated with any manufacturer of insulating glass, material supplier, or participating testing laboratory, and is hired by and responsible to the Insulating Glass Certification Council. The manufacturers of the products listed herein have certified that the labeled materials comply with the performance characteristics established by ASTM E2190. The compliance of the manufacturers with the requirements of that specification is validated periodically by the IGCC® administrator through audits and testing by an independent testing laboratory under his direction.

Every manufacturer of insulating glass is eligible and encouraged to apply for the right to use the IGCC® label. However, permission to use the label is not granted until an independent laboratory test verifies compliance with the requirements. Once all requirements have been met, each product is assigned an IGCC® number to identify the product, performance class, and the factory in which it is made. Throughout the year, IGCC® requires the manufacturer to certify that the labels are being used only on units that are produced in the same manner and with the same materials as the tested specimens. Based upon these declarations, IGCC® authorizes continued use of the IGCC® label and the product listing published in this directory.

The Insulating Glass Certification Council wishes to recognize the substantial contributions made by the Safety Glazing Certification Council, the Sealed Insulating Glass Manufacturers Association (SIGMA) (now known as IGMA), American Society for Testing and Materials (ASTM), National Institute of Standards & Technology (NIST), FHA, HUD, Public Interest Persons, the Industry, and particularly consumers. Without input from such a broad cross-section, this program would not be possible.

## **IGMA®**

The Insulating Glass Manufacturers Alliance is a North American association of insulating glass manufacturers, suppliers of component materials and other industry related professionals dedicated to upgrading product / service performance by promoting awareness of technological developments in the industry. IGMA® provides the leadership required to assure the continued growth of the Insulating Glass Industry.

IGMA® was formed as the result of the merger of IGMAC (Insulating Glass Manufacturers Association of Canada) and SIGMA (Sealed Insulating Glass Manufacturers Association) in October 2000 to establish and advance insulating glass technologies and quality processes in order to create a standard of excellence that provides value to the insulating glass industry. As part of it's mission, IGMA developed a voluntary certification program for insulating glass units.

The IGMA® Certification Program recognized the need for regular and impartial product testing, maintenance of quality control in the manufacturing process and identification of products that conform to these criteria. Manufacturers of insulating glass units were invited and encouraged to participate in the IGMA® Certification Program.

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Brian Burnet, Secretary

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Joe Erb, Chairman

Membership and voting privileges on the IGCC® Certification Committee shall be extended to (a) each IGCC® Public Interest Governor (b) each IGCC® Business Community Governor (c) each IGCC® or IGMA® participant supplier (d) Public Interest representatives appointed by IGMA® and IGCC® Boards, and (e) each IGCC®/IGMA® participant Licensee who designates a representative to serve on the Certification Committee (listed below).

<u>Licensee</u>	<u>Primary Member</u>	<u>First Alternate</u>	<u>Second Alternat</u>
AAG-AI Abbar Architectural Glass	Ezhilenth Narayanan	Jean Lelievre	
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Ajiya Safety Glass Sdn Bhd	Sim Chee Liang	Tam Woan Ting	Eyo Geak Loo
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Allan Window Technologies	Erin McMullen		
Allweather Windows	Thuy Vu	Tabrez Kassam	Robert Giles
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Architectural Window Mfg. Corp.	Greg Shaffer		
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Berkowitz J. E., LP	Jim Stinsman		
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Changshu Hard Glass Co., Ltd.	Juck Li		
Changshu Oh Yang Glass Specialties Co., Ltd.	Ms. Tang Li		
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Cristacurva	Richard Roemke		
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Dongguan Dongfa Glass Product Co., Ltd	Hamilton Huan	Wuxia Zhang	
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Eckelt Glas GmbH	Christian Eckelt		
EFCO Corporation	Mark Crane		
Emirates Glass L.L.C.	Jerry Dowling		
FAKRO GP Sp. Z.0.0.	Rafal Rynduch		
Fenplast, Inc.	Charles-André Bannon	Michel Leclerc	
Flat Glass Distributors, Inc.	Doug Lewis		
Foshan Super Glass Industrial Company Limited	Zili Wang		
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<u>Licensee</u>	<u>Primary Member</u>	<u>First Alternate</u>	<u>Second Alternat</u>
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Sierra Pacific Windows	Rick Audsley		
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Silver Line Building Products	Jon Berrian	Kate Graham	Dominick Benevenga
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Southwall Insulating Glass, LLC.	Michael Dunn		
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February 2015

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**IN RECOGNITION OF PAST PRESIDENTS WHO SERVED IGCC® SINCE ITS INCEPTION**

Roger D. O'Shaughnessy	Cardinal IG	1977-1979
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Robert G. Spindler	PPG	1982-1983
Jerry Catalano	Hordis Brothers	1983-1985
Dr. Joseph Minor	University of Missouri	1985-1989
Mitchell D. Edwards	SPI Glass Corp.	1989-1992
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Lyle N. Krohnberg	Viracon, Inc.	2002-2004
Mike Grossman	Vitro America, Inc.	2004-2007
Ray Wakefield	Trulite Industries	2007-2011
James Krahn	Marvin Windows	2011-2012

**MEETINGS OF THE  
CERTIFICATION COMMITTEE**

The Certification Committee of the Insulating Glass Certification Council meets once every nine months. Interested persons may obtain minutes of earlier meetings by visiting the web-page at [www.igcc.org](http://www.igcc.org) or by contacting the Insulating Glass Certification Council.

By-laws and a copy of the annual tax return is available by contacting the Insulating Glass Certification Council which is a 501 (C)(3) Not-for-Profit corporation.

Certification in this directory is up to date as of the date of issue; however, products may be authorized to use the permanent label or authorization removed from time to time. Please contact the IGCC® office for the latest up-to-date information.

Direct all requests or any comments to:

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# CERTIFIED PRODUCT KEY

## Sealant:

HM	=	Hot Melt Butyl
MPS	=	Modified Polysulfide
RHM	=	Reactive Hot Melt
PIB	=	Polyisobutylene
PS	=	Polysulfide
PUR	=	Polyurethane
S1	=	One-Component Silicone
S2	=	Two-Component Silicone

## Construction Components:

K	=	Corner Key
J	=	Joiner
AP	=	Aperture Plug
IC	=	Internal Components
CT	=	Capillary Tubes
SP	=	Seal Penetration

## Construction Materials:

AA	=	Anodized Aluminum
MA	=	Mill Finish Aluminum
AL	=	Aluminum
GS	=	Galvanized Steel
SS	=	Stainless Steel
TS	=	Tinplate Steel
SM	=	Mill Finished Steel
CS	=	Chrome Coated Steel
SO	=	Steel Other (Painted, etc.)
ZS	=	Nickel/Zinc Plated Steel
DC	=	Die Cast
PL	=	Plastic
PVC	=	Polyvinyl Chloride

## Desiccant:

LF	=	Loose Fill Desiccant
IB	=	Imbedded Desiccant System
MX	=	Desiccated Matrix

## Thermal Break:

DP	=	Desiccated Plastic
PF	=	Plastic Foam
P	=	Plastic

## Integrated Spacer Systems – Generic:

BCS	=	Butyl Composite Spacer
BFS	=	Butyl Flexible Spacer
BPS	=	Butyl Polycarbonate Spacer
BSS	=	Butyl Sealant Spacer
FS	=	Foam Spacer
PCS	=	Polycarbonate Spacer
PHSS	=	Plastic Hybrid Stainless Steel
PPS	=	Polymer Plastic Spacer
PSS	=	Polymer Spacer System
TBAA	=	Thermally Broken Anodized Aluminum
TBCA	=	Thermally Broken Coated Aluminum
TBCS	=	Thermally Broken Chrome Steel
TBGS	=	Thermally Broken Galvanized Steel
TBTS	=	Thermally Broken Tin Steel
TP	=	Thermoplastic Spacer

## Substrate:

U	=	Uncoated
C3	=	Sputter Coated, Non-Edge Deleted (Soft)
C2	=	Sputter Coated, Edge Deleted (Soft)
C1	=	Pyrolytic Coated (Hard)
SCF	=	Suspended Coated Film

## Fabrication Techniques:

S	=	Soldered
W	=	Welded
B	=	Brazed
BC	=	Bent Corners (1, 2, 3, or 4)
MC	=	Mechanical Connector (1, 2, 3, or 4)

## Vapor Barrier:

AF	=	Aluminum Foil
B	=	Butyl
P	=	Plastic
MT	=	Mylar Tape

## Gas Content: Ref. Page 63

Gas	=	Yes = GCIA measured value for initial content, 90% or greater; after weathering, 80% or greater.
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Note: The materials of construction as listed above are presented as general information only. The designations for the various component parts are generic and do not reflect specific product modifications or technical differences within a component. For more detailed information on components, contact your insulating glass supplier.

UNDER EACH COMPANY'S NAME IS THEIR IGCC®/IGMA® PERMANENT LABEL

**IGCC®/IGMA® CERTIFIED PRODUCTS**

<u>LICENSEE</u>	<u>CERTIFICATION NUMBER</u>	<u>FRAME CONSTRUCTION</u>	<u>SUBSTRATE</u>	<u>SPACER</u>	<u>DESICCANT</u>	<u>SEALANT</u>	<u>INTERNAL COMPONENTS</u>	<u>GCIA</u>
AGC Flat Glass North America 480 California Road Quakertown, PA 18951 215-538-9424 AGC 63 IGCC®/IGMA® E2190 2015	2586 2832 4117	BC3/MC1/SS/AP/IC BC3/MC1/MT/IC BC3/MC1/IC	U/C2/U U/C3/U U/C2	TS FS/FS SS	MX IB/IB MX	HM HM HM	IC IC IC	 Yes  
Ajiya Safety Glass Sdn Bhd Lot 575, 1 KM Lebuhraya Segamat-Kuantan Segamat, Johor 85000 Malaysia 607-9313133 Ajiya® IGCC®/IGMA® ASTM E2190 2015	2871	MC4/PLK	U/C2	MA	LF	PIB/S2		
Al Abbar Architectural Glass Sanaa St., PO Box 1626 Ras Alkhor, Industrial Estate Dubai, United Arab Emirates 104-333-1362	2977	BC4/ALJ	U/C1	MA	LF	PIB/S2		
Aldora Aluminum and Glass Products Inc. 7421 E. Spartan Blvd. Charleston, SC 29418-8462 843-552-6377 CGD IGCC®/IGMA® 2015	2853	BC3/MC1/MT/IC	U/C2	FS	IB	HM	IC	
Allan Window Technologies 131 Caldari Road Concord, ON L4K 3Z9 Canada 905-738-8600	3507	BC3/MC1/MT	U/C2	FS	IB	PIB/S2		Yes
Allweather Windows 18550, 118A Avenue North West Edmonton, AB T5S 2K7 Canada 780-451-0670 AWW IGCC® E2190 2015	2539	BC3/MC1/MT	U/C2/U	FS/FS	IB/IB	RHM		Yes
Allweather Windows 3100 Caravalle Drive Mississauga, ON L4V 1K9 Canada 905-696-0005 AWW Mississauga IGCC®/IGMA® 2015	3324	BC3/MC1/MT/IC	U/C2/U	FS/FS	IB/IB	HM	IC	Yes

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Alumco Plot 568-693 Dubai Investment Park Emirates Road PO Box No. 49668 Dubai, United Arab Emirates 9714-885-43-55 Alumco IGCC®/IGMA® 2015	2851	MC4/ALK	U/C1	AA	LF	PIB/S2		Yes
Aluminum Technology Auxiliary Industries PO Box 40625 St #31 Salwa Industrial Area Doha, Qatar (9744) 460-2334 Aluminum Technologies IGCC®/IGMA® 2015	3267	BC4/GSJ	U/C2	MA	LF	PIB/S2		
Alyusuf Thermo Glass W.L.L. Bldg B 921 Blk 917 Rd 126 Tubli PO Box 5211 Tubli Manama, Kingdom of Bahrain (9731) 787-9000 Alyusuf IGCC®/IGMA® E2190 2015	3046	MC4/GSK	U/C3	MA	LF	PIB/S2		
American Insulated Glass Inc. 3965 East Conley Road PO Box 750 Conley, GA 30288 404-361-9154 American Insulated Glass IGCC®/IGMA® 2015	2962	BC3/MC1/MT/IC	U/C2	FS	IB	HM/PIB	IC	
Architectural Glass of North America 200 Mountain Road Collingwood, ON L9Y 4V5 Canada 705-444-6654 AGNORA IGCC®/IGMA® E2190 2015	3329	BC4/MC1	U/C1/U	SS/SS	LF/LF	PIB/S2		Yes
Architectural Glass Products, LLC. 6200 Maple Avenue St. Louis, MO 63130 314-725-8088 Architectural Glass Products, LLC IGCC®/IGMA® 2015	2664 2666 3575	MC2/BC2/PLK MC4/PLK BC2/MC2/PLK	U/C2 U/C2 U/C2	AA PHSS AA	LF LF LF	PIB/PUR PIB/PUR PIB/S2		
Architectural Window Mfg. Corp. 359 Veterans Blvd. Rutherford, NJ 07070 201-939-2200 AWM IGCC®/IGMA® 2015	1579 2748	BC4/GSJ/IC BC4/GSJ/IC	U/C1 U/C1	AA MA	LF LF	PIB/S1 PIB/S1	IC IC	Yes

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Associated Materials, Inc. - Central	2839	BC3/MC1/ZS/IC	U/C3	TS	MX	HM	IC	Yes
3773 State Road	2840	BC3/MC1/MT/IC	U/C3	FS	IB	HM	IC	Yes
Cuyahoga Falls, OH 44223	3017	BC3/MC1/ZS/IC	U/C3/U	TS/TS	MX/MX	HM	IC	
330-922-2069	3018	BC3/MC1/MT/IC	U/C3/U	FS/FS	IB/IB	HM	IC	Yes
AWCC IGCC®/IGMA® 2015	3332	BC3/MC1/ZS/IC	U/C3	SS	MX	HM	IC	Yes
	3503	BC3/MC1/ZS/IC	U/C3/U	SS/SS	MX/MX	HM	IC	Yes
Associated Materials, Inc. - Midwest	1133	BC3/MC1/ZS/IC	U/C3	TS	MX	HM	IC	Yes
3820 44th Ave. SW	3171	BC3/MC1/MT/IC	U/C3/U	FS/FS	IB/IB	HM	IC	Yes
Cedar Rapids, IA 52401	3481	BC3/MC1/ZS/IC	U/C3/U	TS/TS	MX/MX	HM	IC	Yes
330-922-2069	3519	BC3/MC1/MT/IC	U/C3/U	FS/FS	IB/IB	HM	IC	Yes
AWCMW IGCC®/IGMA® 2015	3717	BC3/MC1/ZS/IC	U/C2/U	SS/SS	MX/MX	HM	IC	Yes
Associated Materials, Inc. - Northwest	2587	BC3/MC1/MT/CT/IC	U/C3	FS	IB	HM	IC	Yes
19720 Bothell- Everett Highway	2588	BC3/MC1/ZS/IC	U/C3	TS	MX	RHM/HM	IC	Yes
Bothell, WA 98012	3034	BC3/MC1/MT/CT/IC	U/C3/U	FS/FS	IB/IB	HM	IC	Yes
(425) 481-7101	3250	BC3/MC1/ZS/IC	U/C3/U	TS/TS	MX/MX	RHM/HM	IC	Yes
AWCNW IGCC®/IGMA® 2015	4091	BC3/MC1/ZS/IC	U/C3/U	SS/SS	MX/MX	RHM/HM	IC	Yes
Associated Materials, Inc. - Southeast	2068	BC3/MC1/MT/IC	U/C3	FS	IB	HM	IC	Yes
3800 Farmgate Road	3103	BC3/MC1/MT/IC	U/C3/U	FS/FS	IB/IB	HM	IC	Yes
Kinston, NC 28501	3199	BC3/MC1/ZS/IC	U/C3/U	TS/TS	MX/MX	HM	IC	Yes
252-527-5050	3702	BC3/MC1/ZS/IC	U/C3/U	SS/SS	MX/MX	HM	IC	Yes
AWCSE IGCC®/IGMA® 2015								
Associated Materials, Inc. - Southwest	2070	BC3/MC1/ZS/IC	U/C3	TS	MX	HM	IC	Yes
7550 E. 30th St.	2551	BC3/MC1/MT/CT/IC	U/C3/U	FS/FS	IB/IB	HM	IC	Yes
Yuma, AZ 85365	3218	BC3/MC1/ZS/IC	U/C3/U	TS/TS	MX/MX	HM	IC	Yes
928-344-6500	3219	BC3/MC1/MT/CT/IC	U/C3/U	FS/FS	IB/IB	HM	IC	Yes
AWCSW IGCC®/IGMA® 2015	4108	BC3/MC1/ZS/IC		SS/SS	MX/MX	HM	IC	Yes
Barracuda Manufacturing	2076	BC3/MC1/MT/IC	U/C2/U	FS/FS	IB/IB	HM	IC	Yes
48230 West Rd.	3570	MC4/PLK/IC	U/C2	MA	LF	PIB/PS	IC	Yes
Wixom, MI 48393	3851	BC3/MC1/MT/IC	U/C2	FS/FS	IB	RHM	IC	Yes
248-624-5050								
Barracuda IGCC®/IGMA® 2015								
Beautiful Window Enterprise Co., Ltd.	3316	MC4/PLK/IC	U/U	AA	LF	PIB/PS	IC	
No. 2525, BaoAn Road								
JiaDing, 201811 China								
86-138-1650-1596								
Shanghai Kinghua IGCC®/IGMA® 2015								
Berkowitz, J.E.	3458	BC3/PLJ	U/C2	SS	LF	PIB/S2		
One Gateway Boulevard	3745	MC4/PLK	U/C2	TBAA	LF	PIB/S2		Yes
PO Box 427								
Pedricktown, NJ 08067								
856-456-7800								
JEB IGCC®/IGMA® 2015								

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Blue Star Glass Inc. 2300 US Highway 1 Building 31 North Brunswick, NJ 08902 732-422-1272 Blue Star IGCC® E2190 2015	3809	BC4/GSJ	U/C1	MA	LF	PIB/S2		
Brin Northwestern Glass Co. 2300 N. 2nd Street Minneapolis, MN 55411 612-529-9671 BV IGCC®/IGMA® 2015	1580	BC4/GSJ/IC	U/C1	MA	LF	PIB/PUR	IC	Yes
California Glass Bending 320 East Harry Bridges Blvd. Wilmington, CA 90744 310-549-5255 CGB IGCC®/IGMA® 2015	3589	MC4/PLK	U/C2	SS	LF	PIB/S1		
Cardinal CT 140 Carey Drive Utica, OH 43080 (740) 892-2324 Catalina Tempering IGCC®/IGMA® 2015	3631	BC3/MC1/MT	U/C2	FS	IB	HM		Yes
Cardinal IG 4611 15th Ave N.W. Fargo, ND 58102 701-492-0920 CIG-6 IGCC®/IGMA® 2015	1464	BC4/PLJ/CT/MT/IC	U/C2	SS	LF	PIB/S1	IC	Yes
	1492	BC4/ALJ/CT/AF/IC	U/C2	AA	LF	PIB/S1	IC	Yes
	3456	BC4/PLJ/CT/MT/IC	U/C2/U	SS/SS	LF/LF	PIB/S1	IC	Yes
	3457	BC4/ALJ/AF/CT/IC	U/C2/U	AA/AA	LF/IF	PIB/S1	IC	Yes
Cardinal IG 301 E. McSwain Drive PO Box 99 Fremont, IN 46737 260-495-4105 CIG-5 IGCC®/IGMA® 2015	1452	BC4/GLJ/CT/IC	U/C2	AA	LF	PIB/S1	IC	Yes
	1453	BC4/PLJ/CT/IC	U/C2	SS	LF	PIB/S1	IC	Yes
	3446	BC4/GSJ/IC	U/C2/U	AA/AA	LF/LF	PIB/S1	IC	Yes
	3447	BC4/PLJ/CT/IC	U/C2/U	SS/SS	LF/LF	PIB/S1	IC	Yes
Cardinal IG 716 North East 6th Street PO Box 99 Greenfield, IA 50894 641-343-7113 CIG-2 IGCC®/IGMA® 2015	1030	BC4/PLJ/IC	U/C2/U	SS/SS	LF/LF	PIB/S1	IC	Yes
	3539	BC4/PLJ/IC	U/C2	SS	LF	PIB/S1	IC	Yes
Cardinal IG 3125 Neal Creek Mill Road Hood River, OR 97031 541-354-1280 CIG-9 IGCC®/IGMA® 2015	1923	BC4/ALJ/IC	U/C2	AA	LF	PIB/S1	IC	Yes
	1924	BC4/PLJ/IC	U/C2	SS	LF	PIB/S1	IC	Yes
	2553	BC4/ALJ/IC	U/C2/U	AA/AA	LF/LF	PIB/S1	IC	Yes
	2554	BC4/PLJ/IC	U/C2/U	SS/SS	LF/LF	PIB/S1	IC	Yes



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Cardinal IG	2221	BC4/ALJ/MT/IC	U/C2/U	AA/AA	LF/LF	PIB/S1	IC	Yes
50 Elmwood Road	2222	BC4/PLJ/MT/IC	U/C2	SS	LF	PIB/S1	IC	Yes
Crestwood Industrial Park Mountain Top, PA 18707 570-474-3100 CIG-11 IGCC®/IGMA® 2015								
Cardinal IG	1036	BC4/PLJ/CT/IC	U/C2	SS	LF	PIB/S1	IC	Yes
1011 E. Madison St.	1306	BC4/ALJ/CT/IC	U/C2	AA	LF	PIB/S1	IC	Yes
Spring Green, WI 53588	3168	BC4/ALJ/CT/IC	U/C2/U	AA/AA	LF/LF	PIB/S1	IC	Yes
(608) 588-3846	3169	BC4/PLJ/CT/IC	U/C2/U	SS/SS	LF/LF	PIB/S1	IC	Yes
CIG-3 IGCC®/IGMA® 2015								
Cardinal IG	1039	BC4/PLJ/CT/IC	U/C2/U	SS/SS	LF/LF	PIB/S1	IC	Yes
1620 Town Line Road	1295	BC4/ALJ/CT/IC	U/C2	AA	LF	PIB/S1	IC	Yes
Tomah, WI 54660 608-372-3300 CIG-4 IGCC®/IGMA® 2015								
Cardinal IG	1970	BC4/PLJ/CT/IC	U/C2	SS	LF	PIB/S1	IC	Yes
2132 Cardinal Park Drive	1971	BC4/ALJ/CT/IC	U/C2	AA	LF	PIB/S1	IC	Yes
Vinton, VA 21179	3768	BC4/PLJ/MT/IC	U/C2/U	SS/SS	LF/LF	PIB/S1	IC	Yes
540-892-5600 CIG-10 IGCC®/IGMA® 2015								
Cardinal IG	1574	BC4/ALJ/IC	U/C2	AA	LF	PIB/S1	IC	
201 Cardinal Road	1718	BC4/PLJ/IC	U/C2	SS	LF	PIB/S1	IC	Yes
Waxahachie, TX 75165	2838	BC4/PLJ/IC	U/C2/U	SS/SS	LF/LF	PIB/PIB	IC	Yes
972-937-4969 CIG-8 IGCC®/IGMA® 2015								
Cardinal LG	3661	BC4/PLJ/IC	U/C2	SS	LF	PIB/S1	IC	Yes
1300 SW 44th Avenue	3662	BC4/ALJ/IC	U/C2	AA	LF	PIB/S1	IC	Yes
Ocala, FL 34474 (352) 291-6810 CIG-14 IGCC®/IGMA® 2015								
Cascade LBL Windows	3193	BC3/MC1/SS/IC	U/C3	TS	MX	HM	IC	Yes
10255 SW Spokane Court	3824	BC3/MC1/MT/IC	U/C2	FS	IB	HM	IC	Yes
Tualatin, OR 97062-8823 503-692-6167 LBL Windows IGCC®/IGMA® 2015								
Cascade Windows Inc.	3826	BC3/MC1/IC	U/C2	FS	IB	HM	IC	Yes
5323 Harold Gatty Drive	3827	BC3/MC1/ZS/IC	U/C2	TS	MX	HM	IC	Yes
Salt Lake City, UT 84116 801-428-7791 Cascade SLC IGCC®/IGMA® 2015								

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Cascade Windows Inc. 10507 E. Montgomery Drive Spokane, WA 99206 509-789-3049 Cascade SPO IGCC®/IGMA® 2015	3495 3792	BC3/MC1/CT/IC BC3/MC1/IC	U/C3/U U/C3	TS/TS FS	MX/MX IB	HM HM	IC IC	Yes Yes
Century Glasscenter Inc. 917 Tetuan Street Manila, 1003 Phillipines (632) 984-7541 Century Glass IGCC®/IGMA® 2015	3296	BC4/PLJ	U/C1	TBAA	LF	PIB/S1		
Changshu Hard Glass Co., Ltd. Zhaohang Haiyu Town Changshu, Jiangsu China 86-512-52590663 HG IGCC/IGMA 2015	2593 3140 3958	MC4/PLK/IC BC3/MC1/MT/IC BC3/MC1/SJ/IC	U/C3 U/C3 U/C3	AA/AA FS/FS BCS/BCS	LF IB/IB IB/IB	PIB/PUR PUR BCS/PUR	IC IC IC	Yes Yes Yes
Changshu Oh Yang Glass Specialties Co., Ltd Zhoashi Town Changshu, Jiangsu 215518 China (865125) 238-1045 Changshu Day-Yeng Glass IGCC®/IGMA® 2015	2874 2875 2876	BC3/MC1/IC BC3/MC1/IC MC4/PLK/IC	U/U U/U U/U	BSS FS AA	IB IB LF	BSS/HM HM PIB/HM	IC IC IC	
Changshu Sedy Glass Specialties Co., Ltd Shengfa Village, Meili Town Changshu, Jiangsu 215511 China 0512-52215318	3804	BC3/MC1/IC	U/C2	BCS/BCS	IB/IB	BCS/BCS	IC	
Changshu Weier Glass Products Co. Ltd. Haiyu Town Changshu, Jiangsu 215519 China 86-512-52569644 Changshu Weier IGCC®/IGMA® 2015	3073	MC4/PLK/IC	U/C3	AA	LF	PIB/PUR	IC	Yes
Changshu ZhongXin Building Materials Co., Ltd. Meili Town Changshu, Jiangsu 215500 China Changshu ZhongXin IGCC®/IGMA® 2015	3435	MC4/PLK/IC	U/U	AA	LF	PIB/PS	IC	
Ching Chyau Co., Ltd. No. 560, Feng-lin Second Road, Da-liao District Kaohsiung City, Taiwan 831 R.O.C 886-7-7878959 Ching Chyau IGCC®/IGMA® 2015	2891	MC4/PLK	U/C1	AA	MS	PIB/S2		

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Cmech Ltd. 388 FengGuang Road ZhongXin Town ZhenCheng City, Guangdong 511365 China 86-020-61737991 Cmech IGCC®/IGMA® 2015	3260	MC4/PLK/IC	U/U	AA	LF	PIB/PS	IC	
Columbia Commercial Bldg Prod. 1200 East Washington Street Rockwall, TX 75087 972-771-7100 Columbia Commercial IGCC®/IGMA® 2015	3581 3582 3583	BC4/GSJ BC4/GSJ BC3/MC1/MT	U/C2 U/C2 U/C2	AA SS FS	LF LF IB	PIB/S2 PIB/S2 PIB/S2		Yes
Consolidated Glass & Mirror Corporation 110 Jack Gynnn Drive Galax, VA 24333 276-236-5196 GRD024 IGCC®/IGMA® 2015	3214 3215 3499	BC3/MC1/MT/IC BC3/MC1/IC BC3/MC/IC	U/C2/U U/C2 U/C2	FS/FS BCS BPS	IB/IB IB IB	HMB BCS BPS	IC IC IC	Yes Yes Yes
Coral Industries Glass Division 3010 Rice Mine Road PO Box 40228 Tuscaloosa, AL 35404 205-345-1013 Coral IGCC®/IGMA® 2015	2428 2549	BC3/MC1/MT BC3/MC1/MT	U/C2 U/C2	FS FS	IB IB	HM FS/S1		
Cristacurva 4822 Southerland Houston, TX 77092 713-353-5800 CFP IGCC®/IGMA® 2015	1868	BC4/GSJ	U/C2/U	MA/MA	LF	PIB/S2		
Curved Glass Distributors 72 Chapel St. Derby, CT 06418 203-735-4665 CGD IGCC® E2190 2015	3454	MC4/PLK/IC	U/C3	AA	LF	PIB/PS	IC	
Custom Glass Prod. Of Carolina PO Box 2049 1475 Harrison Rd. Salisbury, NC 28144 704-633-4946 CGPC IGCC®/IGMA® 2015	3105 3876	MC4/PLK MC4/PLK	U/C2 U/C2	AA AA	LF LF	IB/PS PIB/PUR		

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Custom Glass Products Inc. 7515 Venture Circle Weston, WI 54476 715-359-2252 CGP IGCC®/IGMA® 2015	2979	MC4/PLK	U/C2	MA	LF	PIB/S2		
Dallas Flat Glass 1304 Champion Circle Carrollton, TX 75006-6803 972-506-9580 DFGD IGCC®/IGMA® 2015	3038 3625	MC4/PLK/IC MC4/PLK/IC	U/C3 U/C3	AA AA	LF LF	PIB/PS PIB/S2	IC IC	
Dongguan CSG Architectural Glass Co., Ltd. CSG Green Energy Industrial Park Machong Town Dongguan, Guangdong China 86-769-88280936 CSG IGCC®/IGMA® 1476 2015	1476 2660	BC4/GSJ BC4/GSJ	U/U U/U	AA AA	LF LF	PIB/PS PIB/S2		
Dongguan Dongfa Glass Product Co., Ltd XiaLingBei Industrial District, Liaobu Town Dongguan, Guangdong 523411 China (8607698) 890-3338 Dongguan Dongfa IGCC®/IGMA® 2015	3716	MC4/PLK	U/C2	AA	LF	PIB/S2		
Dynamic Windows & Doors Inc. 30440 Progressive Way Abbotsford, BC V2T 6W3 Canada 604-864-8200 Dynamic Windows IGCC®/IGMA® 2015	2680 3713	MC4/PLK/MT/IC BC3/MC1/MT/IC	U/C2 U/C2	AA FS	LF IB	PIB/RHM PIB/RHM	IC IC	Yes
Eastman Chemical Company 4404 West Ann Lurie Place Chicago, IL 60632 586-212-6978 EMN IG IGCC®/IGMA® 2015	2803 3175 3379 3380 3381 3382	BC4/GSJ/CT/IC BC4/GSJ/IC BC4/GSJ/IC BC4/GSJ/IC BC4/GSJ/IC BC4/GSJ/IC	U/C2/U U/2SCF/C2 U/SCF/C U/SCF/SCF/C2 U/SCF/C2 U/2SCF/C2	ZS/ZS ZS/ZS/ZS SS/SS SS/SS/SS SS/SS SS/SS/SS	LF/LF LF/LF/LF LF/LF LF/LF/LF LF/LF LF/LF/LF	PIB/PUR PIB/PUR PIB/PUR PIB/PUR PIB/S2 PIB/S2	IC IC IC IC IC IC	Yes Yes Yes Yes Yes Yes
Eckelt Glas GmbH ResthofstraBe 18 Postfach 10 Steyr, A4403 Austria 43 7252 894 0 Eckelt IGCC®/IGMA® 2015	2228 2229 2230	BC4/SSJ BC4/SSJ BC4/SSJ	U/C1/U U/C1/U U/C1/U	MA/MA SS/SS SS/SS	LF/LF LF/LF LF/LF	PIB/PS PIB/PS PIB/S2		Yes Yes Yes

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EFCO Corporation 1000 County Road Monett, MO 65708-9214 417-235-6011 EFCO IGCC®/IGMA® 2015	2244 3459 3461 3767	BC3/MC1/AP BC4/GSJ BC4/SJ BC3/MC1/AP	U/C2 U/C1 U/C2 U/C2	TS PHSS AA TS	MX LF LF MX	RHM/HM PIB/S2 PIB/S2 RHM/HM		Yes Yes Yes
Emirates Glass L.L.C. PO Box 29769 Interchange 4, Al Quoz Industrial Area Dubai, United Arab Emirates 00971-47094713 EmiratesIGCC®/IGMA® 2015	2334	BC4/ALJ	U/C1	MA	LF	PIB/S2		
FAKRO GP Sp. Z.O.O. ul. Wegierska 144A 33-300 Nowy Sacz VAT nubmer: PL 734-30-11-797 , Poland 481-844-4035 FAKRO IGCC®/IGMA® 2015	2042	BC2/MC2/PLK	U/C2	GS	LF	PIB/PU		Yes
Fenplast, Inc. 160, boul. de L'industrie Candiac, QC J5R 1J3 Canada 514-990-0012 Fenplat IGCC®/IGMA® 2015	3451	BC3/MC1/MT/IC	U/C1/U	FS/FS	IB/IB	HM	IC	Yes
Flat Glass Distributors 5355 Shawland Road Jacksonville, FL 32254 904-354-5413 FGD IGCC®/IGMA® 2015	2467	BC3/MC1/MT/IC	U/C3	FS	IB	FS/HM	IC	
Foshan Super Glass Ind. Co; Ltd. Bo Ai Road, Zone B Shishan Industrial Park, Nanhai Foshan, Guangdong 528225 China 86-138-2361-3990 Foshan Super Glass IGCC®/IGMA® 2015	3323	BC4/GSJ	U/C2	MA	LF	HM/S2		
Future Architectural Glass LLC P 278, Al Ghail Industrial Area Al Ghail Ras Al Khaimah, United Arab Emirates (7) 258-9274 Future Arch IGCC®/IGMA® 2015	3641	BC4/SSJ	U/C2	MA	LF	PIB/S2		

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Fuyao Group (Fujian) Engineering Glass Co., Ltd.	2894	BC4/GSJ	U/C2	AA	LF	PIB/S2		Yes
Area 2, Fuyao Industrial Area Fuqing, Fujian 350301 China 86-0-591-85363733 Fuyao Group IGCC®/IGMA® 2015	2895	BC4/GSJ	U/C2	AA	LF	PIB/PS		Yes
General Glass	2971	MC4/PLK/IC	U/C2	MA	LF	PIB/S1	IC	
6763 NE 59th Place Portland, OR 97218 503-253-1147 General Glass IGCC®/IGMA® 2015	3617	BC4/GSJ	U/C2	MA	LF	PIB/PS		
Gentek Building Products an Associated Materials Inc. Company 6320 Colonel Talbot Rd. London, ON N6P 1J1 Canada 519-652-3246 Gentek IGCC®/IGMA® 2015	2382	BC3/MC1/MT/IC	U/C3	FS	IB	HM	IC	Yes
Glass Dynamics, Inc.	1925	BC4/SSJ/IC	U/C2	MA	LF	PIB/S2	IC	Yes
8901 220 Bypass PO Box 938 Stoneville, NC 27048 336-573-2393 GDI IGCC®/IGMA® 2015	3627	BC4/SSJ/IC	U/C2	PHSS	LF	PIB/S2	IC	Yes
Glass Enterprises, Inc.	3701	BC4/SSJ/IC	U/C2	AA	LF	PIB/PS	IC	
2277 New York Avenue Bensalem, PA 19020 215-638-1007 Beta-Pane IGCC®/IGMA® 1436 2015								
Glass Insulators Inc.	3144	BC3/MC1/MT/IC	U/C2/U	FS/FS	IB/IB	HM	IC	Yes
507 Main Street Bloomer, WI 54724 715-568-3649 Glass Insulators IGCC®/IGMA® 2015								
GlassFab Tempering Services Inc.	2685	MC4/PLK	U/C2	MA	LF	PIB/S2		
1448 Mariani Court Tracy, CA 95376 209-229-1060 GlassFab IGCC®/IGMA® 2015	3736	MC4/PLK	U/C2	MA	LF	PIB/PS		
Glasswerks LA, Inc.	2653	MC4/PLK	U/C2	AA	LF	PIB/PS		
2323 Firestone Blvd.	3727	MC4/PLK	U/C2	MA	LF	PIB/S2		
South Gate, CA 90280 213-216-3627 Glasswerks IGCC®/IGMA® 2015	3728	BC4/PLK	U/C2	AA	LF	PIB/S2		

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Glaz-Tech Industries 4005 S. Clay St. Englewood, CO 80110 303-399-8587 GTI Englewood IGCC®/IGMA® 2015	3802	MC4/PLK/IC	U/C2	AA	LF	PIB/PS	IC	
Glaz-Tech Industries, Inc. 8017 Edith Blvd. Albuquerque, NM 87113 (505) 898-1460 GTI Albuquerque IGCC®/IGMA® 2015	1285	MC4/PLK/CT/IC	U/C2	AA	LF	PIB/PS	IC	
Glaz-Tech Industries, Inc. 1200 W Amity Road Boise, ID 83705-5413 208-389-1080 GTI Nampa IGCC®/IGMA® 2015	3076	MC4/PLK/IC	U/C2	AA	LF	PIB/PS	IC	
Glaz-Tech Industries, Inc. 4931 W. Brill Street Phoenix, AZ 85043 (602) 272-1544 GTI Pheonix IGCC®/IGMA® 2015	2926 4071	MC4/PLK/IC MC4/PLK/IC	U/C2 U/C2	AA AA	LF LF	PIB/PS PIB/S1	IC IC	
Glaz-Tech Industries, Inc. 2191 South 300 West, Suite # 5 Salt Lake City, UT 84115 801-467-3136 GTI SLC IGCC®/IGMA® 2015	2330	MC4/PLK/CT/IC	U/C2	AA	LF	PIB/HM	IC	
Glaz-Tech Industries, Inc. 150 Industrial Rd. Santa Teresa, NM 88008 505-589-4970 GTI Santa Teresa IGCC®/IGMA® 2015	2340	MC4/PLK/IC	U/C2	AA	LF	PIB/PS	IC	
Glaz-Tech Industries, Inc. 2207 East Elvira Road Tucson, AZ 85745 520-629-0268 GTI Tucson IGCC® 2015	2919 2920	MC4/PLK/IC MC4/PLK/IC	U/C2 U/C2	AA AA	LF LF	PIB/PS PIB/HM	IC IC	
Glenny Glass Co. 205 Castleberry Court Milford, OH 45150 513-489-2233 GLG IGCC®/IGMA® 2015	2427	BC4/PLJ/IC	U/C1	MA	LF	PIB/PS	IC	

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Global Security Glazing 616 Selfield Road Selma, AL 36073 334-875-1900 Global IGCC®/IGMA® 2015	3711	MC4/PLK	U/C2	MA	LF	PIB/S2		
GnT Glass Co., Ltd. District A, St 1, Ring 3 Huaxia Industrial Zone, Qiatou Dongguan, Guangdong 523532 China	3791	BC4/GSI	U/C2	MA	LF	PIB/S2		
Great Lakes Glass Distributors 12707 Eckles Road Plymouth Township, MI 48170 734-656-3900 Great Lakes IGCC®/IGMA® 2015	3572 3573	MC4/PLK/IC MC4/PLK/IC	U/C3 U/C3	AA AA	LF LF	HM/PS PIB/S1	IC IC	
Guangdong Avic Special Glass Technology Huangfengling Industrial Zone Shiyan Town Baoan District Shenzhen, Guangdong 518108 China (7552) 763-3580 Guangdon Avic IGCC®/IGMA® 2015	2614	BC4/GSJ	U/C2	AA	LF	PIB/S2		
Guangdong Golden Glass Technologies Diejin Enterprise District Shantou College Road Shantou, Guangdong China GDGG IGCC®/IGMA® 2015	2386	BC4/GSJ	U/C2	MA	LF	PIB/S2		
Guardian Fabrication Inc. 5 Cudworth Road Webster, MA 01570 508-943-6600 GRD-062 IGCC®/IGMA® 2015	2849 2964 3049 3563	BC3/MC1/MT/IC BC4/SSJ/IC BC4/GSJ/IC BC3/MC1/MT/IC	U/C2 U/C2 U/C2/U U/C2/U	FS TBSS PHSS/PHSS FS/FS	IB LF LF/LF IB/IB	HM PIB/S2 PIB/S2 HM	IC IC IC IC	Yes Yes Yes Yes
Guardian IG LLC 150 Business Park Drive Sun Prairie, WI 53590 608-825-9907 "Laser Etch Julian Calendar Date + Time"	3607	BC4/SSJ/IC	U/C2	PHSS	MX	PIB/S1	IC	Yes
Gulf Glass Industries, LLC Industrial Area 13 PO Box 6022 University City Road Sharjah, 6022 United Arab Emirates 971-65-385500 GGI IGCC®/IGMA® 1710 2015	1710 2096	BC4/ALJ BC4/ALJ	U/C2 U/C2	MA MA	LF LF	PIB/S2 PIB/PUR		Yes



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Hankuk Haniso Co.,Ltd. Processed Glass Sector 585-14 Gajwa Dong Seo-Gu, Incheon 404-250 Korea Hankuk IGCC®/IGMA® 2015	2387	BC4/MT	U/C2	AA	LF	PIB/S2		
Hartung Glass Industries 8211 Siena Avenue Sacramento, CA 95828 916-266-5700 HGI SAC IGCC®/IGMA® 2015	2327	BC4/GSJ/CT/IC	U/C2	MA	LF	PIB/PS	IC	Yes
	2347	BC4/GSJ/CT/IC	U/C2	MA	LF	PIB/S2	IC	Yes
Hartung Glass Industries 17830 West Valley Highway Tukwila, WA 98188 800-552-2227 HGI TUK IGCC®/IGMA® 2015	2494	MC4/PLK/CT/IC	U/C2/U	MA/MA	LF/LF	PIB/S2	IC	Yes
	3208	MC4/PLK/CT/IC	U/C2/U	PHSS/PHSS	LF/LF	PIB/S2	IC	Yes
	3221	BC3/MC1/MT/IC	U/C2/U	FS/FS	IB/IB	RHM	IC	Yes
Hartung Glass Industries 10450 SW Ridder Road Wilsonville, OR 97070 503-682-3846 HGI WIL IGCC®/IGMA® 2015	2671	BC3/MC1/MT	U/C2	FS	IB	RHM		Yes
	2673	MC4/PLK	U/C2	MA	LF	PIB/S2		Yes
	2674	MC4/PLK	U/C2	MA	LF	PIB/PS		Yes
	3614	MC4/PLK	U/C2	MA	LF	PIB/RHM		Yes
Harvey Building Products 30 Jack's Bridge Road Londonderry, NH 03053-2145 603-216-8400 HII-1 IGCC®/IGMA® 2015	2712	BC3/MC1/AP/IC	U/C2/U	TS/TS	MX/MX	HM/RHM	IC	Yes
	2798	BC3/MC1/IC	U/C2	BCS	IB	BCS/RHM	IC	Yes
	2799	BC2/MC2/IC	U/C2	BPS	IB	BPS	IC	Yes
	3647	BC3/MC1/AP/IC	U/C2	TS	MX	HM	IC	Yes
Harvey Industries, Inc. 7 Ledge Wood Boulevard North Dartmouth, MA 02747 508-998-9779 HII-3 IGCC®/IGMA® 2015	2719	BC3/MC1/AP/IC	U/C2/U	TS/TS	MX/MX	HM/RHM	IC	Yes
	3744	BC3/MC1/SS/IC	U/C2	SS	MX	HM	IC	Yes
	3842	BC2/MC2/AP/IC	U/C2	TS	MX	HM	IC	Yes
Hawkins Architectural Products 35 Venture Drive Stafford, VA 22554 540-288-9111	3590	BC3/MC1/PLK	U/C3	AA	LF	PIB/S2		
Hehr Glass Company 1021 Walnut Ave. Pomona, CA 91766 909-628-5557 HEHR Glass 1752 IGCC®/IGMA® 2015	1752	MC4/PLK	U/C1	AA	LF	PIB/S2		

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Huizhou Wei Jin Yuan Glass Technology Co., Ltd. Lian-Da Industry Zone Xinxu Town, Huiyang District Huizhou, Guangdong 516223 China 86-138-2373-6090	3787	MC4/PLK	U/C2	AA	LF	PIB/S1		
Hurd Window and Doors Acquisitions, Inc. 1815 Water St. Merrill, WI 54452 715-748-1716 HWDI IGCC®/IGMA® 2015	3653	MC4/PLK/IC	U/C2	AA	LF	PIB/HM	IC	Yes
	3654	BC3/MC1/IC	U/C2	TS	MX	HM	IC	Yes
	3655	BC3/MC1/IC	U/C2	SS	MX	HM	IC	Yes
	3799	BC3/MC1/MT/IC	U/C2/U	FS/FS	IB/IB	HM	IC	Yes
Industries Cover Inc. 1236 Principale St. Agapit, QC G0S 1Z0 Canada 418-888-5305 Industries Cover IGCC®/IGMA® 2015	3416	MC4/PLK/IC	U/C3/U	PPS/PPS	LF/LF	PIB/RHM	IC	Yes
Industries Cover Inc. 288 Laurier St. Apollinaire, QC G0S 2E0 Canada 418-881-2303	3591	MC4/IC	U/C3/U	PHSS/PHSS	LF/LF	PIB/RHM	IC	Yes
Industries Cover Inv. 63 Chemin St. Laurent Baie St. Paul, QC G3Z 2L5 Canada 418-435-6820	3764	MC4/PLK/IC	U/C3/U	PHSS/PHSS	LF/LF	PIB/ RHM	IC	Yes
Insulated Glass of America, Inc. 102 East Fields Street PO Box 475 Dallas, NC 28034 704-917-0880 IGA IGCC® E2190 2015	3158	MC4/PLK/IC	U/C2	AA	LF	PIB/HM	IC	Yes
	3518	BC3/MC1/PLK/IC	U/C2	AA	LF	PIB/S2	IC	
Insulite Glass Co., Inc. 780 W. Frontier Circle PO Box 2803 Olathe, KS 66063-0803 913-780-2233 ISL IGCC®/IGMA® 2015	1702	BC4/GSJ/IC	U/C3	MA	LF	PIB/S2	IC	Yes
	3281	BC4/GSJ/IC	U/C3	PHSS	LF	PIB/S2	IC	Yes
International Glass Products 9150 Maurice-Duplessis Montreal, QC H1E 7C2 Canada 514-494-1575 Inde-Pane IGCC®/IGMA® 2015	2319	BC3/MC1/IC	U/C2	TS	MX	RHM	IC	Yes

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Intigral	1200	BC3/MC1/AP/IC	U/C3	TS	MX	HM	IC	Yes
6750 Vistoria East	3027	BC3/MC1/MT/IC	U/C3	FS/FS	IB/IB	HM	IC	Yes
Austintown, OH 44515	3028	BC3/MC1/MT/IC	U/C3	FS	IB	HM	IC	Yes
330-793-7677	3301	BC3/MC1/SS/IC	U/C3/U	SS/SS	MX/MX	HM	IC	Yes
EST IGCC®/IGMA® 1200 2015	3857	BC3/MC1/AP/IC	U/C2	TS	MX	HM	IC	Yes
Intigral	2037	BC3/MC1/IC	U/C3	TS	MX	RHM/HM	IC	Yes
7850 Northfield Rd.	3072	BC3/MC1/IC	U/C3/U	SS/SS	MX/MX	HM	IC	Yes
Walton Hills, OH 44146	3129	BC3/MC1/IC	U/C3/U	TS/TS	MX/MX	HM	IC	Yes
440-439-0980	3663	BC3/MC1/MT/IC	U/C3/U	FS	IB	HM	IC	Yes
EST IGCC®/IGMA® 2015	3664	BC3/MC1/MT/IC	U/C1/U	FS	IB	HM	IC	Yes
	3781	BC3/MC1/IC	U/C3/U	SS/SS	MX/MX	RHM	IC	Yes
Jasan Glass - JSG	2274	BC4/ALJ	U/C1	MA	LF	PIB/S2		
459-1 Neojo-Ri, Jori-Eup	2275	BC4/SSJ	U/C2	SS	LF	PIB/S2		
Paju, Gyeonggi 413-821 Korea								
82-31-941-6289								
Jasan Glass 2274/2275 IGCC®/IGMA® 2015								
Jersey Tempered Glass, Inc.	689	MC4/PLK/IC	U/C3	AA	LF	PUR	IC	
2035 Briggs Rd.	750	MC4/PLK/IC	U/C3	AA	LF	PIB/PUR	IC	
Mt. Laurel, NJ 08054								
856-273-8700								
JTG IGCC®/IGMA® 2015								
Jiangmen SYP Engineering Glass	2856	BC4/GSJ	U/C2	AA	LF	PIB/S2		
10 Yinyuan Road	3237	BC4/GSJ	U/C2	SS	LF	PIB/S2		
Economic Development Zone, Xinhui	3238	BC4/GSJ	U/C2	PHSS	LF	PIB/S2		Yes
Jiangmen, Guangdong 529141 China								
86-750-6398999								
Jiangmen SYP IGCC®/IGMA® 2015								
Jiangmen Yamako Glass Co., Ltd.	3642	BC3/MC1/MT/IC	U/U	FS	IB	FS/HM	IC	
River Bank South Road								
Daze Town								
Xinhui District								
Jiangmen, Guangdong China								
852-279-6886								
JYG IGCC®/IGMA® 2015								
Jinzhou Fortune Glass Spring Glass Co., Ltd.	2811	BC3/MC1/IC	U/U	BCS	MX	BCS/PS	IC	
Chaoyang New Street, Jingang Road	2813	BC3/MC1/CT/IC	U/U	BCS	MX	BCS/PS	IC	
The Economic Development Zone	3204	BC3/MC1/IC	U/C2	BCS	MX	BCS	IC	
Jinzhou, Liaoning 121007 China								
86-416-3581084								
Jinzhou Fortune Glass IGCC®/IGMA® 2015								

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Kawneer - (Cranberry) a division of Alcoa 71 Progress Ave. Cranberry Ind. Pk. Cranberry Township, PA 16066-3596 724-776-7000 TRACO IGCC®/IGMA® 2015	2022 2997 3390	BC4/SJ/IC BC4/IC BC4/IC	U/C3 U/C1 U/C3/U	MA TP TP/TP	LF IB IB/IB	PIB/S2 TP/S2 TP/S2	IC IC IC	Yes Yes Yes
Kenyon's Stained Glass Factory, Inc. 5720 North Meadows Drive Grove City, OH 43123 614-539-8740 Kenyon IGCC®/IGMA® 2015	3680 3929	MC4/PLK/IC 3BC/MT/IC	U/C2 U/C2	AA BCS	LF IB	PUR BCS	IC IC	
Kinro Windows of Alabama 1112 Brewer Street Double Springs, AL 35553 205-489-5051 KINRO AL IGCC®/IGMA® 2015	3339 3340	BC3/MC1/MT/IC BC4/IC	UC3 U/C3	FS TS	IB MX	HM HM	IC IC	Yes
Kinro Windows of Idaho 944 North Kings Road Nampa, ID 83687 208-466-4523 KINRO ID IGCC®/IGMA® 2015	2073 3008	BC3/MC1/CT/IC BC3/MC1/MT/CT/IC	U/C3 U/C3	TS FS	MX IB	HM HM	IC IC	Yes Yes
Kinro Windows of Indiana 2423 Messick Dr. S. Goshen, IN 46528 574-534-6660 KINRO IN IGCC®/IGMA® 2015	2568 2684 2756	BC3/MC1/MT/IC BC3/MC1/ZS/IC BC3/MC1/SS/IC	U/C3 U/C3 U/C3	FS TS SS	IB MX MX	HM HM HM	IC IC IC	Yes Yes Yes
Kinro Windows of Texas 241 Mushroom Road Waxahachie, TX 75165 800-262-8827 KML Windows, Inc. 71 Second Street Strathroy, ON N7G 3H8 Canada 519-245-2270 KML IGCC®/IGMA® 2015	3341 3342	BC3/MC1/MT/IC BC3/MC1/IC	U/C3 U/C3	FS TS	IB MX	HM HM	IC IC	Yes Yes
LG Hausys - Daejin Shinsari 486-7 Cheonan City, Chungnam 330-892 Korea 82-43-261-7255 LG Haysys Daejin IGCC®/IGMA® 2015	3299 3300	BC4/SSJ BC4/MT	U/C2 U/C2/U	SS TP/TP	LF IB/IB	PIB/PS PS/SI		Yes Yes

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LG Hausys - Hanmin Jinchonri 123-4 Ansung City, Gyeonggi 456-882 Korea 82-43-261-7255 LG Hausys Hanmin IGCC®/IGMA® 2015	3298	MC4/PLK	U/C2/U	TP/TP	IB/IB	TP/PS		Yes
Louisville Plate Glass Company 1401 W Broadway PO Box 1203 Louisville, KY 40201 502-584-6145 LPG IGCC®/IGMA® 2015	1281 2897	MC4/PLK MC4/PLK	U/C1 U/C1	AA AA	LF LF	PIB/S2 PIB/PS		
Mannix Exterior Wall Systems, Inc. 345 Crooked Hill Road Brentwood, NY 11717 631-231-0800 Mannix IGCC®/IGMA® 1746 2015	1746	MC4/PLK	U/C2	AA	LF	PIB/PUR		Yes
Marvin Windows and Doors PO Box 100 Warroad, MN 56763 218-386-1430 Marvin Windows IGCC®/IGMA® 2015	3737	MC4/PLK/IC	U/C2	AA	LF	PIB/PUR	IC	Yes
Mid-American Glass 147 S. Sturdevant St. PO Box 3428 Davenport, IA 52808-3428 563-326-6294 Mid American IGCC®/IGMA® 2015	2315	MC4/PLK/IC	U/C2	AA	LF	PIB/RHM	IC	
Miroirs Laurier 153 boul. Laurier Laurier-Station, QC G0S 1N0 Canada 418-728-2023 MLG IGCC®/IGMA® E2190 2015	2559 2629	MC4/PLK/IC MC4/PLK/IC	U/C2/U U/C2/U	TBSS/TBSS TBSS/TBSS	LF/LF LF/LF	PIB/PS PIB/S2	IC IC	Yes Yes
MLC Glass 2553 23 Mile Road Shelby Township, MI 48316 586-731-1630 MLC IGCC®/IGMA® 2015	2612	MC4/PLK/IC	U/C2	SS	LF	PIB/PS	IC	
Multiver Inc. 3805 Dollard Desjardins Montreal, QC H1B 5W9 Canada 514-640-6490 Lamiver IGCC®/IGMA® 2015	3012	MC4/PLK	U/C2	AA	LF	PIB/S2		Yes

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Nashville Tempered Glass LLC 1241 Avondale Dr. Hendersonville, TN 37075 615-826-5522 NTGC IGCC®/IGMA® 2015	3173 3502	BC4/GSJ BC4/GSJ	U/C1 U/C1	AA MA	LF LF	PIB/PS PIB/PS		Yes Yes
Ningbo Jianghua Glass Science And Technology Co., Ltd. 88 Haichuan Road Jiangbei District Ningbo, Zhejiang 315000 China 86-0574-87560918 Ningbo Jianghua IGCC®/IGMA® 2015	3475	BC4/GSJ	UC2	AA	LF	PIB/S2		Yes
Northwest Glass, Inc. 127 Regal St. PO Box 21258 Billings, MT 59104 406-252-7196 NWG IGCC®/IGMA® 2015	865	MC4/PLK/CT/IC	U/C2	AA	LF	PUR	IC	
Northwestern Inds, Inc. 2501 Commodore Way Seattle, WA 98199 206-285-3140 NWI Sea WA IGCC® 2015	1635	MC2/BC2/PLK/CT/IC	U/C2/U	MA/MA	LF/LF	PIB/S2	IC	Yes
Northwestern Inds, Inc. 7595 East 30th Street Yuma, AZ 85365-6532 206-285-3140 N.W.I. IGCC®/IGMA® 2015	2249	BC4/GSJ/CT	U/C2	MA	LF	PIB/S2		Yes
Norwood Classic Window and Entrance Systems 249 Parker Road Scoudouc, NB E4P 3P8 Canada 506-533-2538 NCW IGCC® E2190 2015	2730	MC4/PLK/IC	U/C2/U	TBSS/TBSS	LF/LF	PIB/PS	IC	Yes
Novatech Patio Doors Inc. 100, 181e Rue Beauceville, QC G5X 2T1 Canada 418-774-2949 ext. 265 Portes Patio IGCC®/IGMA® 2015	2877	BC3/MC1/MT/IC	U/C2/U	FS/FS	IB/IB	HM	IC	Yes

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ODL, Changshu ZhongXin Building Materials Co., Ltd.	3188	BC3/MC1/PLK/IC	U/C2	BCS	MX	BCS	IC	
Meili Town	3189	BC3/MC1/PLK/IC	U/C2	BCS	MX	PS	IC	
Changshu, Jiangsu 215500 China 616-748-5401 XYG IGCC®/IGMA® 2015	3442	MC4/PLK/IC	U/C2	AA	LF	PIB/PS	IC	
ODL, Inc.	1892	BC3/MC1/MT/IC	U/C1	BCS	IB	BCS	IC	
215 E. Roosevelt Avenue	3052	BC3/MC1/SS/CT/IC	U/C2	TS	MX	RHM	IC	
Zeeland, MI 49464 616-772-9111 ODL Zeeland IGCC®/IGMA® 2015	3407	MC4/PLK/CT/IC	U/C2	AA	LF	PUR	IC	
ODL, Inc., Vidrio Decorativo Occidental S. A. de C. V.	2637	BC3/MC1/IC	U/C1	BCS	IB	BCS	IC	
Poniente 4 Entre Borte 7 y Gral Pedro Hinojosa	3089	BC3/MC1/MT/IC	U/C2	BCS	IB	BCS	IC	
Ciudad Industrial	3090	BC3/MC1/ZS/CT/IC	U/C2	TS	MX	RHM	IC	
Heroica Matamoros, Tamaulipas Mexico 616-772-9111 VDO IGCC® E2190 2015	3116	BC3/MC1/ZS/CT/IC	U/C1/U	TS/TS	MX/MX	RHM	IC	
	3118	BC3/MC1/MT/IC	U/C2	FS	IB	HM	IC	
OKALUX GmbH	1866	BC4/PLJ	U/C2	MA	LF	PIB/S2		
Am Jospershecklein 1 97828 Marktheidenfeld Altfeld, Germany 939-190-00 OKA IGCC®/IGMA® 2015	2656	BC4/GSJ	U/C2	SS	LF	PIB/PS		Yes
Oldcastle BuildingEnvelope®	1968	MC4/PLK/IC	U/C2	MA	LF	PIB/S1	IC	Yes
5334 Barthel Industrial Drive, NE Albertville, MN 55301 763-497-3212 Oldcastle 22 IGCC®/IGMA® 2015	2501	MC4/PLK/IC	U/C2	PHSS	LF	PIB/S1	IC	
	4082	MC4/PLK/IC	U/C2	MA	LF	PIB/S2	IC	
	4083	MC4/PLK/IC	U/C2	PHSS	LF	PIB/S2	IC	
Oldcastle BuildingEnvelope®	1537	MC4/PLK/IC	U/C2	AA	LF	PIB/S2	IC	Yes
1611 S.E. Commerce Avenue Battle Ground, WA 98604 360-816-7777 Oldcastle 73 IGCC®/IGMA® 2015	2403	MC4/PLK/IC	U/C2	PHSS	LF	PIB/S2	IC	Yes
Oldcastle BuildingEnvelope®	1424	MC4/PLK/IC	U/C2	AA	LF	PIB/PUR	IC	Yes
PO Box 54	2605	MC4/PLK	U/C2	SS	LF	PIB/S2		Yes
Burnips, MI 49314 616-896-8341 Oldcastle 28 IGCC®/IGMA® 2015	3697	MC4/PLK/MT/IC	U/C2	AA	LF	PIB/PUR	IC	
	3698	MC4/PLK/MT/IC	U/C2	SS	LF	PIB/S2	IC	
	732	MC4/PLK/MT/IC	U/C2	AA	LF	PIB/S2	IC	Yes

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Oldcastle BuildingEnvelope® 3601 - 72 Avenue SE Calgary, AB T2C 2K3 Canada 403-279-2544 Oldcastle 93 IGCC®/IGMA® 2015	2703 2725 2878 2879	MC4/PLK/IC MC4/PLK/IC BC3/MC1/MT/IC MC4/PLK/IC	U/C2 U/C2/U U/C2/U U/C2/U	SS/SS PHSS/PHSS FS/FS AA/AA	LF/LF LF/LF IB/IB LF/LF	PIB/S2 PIB/S2 RHM PIB/S2	IC IC IC IC	Yes Yes Yes Yes
Oldcastle BuildingEnvelope® 4161 S Morgan St. Chicago, IL 60609 773-523-8400 Oldcastle 24 IGCC®/IGMA® 2015	1289 1986 1987	BC4/PLJ MC4/PLK/IC BC4/PLJ	U/C1 U/C1 U/C1	AA AA AA	LF LF LF	PIB/RHM RHM PIB/S1	IC	Yes
Oldcastle BuildingEnvelope® 2195 Langstaff Rd. Concord, ON L4K 2B2 Canada 905-660-3809 Oldcastle 94 IGCC®/IGMA® 2015	2516 2652 3649	BC4/GSJ BC4/GSJ BC4/GSJ	U/C2 U/C2/U U/C2/U	PHSS MA/MA PHSS/PHSS	LF LF/LF LF/LF	PIB/S2 PIB/S2 PIB/S2		Yes Yes Yes
Oldcastle BuildingEnvelope® 14117 Industrial Park Blvd. Covington, GA 30014 678-212-7700 Oldcastle 42 IGCC®/IGMA® 2015	914	BC4/SSJ/AP/IC	U/C2	MA	LF	PIB/S2	IC	Yes
Oldcastle BuildingEnvelope® 11205 E. 37th Avenue Denver, CO 80239 303-371-5511 Oldcastle 71 IGCC®/IGMA® 2015	1940 2689 3488 3937	BC3/MC1/MT/CT/IC MC4/PLK/CT/IC MC4/PLK/CT/IC MC4/PLK/IC	U/C2/U U/C2/U U/C2 U/C2/U	FS/FS AA/AA AA PHSS/PHSS	IB/IB LF/LF LF LF/LF	RHM PIB/S2 PIB/RHM PIB/S2	IC IC IC IC	Yes Yes Yes Yes
Oldcastle BuildingEnvelope® 99 Murray Hill Parkway East Rutherford, NJ 07073 800-647-7673 Oldcastle 17 IGCC®/IGMA® 2015	3078 3995	MC4/PLK/IC MC4/PLK/IC	U/C1 U/C2	AA MA	LF PIB	PIB/S2 S2/LF	IC IC	
Oldcastle BuildingEnvelope® 6850 Stevenson Blvd. Fremont, CA 94538 510-651-2292 Oldcastle 84 IGCC®/IGMA® 2015	3692	MC4/PLK/CT/IC	U/C2	MA	LF	PIB/S2	IC	Yes
Oldcastle BuildingEnvelope® 1101 Fountain Parkway Grand Prairie, TX 75050 972-647-4028 Oldcastle 83 IGCC®/IGMA® 2015	3079	MC4/PLK	U/C2	MA	LF	PIB/S1		



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Oldcastle BuildingEnvelope® 895 Motor Pkwy. PO Box 18039 Hauppauge, NY 11788-8839 631-234-2200 Oldcastle 15 IGCC®/IGMA® 2015	2235 2911	MC4/PLK/IC MC4/PLK/IC	U/C2 U/C2/U	MA/MA PHSS/PHSS	LF/LF LF/LF	PIB/S2 PIB/S2	IC IC	
Oldcastle BuildingEnvelope® 1331 W Sam Houston Pkwy N Houston, TX 77043 713-464-5611 Oldcastle 65 IGCC®/IGMA® 2015	1137	MC4/PLK/IC	U/C2	AA	LF	PIB/S2	IC	Yes
Oldcastle BuildingEnvelope® 4635 W. 84th St., Ste. 100 Indianapolis, IN 46268 317-876-1155 Oldcastle 29 IGCC®/IGMA® 2015	3665 653	MC4/PLK/IC MC4/PLK/AP/IC	U/C2 U/C2/U	SS MA/MA	LF LF/LF	PIB/S2 PIB/S2	IC IC	 Yes
Oldcastle BuildingEnvelope® 5075 275th Street Langley, BC V4W 0A8 Canada 604-607-1300 Oldcastle 91 IGCC®/IGMA® 2015	2322 2323 2324 3367	MC4/PLK/IC MC4/PLK/CT/IC BC3/MC1/MT/CT/IC MC4/PLK/IC	U/C2/U U/C2/U U/C2/U U/C2/U	AA/AA AA/AA FS/FS PHSS/PHSS	LF/LF LF/LF IB/IB LF/LF	PIB/RHM PIB/S2 RHM PIB/RHM	IC IC IC IC	Yes Yes Yes Yes
Oldcastle BuildingEnvelope® 5631 Ferguson Dr. Los Angeles, CA 90022 323-887-6000 Oldcastle 74 IGCC®/IGMA® 2015	1437 3303 3733	MC4/PLK/CT/IC MC4/PLK/CT/IC MC4/PLK/CT/IC	U/C2 U/C2 U/C2	AA MA SS	LF LF LF	PIB/S2 PIB/S2 PIB/S2	IC IC IC	Yes Yes Yes
Oldcastle BuildingEnvelope® 17851 Northwest Miami Ct Miami, FL 33169 305-652-3350 Oldcastle 82 IGCC®/IGMA® 2015	3580	MC4/PLK/IC	U/C2	MA	LF	PIB/S2	IC	
Oldcastle BuildingEnvelope® 1507 Lancer Dr. Moorestown, NJ 08057 856-642-0900 Oldcastle 12 IGCC®/IGMA® 2015	3290	BC4/SSJ	U/C2	AA	LF	PIB/S2		
Oldcastle BuildingEnvelope® Ampoint Industrial Park 291 "M" Street Perrysburg, OH 43551 419-666-2000 Oldcastle 81 IGCC®/IGMA® 2015	2642 3262	BC4/SSJ/AP BC4/AP/SJ	U/C2 U/C2	PHSS MA	 LF	PIB/S2 PIB/S2		Yes Yes

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Oldcastle BuildingEnvelope® 3404 W. Papago Street #1 Phoenix, AZ 85009 602-253-6980 Oldcastle 63 IGCC®/IGMA® 2015	1766	MC4/PLK/IC	U/C2	AA	LF	PIB/S2	IC	Yes
Oldcastle BuildingEnvelope® 12755 boul Industriel Pointe-aux-Trembles, QC H1A 4Z6 Canada 514-640-5355 Oldcastle 95 Montreal IGCC®/IGMA® 2015	2883	MC4/PLK	U/C2/U	AA/AA	LF/LF	PIB/S2		Yes
	2884	MC4/PLK	U/C2	PHSS/PHSS	LF/LF	PIB/S2		Yes
Oldcastle BuildingEnvelope® 1900 Midland Street Rock Hill, SC 29731 803-366-5167 Oldcastle 44 IGCC®/IGMA® 2015	3081	MC4/PLK/IC	U/C2	MA	LF	PIB/S2	IC	Yes
Oldcastle BuildingEnvelope® 5010 Mesker Street Schofield, WI 54476 715-355-1335 Oldcastle 27 IGCC®/IGMA® 2015	1178	BC3/MC1/IC	U/C2	TS	MX	PIB/PUR	IC	Yes
	1312	MC4/PLK/IC	U/C2/U	AA/AA	LF/LF	PIB/PU	IC	Yes
	1319	MC4/PLK/IC	U/C2/U	AA/AA	LF/LF	PIB/S2	IC	Yes
	2583	MC4/PLK/IC	U/C2/U	PHSS/PHSS	LF/LF	PIB/S2	IC	Yes
	2647	MC4/PLK/IC	U/C2/U	PHSS/PHSS	LF/LF	PIB/PUR	IC	Yes
	3337	MC4/PLK/IC	U/C2/U	MA/MA	LF/LF	PIB/PUR	IC	Yes
	3338	MC4/PLK/IC	U/C2/U	MA/MA	LF/LF	PIB/S2	IC	Yes
Oldcastle BuildingEnvelope® 10000 N. Harrison Shawnee, OK 74804 405-275-5510 Oldcastle 61 IGCC®/IGMA® 2015	1168	MC4/PLK/IC	U/C2	AA	LF	PIB/S1	IC	
Oldcastle BuildingEnvelope® 5115 East Hartford St. Tampa, FL 33619 813-247-3184 Oldcastle 43 IGCC®/IGMA® 2015	3621	MC4/PLK/IC	U/C2	MA	LF	PIB/S2	IC	
Oldcastle BuildingEnvelope® 1700 Daniel Boone Industrial Park Dr. Warrenton, MO 63383 636-456-3452 Oldcastle 21 IGCC®/IGMA® 2015	3211	MC4/PLK/AP/IC	U/C2	MA	LF	PIB/S1	IC	Yes
	3212	MC4/PLK/AP/IC	U/C2/U	MA/MA	LF/LF	PIB/S1	IC	Yes
	3878	MC4/PLK/IC	U/C2	MA	LF	PIB/S2	IC	Yes
	3879	MC4/PLK/IC	U/C2/U	MA/MA	LF/LF	PIB/S2	IC	Yes
	4036	MC4/PLK/AP/IC	U/C2	PHSS	LF	PIB/S2	IC	
Oldcastle BuildingEnvelope® 30 Cooperative Way Wright City, MO 63390 636-745-3030 Oldcastle 35 IGCC®/IGMA® 2015	2043	BC4/GSJ	U/C2	MA	LF	PIB/S2		Yes
	2206	BC4/SSJ/CT	U/C2/U	SS/SS	LF/LF	PIB/S2		Yes
	2400	BC4/GSJ/CT	U/C2/U	PHSS/PHSS	LF/LF	PIB/S2		Yes
	2893	BC4/GSJ/CT	U/C2/U	MA/MA	LF/LF	PIB/S2		Yes

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Panjin Zhucheng Plastic Co., Ltd. 585 Xingsheng Road Dawa Town Panjin, Liaoning 12400 China 86-427-6852078 Panjin Zhucheng IGCC®/IGMA® 2015	3682	BC3/MC1	U/U	BSS	IB	BSS/S2		
Paramount Windows 105 Panet Rd. Winnipeg, MB R2J 0S1 Canada 204-233-4966 Paramount Windows IGCC®/IGMA® 2015	1992	BC3/MC1/MT/IC	U/C2/U	FS/FS	IB/IB	HM	IC	Yes
Patio Enclosures 720 East Highland Road Macedonia, OH 44056 330-468-0700 PEI IGCC®/IGMA® 2015	1851	BC3/MC1/GSJ	U/C1	FS	IB	RHM		
Pella Corporation 2000 Proline Place Gettysburg, PA 17325-8297 717.334.0099 PEL GET IGCC®/IGMA® 2015	2688	BC3/MC1/MT/IC	U/C2	FS	IB	HM	IC	Yes
	3598	BC3/MC1/SS/IC	U/C2	SS	MX	RHM/HM	IC	Yes
Pella Corporation 307 Pella Way Murray, KY 42071 270-767-2636 PEL MUR IGCC®/IGMA® 2015	2741	BC3/MC1/MT/IC	U/C2	FS	IB	HM	IC	Yes
	3794	BC4/PLJ/IC	U/C2	SS	LF	PIB/S1	IC	Yes
	3812	BC3/MC1/IC	U/C2	SS	MX	RHM/RHM	IC	Yes
	4114	BC3/MC1/ZS/IC	U/C2	SS	MX	RHM/HM	IC	
Pella Corporation 1500 South Highway 59 Shenandoah, IA 51601 712-246-6324 PEL SHE IGCC®/IGMA® 2015	3294	BC4/PLJ/IC	U/C2	SS	LF	PIB/S1	IC	Yes
	4077	BC4/PLJ/IC	U/C2	SS	LF	PIB/S1	IC	
Pella Corporation 1800 North Main Avenue Sioux Center, IA 51250 712-722-5609 PEL SIO IGCC®/IGMA® 2015	3291	BC4/PLJ/IC	U/C2	SS	LF	PIB/S1	IC	Yes
	4021	BC4/PLJ/IC	U/C2	SS	LF	PIB/S1	IC	
Pella Corporation - Portland 18600 NE Wilkes Road Portland, OR 97294 503-405-9176 PEL POR IGCC®/IGMA 2015	3292	BC4/PLJ/IC	U/C2	SS	LF	PIB/S1	IC	Yes
	3409	BC3/MC1/MT/IC	U/C2	FS	IB	HM	IC	Yes
	3597	BC3/MC1/SSK/IC	U/C2	SS	MX	RHM/RHM	IC	Yes
	4057	MC4/GSJ/IC	U/C2	SS	MX	RHM/HM	IC	Yes
	4078	BC4/PLJ/IC	U/C2	SS	LF	PIB/S1	IC	Yes
	4103	BC3/MC1/MT/IC	U/C2	FS	IB	HM	IC	Yes

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Pennsylvania Insulating Glass 6395 SR 103N Bld 62 Lewistown, PA 17044 717-247-0560 PAIG IGCC®/IGMA® 2015	2250 2406	MC4/PLK/IC MC4/PLK/IC	U/C3 U/C3	AA AA	LF LF	PIB/PUR PIB/S1	IC IC	
PFG Glass 27413 55th Avenue Langley, BC V4W 3Y1 Canada PFG IGCC®/IGMA® 2015	2470 2578 3043 3858 3859	BC3/MC1/MT/CT/IC BC3/MC1/MT/CT/IC BC3/MC1/MT/CT/IC BC3/MC1/MT/IC BC3/MC1/MT/IC	U/C2 U/C2/U U/C2/U U/C2/U U/C2	FS FS/FS FS/FS FS/FS FS/FS	IB IB/IB IB/IB IB/IB IB/IB	PIB/S2 RHM PIB/RHM HM PIB/HM	IC IC IC IC IC	Yes Yes Yes Yes Yes
Pioneer Window Mfg. Corp. 200 Union Avenue PO Box 70 Johnstown, NY 12095 518-762-5526 Pioneer IGCC®/IGMA® 2015	2663	MC4/PLK	U/C2	AA	LF	PIB/HM		
Poma Glass & Specialty Windows dba AGC Flat Glass North America 365 McClurg Road-Suite E Boardman, OH 44512 330-965-1000 AGC 61 IGCC®/IGMA® 2015	2374 2654 2903 2904 3705	BC3/MC1/MT/IC BC3/MC1/MT/IC BC3/MC1/SS/IC BC3/MC1/SS/AP/IC BC3/MC1/MT/IC	U/C3 U/C3 U/C3/U U/C3/U U/C3/U	BCS FS TS/TS SS/SS FS/FS	IB IB MX/MX MX/MX IB/IB	BCS HM HM HM HM	IC IC IC IC IC	Yes Yes Yes Yes Yes
PPG Inds. Inc. 400 Park Drive Carlisle, PA 17013 717-486-3366 PPG Allentown IGCC®/IGMA® 2015	3388 3389 3678	BC3/MC1/GS/IC BC3/MC1/SS/IC BC3/MC1/MT/IC	U/C3/U U/C3/U U/C3/U	TS/TS SS/SS FS/FS	MX/MX MX/MX IB/IB	RHM RHM FS/RHM	IC IC IC	Yes Yes Yes
Prelco Inc. 94 Boulevard Cartier C.P. 338 Riviere-du-loup, QC G5R 3Y9 Canada 418-862-2274 PRELCO IGCC®/IGMA® 2015	1388 2268 2270 2458 2459	MC4/PLK/AP MC4/PLK/AP MC3/PLK MC4/PLK MC4/PLK	U/C2 U/C2 U/C2 U/C2 U/C2	AA AA PHSS SS SS	LF LF LF LF LF	PIB/S2 PIB/PS PIB/S2 PIB/S2 PIB/PS		Yes Yes Yes Yes Yes
Prelco MTL Inc. 3740 Dollard-Desjardins Montreal, QC H1B 5X2 Canada 514-640-1122 LIT IGCC®/IGMA® E2190 2015	2491 3320 3535	MC4/PLK/IC MC4/PLK MC4/PLK	U/C2/U U/C2/U U/C2	AA/AA PHSS/PHSS SS	LF/LF LF/LF LF	PIB/S2 PIB/S2 PIB/S2	IC	Yes Yes Yes

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Press Glass SA	3741	BC4/SSJ/AP	U/C2	SS	LF	PIB/S2		Yes
ul. Cielmicka 44	3742	BC4/SSJ/AP	U/C2	SS	LF	PIB/PS		Yes
43-100 Tychy, Poland Poland	3755	BC4/SSJ/AP	U/C2	PHSS	LF	PIB/S2		Yes
48-32-788-11-00	3756	BC4/SSJ/AP	U/C2	PHSS	LF	PIB/PS		Yes
Press Glass IGCC®/IGMA® 2015	3757	BC4/SSJ/AP	U/C2	GS	LF	PIB/S2		Yes
	3758	BC4/SSJ/AP	U/C2	GS	LF	PIB/PS		Yes
	3759	BC4/SSJ/AP	U/C2	MA	LF	PIB/S2		Yes
	3760	BC4/SSJ/AP	U/C2	MA	LF	PIB/PS		Yes
Press Glass SA	3813	BC4/AP/J	U/C2	MA	LF	PIB/PS		Yes
Geodetow 4	3814	BC4/AP/J	U/C1	PHSS	LF	PIB/PS		Yes
Radomsko, 97-500 Poland	3815	BC3/MC1/MT	U/C2	FS	IB	FS/PUR		Yes
48-44-685-87-00								
PRL Glass Systems	2905	MC4/PLK/IC	U/C2	MA	LF	PIB/PS	IC	
13644 E Nelson Ave	2906	MC4/PLK/IC	U/C2	MA	LF	PIB/S2	IC	
City of Industry, CA 91746								
626-961-5890								
ProTemp Glass, Inc.	2226	BC4/GSJ	U/C2	MA	LF	PIB/PS		Yes
360 Applewood Crescent	2753	BC4/SSJ	U/C2	PHSS	LF	PIB/PS		Yes
Concord, ON L4K 4V2 Canada								
905-760-0701								
Protemp IGCC®/IGMA® 2015								
Qatar Glass Industries	3672	BC4/ALJ	U/C3	MA	LF	PIB/S2		
Street 53 Gate No 7								
Industrial Area								
Doha, Qatar								
(974) 460-5522								
Qatar Glass IGCC®/IGMA® 2015								
Qinhuangdao Allide Art Glass Co., Ltd.	2827	BC4/IC	U/C1/U	BSS/BSS	IB/IB	BSS/PS	IC	Yes
3 Miluojiang Road	3092	MC4/PLK/IC	U/C3	AA	LF	PIB/PS	IC	Yes
Economic & Technical Development Zone								
Qinhuangdao, Hebei 066004 China								
86-335-8503726								
Qinhuangdao Allide Art Glass IGCC®/IGMA® 2015								
Qinhuangdao High Tech Energy Saving Dorwin Co., Ltd.	2595	BC3/MC1/PLK/IC	U/U	BSS	IB	BSS/PS	IC	
1 Haihe Road	2596	MC4/PLK/IC	U/U	AA	LF	PIB/PS	IC	
Economic and Technical Development Zone								
Qinhuangdao, Hebei 066004 China								
335-850-3784								
High Tech Energy IGCC®/IGMA® 2015								

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Qinhuangdao Xinhua Glass Processing Ind. Co., Ltd. 1 Haihe Road Economic and Technical Development Zone Qinhuangdao, Hebei 066004 China 335-850-3784 Xinhua Glass IGCC®/IGMA® 2015	2594	BC3/MC1/IC	U/C2	BSS	IB	BSS/PS	IC	
Quest Window Systems 6811 Goreway Drive Mississauga, ON L4V 1L9 Canada 905-851-8588	3646	BC3/MC1/ MT	U/C3	FS	IB	RHM/N/A		Yes
Redbud Glass 4325 SW 29th Oklahoma City, OK 73119 405-685-3331 Redbud Glass IGCC®/IGMA® 2015	3656 3657	MC4/PLK/IC MC4/PLK/IC	U/C2 U/C2	AA AA	LF LF	PIB/S1 PS	IC IC	
Regalead Ltd. Unit B, Burnfoot Industrial Estate Hamilton Road Hawick, Scotland TD9 85L United Kingdom 00.44.1450.377527	3703 3911	BC3/MC1/MT BC3/MC1/MT	U/U U/C	FS FS	IB IB	HM/NA HM/HM		
Robert Bowden, Inc. 850 White Circle Court PO Box 4237 Marietta, GA 30061 678-819-6163 RBI IGCC®/IGMA® 2015	3693	BC3/MC1/IC	U/C2	BPS	IB	BPS	IC	
SAAND Inc. 250 Brockport Dr. Toronto, Ontario, ON M9W5S1 Canada (416) 798-2345	3723 3724	BC4/PLJ/IC BC4/SSJ	U/C2 U/C2	MA SS	LF LF	PIB/PS PIB/S2	IC	Yes Yes
SAGE Electrochromics Inc. Two Sage Way Faribault, MN 55021 507-331-4848 SAGE IGCC®/IGMA® 2015	2679 3513 3840 3841 3893	BC4/PLJ/CT/SP/IC BC4/PLJ/CT BC4/PLJ/CT/IC BC4/PLJ/CT/IC BC4/PLJ/CT/IC	U/C2/U U/C2 U/C2 U/C2 U/C2	SS/SS SS SS SS SS	LF/LF LF LF LF LF	PIB/S1 PIB/S2 PIB/S2 PIB/S2 PIB/S2	IC	Yes Yes Yes Yes Yes
Saudi American Glass Company PO Box 8418 Riyadh, 11482 Saudi Arabia 01-2651212 Saudi American IGCC®/IGMA® 2015	3274	BC4/SSJ	U/C3	MA	LF	PIB/S2		Yes

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Second City Glass LLC 929 W. Exchange Avenue Chicago, IL 60609 312-674-8436 #6 Second City Glass IGCC®/IGMA® 2015	3526	BC3/MC1/MT	U/C1	BCS	IB	BCS		
Shanghai SYP Engineering Glass 75 Kangliu Road Pudong New Area Shanghai, 201315 China 86-21-38108108 SYP 02 IGCC®/IGMA® 2015	2523	BC4/GSJ	U/C2	AA	LF	PIB/S2		Yes
	2524	BC4/GSJ	U/C2	AA	LF	PIB/PS		Yes
	3231	BC4/GSJ	U/C2	SS	LF	PIB/S2		Yes
	3232	BC4/GSJ	U/C2	PHSS	LF	PIB/S2		
	3352	BC4/GSJ	U/C2	SS	LF	PIB/PS		Yes
Shanghai Yaohua Tempered Glass Co. Ltd. 199 Hengxi Road Minhang Shanghai, 201114 China 86-21-58454541 Shanghai Yaohua Temp IGCC®/IGMA® 2015	3669	BC4/GSJ	U/C3	AA	LF	PIB/S1		
	3670	BC4/GSJ	U/C3	AA	LF	PIB/PS		
Shenbo Special Architectural Glass Industrial Co., LTD Macau Industry Zone, Zhangge Village Guanlan Town Shenzhen, Guangdong China 86-852-21173390 HONGKONG SHENBO LIMITED IGCC® 2015	2573	BC4/GSJ	U/C3	MA	LF	HM/S2		
Shenzhen Jiayeda Glass Processing Co., Ltd. No. 2 Zone A Tangtou Industrial Area, Shiyan Shenzhen, Guangdong 581000 China 852-96450844 Shenzhen Jiayeda IGCCIGMA® 2015	3123	MC4/PLK	U/U	AA	LF	PIB/S2		
ShenZhen LiaoYuan Glass Co., Ltd. Liaoyuan Industrial Area, Jinbai Villiage Shiyan Town, Boan District Shenzhen, GuangDong 51108 China 86-13410765603	3833	BC4/GSJ	U/C2	MA	LF	HMB/PS		Yes
	3834	BC4/GSJ	U/C3	MA	LF	HMB/S2		
Shinn Fu Pair Glass Co. No. 1-1, Wen Ming 3 Street Kweishan, Taoyuan, Taiwan China 886-3-3283226 SFP IGCC®/IGMA® 2015	1822	MC4/PLK	U/U	AA	LF	PB/S2		

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Shu Cheng Energy Saving Technology Co., Ltd. 4 Qilianshan Road Economic & Technical Development Zone Qinhuangdao, Hebei 066000 China 86-335-8503784 Shu Cheng Energy IGCC®/IGMA® 2015	3462	MC4/PLK/IC	U/U	MA	LF	PIB/PS	IC	
Sierra-Pacific 11605 Reading Road PO Box 8489 Red Bluff, CA 96080 530-527-9620 SPW IGCC® 2015 + order#	3636 3637	BC3/MC1/MT/CT/IC BC3/MC1/MT/CT/IC	U/C2 U/C2/U	FS/FS FS/FS	IB IB/IB	RHM RHM	IC IC	Yes
SIGCO, Inc. 48 Spiller Drive Westbrook, ME 04092 207-775-2676 SIGCO IGCC®/IGMA® 2015	1444 2203 3131 3139	MC4/PLK/IC MC4/PLK/IC MC4/PLK/IC MC4/SSK/IC	U/C2 U/C3 U/C2 U/C2	AA AA PHSS SS	LF LF LF LF	PIB/S2 PIB/S2 PIB/S2 PIB/S2	IC IC IC IC	Yes Yes Yes Yes
Silver Line Windows and Doors 16801 South Exchange Avenue Lansing, IL 60438 708-474-9100 Silverline IL IGCC®/IGMA® 2015	2728 2954 3907	BC3/MC1/ZS/IC BC3/MC1/MT/IC BC3/MC1/ZS/IC	U/C2 U/C2 U/C2	TS FS TS	MX IB MX	RHM RHM RHM	IC IC IC	Yes Yes Yes
Silver Line Windows and Doors 1700 West Fork Drive Lithia Springs, GA 30122 770-819-9311 Silverline GA IGCC®/IGMA® 2015	2872 3205 3707 3731	BC3/MC1/MT/IC BC3/MC1/ZS/IC BC3/MC1/ZS/IC BC3/MC1/MT/IC	U/C2 U/C2 U/C2 U/C2	FS TS TS FS	IB MX MX IB	RHM RHM RHM RHM	IC IC IC IC	Yes Yes Yes Yes
Silver Line Windows and Doors 2549 Innovation Drive Marion, OH 43302 740-382-5595 Silverline OH IGCC®/IGMA® 2015	2669 2956 3908	BC3/MC1/TS/IC BC3/MC1/MT/IC BC3/MC1/ZS/IC	U/C2 U/C2 U/C2	TS FS TS	MX IB MX	RHM RHM RHM	IC IC IC	Yes Yes Yes
Silver Line Windows and Doors One Silver Line Drive North Brunswick, NJ 08902 800-234-4228 ext 4644 Silverline NJ IGCC®/IGMA® 2015	2734 3184	BC3/MC1/MT/IC BC3/MC1/ZS/IC	U/C2 U/C2	FS TS	IB MX	RHM RHM	IC IC	Yes Yes
Solar Seal Connecticut 30 Edmund St Hamden, CT 06517 203-865-8212 Insulpane CT IGCC®/IGMA® 2015	1966 2208	BC3/MC1/PLK/IC MC4/PLK/IC	U/C2 U/C2	AA AA	LF LF	PIB/PS PIB/HM	IC IC	



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Southern Wholesale Glass, Inc. 111 Industrial Blvd. Americus, GA 31719 229-928-5656 Southern Wholesale IGCC®/IGMA® 2015	2360	BC3/MC1/MT/IC	U/U	FS	IB	RHM	IC	
Standard Building Products Limited Shengfa Cun, Meili Zhen Changshu, Jiangsu China (8526) 919-6060 Standard Building IGCC®/IGMA® 2015	2898	BC3/MC1/IC	U/U	BCS	MX	PS	IC	
Sunview Patio Doors Ltd. 500 Zenway Blvd Woodbridge, ON L4H 0S7 Canada 905-851-1006 Suview Patio Doors IGCC®/IGMA® 2015	3013	BC3/MC1/MT/IC	U/C3/U	FS/FS	IB	HM	IC	Yes
Suzhou Taifeng Glass Decoration Co. Ltd The End of Taoyuan Road Taicang, Jiangsu 215400 China 0086-512-53553995 Suzhou Taifeng IGCC®/IGMA® 2015	3003	BC4/GSJ/IC	U/U	AA	LF	HM/PS	IC	
	3807	BC3/MC1/IC	U/C2	BSS	IB	BSS	IC	
	3808	BC3/MC1/IC	U/C2	BSS	IB	BSS	IC	
Syracuse Glass Co., Inc. 1 General Motors Drive Box 381 Syracuse, NY 13206 315-437-9971 SGC IGCC®/IGMA® 2015	3695	BC4/SSJ/IC	U/C2	PHSS	LF	PIB/S2	IC	
	823	BC4/GSJ/IC	U/C2	AA	LF	PIB/PS	IC	Yes
	828	BC4/GSJ/IC	U/C2	AA	LF	PIB/S2	IC	Yes
Tai Shan City Da Heng Art Glass Ltd. 1 Toi Hok Road, South Industrial Zone Shui Bu Town Tai Shan, Guangdong 529000 China 86-750-5456889 Tai Shan IGCC®/IGMA® 2015	2534	BC4/SSJ/IC	U/U	BSS	IB	BSS	IC	
Taiwan Glass Industry Corp. No. 261, Sec. 3, Nanking E. Road Taipei, Taiwan 105 China 886-2-27130333 Taiwan Glass Ind. Corp. 1356 IGCC®/IGMA® 2015	2053	MC4/PLK	U/C1	AA	LF	PIB/S2		

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Tecnoglass S.A. Avenida Circunvalar a 100 mts de la Via 40 Barranquilla, Colombia 57 5 373 4000 Tecnoglass IGCC®/IGMA® 2015	1393 1813 2683 3555	BC4/SSJ/AP BC4/SSJ/AP MC4/PLK/AP BC4/SSJ	U/C2 U/C2 U/C2 U/C2	MA MA SS PHSS	LF LF LF LF	PIB/PS PIB/S2 PIB/S2 PIB/S2		Yes Yes Yes Yes
Tecnovidrio S.A. de C.V. Cafetal 234-240 Colonia Granjas Mexico, Delegacion Iztacalco 08400 Mexico 52-55-3000-2000	3754	BC4/SSJ	U/C2	AA	LF	PIB/S2		
Texas Tempered, a Trulite Glass and Aluminum Solutions Company 1901 Little York Houston, TX 77093 713-697-2828 Texas Tempered IGCC®/IGMA® 2015	3798	MC4/PLK/IC	U/C2	AA	LF	PIB/S1	IC	
TG Changjiang Glass Co., Ltd 1 Taibo Road Zhangpu Town Kunshan City, Jiangsu 215321 China 86-512-57450000-294 TG Changjiang IGCC®/IGMA® 2015	3217	BC4/GSJ	U/C2	MA	LF	HM/S2		
Thai-German Specialty Glass Co., Ltd. 41/8 Rama 3 Road Shongnonsea, Yannawa Bangkok, 10120 Thailand 662-294-6287 TGSGC IGCC®/IGMA® 2015	2059 2067	BC4/ALJ BC4/ALJ	U/U U/U	AA AA	LF LF	PIB/PS PIB/S2		
Thermo BSL 141 Chemin des Raymond Riviere-du-loup, QC G5R 4L9 Canada 418-862-2611 Thermos BSL IGCC®/IGMA® 2015	3001	MC4/PLK/IC	U/C2/U	PHSS/PHSS	LF/LF	PIB/RHM	IC	Yes
Thermoseal Industries, LLC 400 Water Street Gloucester City, NJ 08030 856-456-3109 TSL IGCC®/IGMA® 2015	3700	BC3/MC1/MT	U/C2	FS	IB	HM		Yes

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Thompson I.G. LLC. 3196 Thompson Rd.	1367 2698	MC4/PLK/IC	U/C2	MA	LF	PIB/PS	IC	Yes
Fenton Operation Fenton, MI 48430 810-629-9558	3420 3421	MC4/PLK/IC	U/C2	PHSS	LF	PIB/PS	IC	Yes
TIG IGCC®/IGMA® 2015								
Tianjin Northglass Industrial Technical Co., Ltd South of Baozhong Avenue West of Tianxing Road Energy Conservation & Environmental Protection Tianjin, 301800 China 86-022-59281102	3862 3863	BC4/SSJ	U/C2	PHSS	LF	PIB/S2		
Tianjin SYP Engineering Glass 1 Huatai Road Hi-tech Industrial Park, Beichen Tianjin, 300409 China 86-22-86880204	2525 3026 3227	BC4/GSJ	U/C2	AA	LF	PIB/S2		Yes
SYP 03 IGCC®/IGMA® 2015								
Tower Insulating Glass LLC. 2485 Charles Court Bellmore, NY 11710-2773 516-887-3300	1470	MC4/PLK/IC	U/C3	AA	LF	PIB/S1	IC	Yes
Tower Glass Products IGCC®/IGMA® 1470 2015								
Tri-Star Glass 1120 West Main Pkway Catoosa, OK 74146 918-392-9678	2095 2627	BC4/GSJ/IC	U/C2	MA	LF	PIB/PS	IC	
Tri-Star IGCC®/IGMA® 2015								
Tri-Star Glass 1790 West Park Drive Grand Prairie, TX 75050 817.262.5960	3594	BC4/GSJ	U/C2	MA	LF	PIB/S2		
Tri Star DFW IGCC®/IGMA 14								
Triview Glass Industries 711 South Stimson Avenue City of Industry, CA 91745 626-703-6519	3310 3311 3312	MC4/PLK/IC	U/C2	MA	LF	PIB/S2	IC	Yes
Triview Glass IGCC®/IGMA® 2015								

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Trulite Glass and Aluminum Solutions 605 Stonehill Drive Atlanta, GA 30336 404-346-7900 TGI ATL IGCC®/IGMA® 2015	2089	BC4/GSJ	U/C3	MA	LF	PIB/S2		Yes
Trulite Glass and Aluminum Solutions 11950 E. 33rd Ave. Aurora, CO 80010 303-340-4290 IGCC®/IGMA® Trulite W31 2015	1990 1991	MC4/PLK/CT/IC MC4/PLK/IC	U/C2 U/C2	AA AA	LF LF	PIB/S1 PIB/PS	IC IC	
Trulite Glass and Aluminum Solutions 100 Business Center Drive Cheswick, PA 15024 800-232-9050 IGCC®/IGMA® Trulite W-42 2015	3527 3640	BC4/GSJ BC4/PLJ	U/C3 U/C2	PHSS TBAA	LF LF	PIB/S2 PIB/S2		Yes
Trulite Glass and Aluminum Solutions 19430 E. San Jose Ave. City of Industry, CA 91748 800-774-4224 COI W29 IGCC®/IGMA® 2015	3795	MC4/PLK/IC	U/C2	MA	LF	PIB/S2	IC	Yes
Trulite Glass and Aluminum Solutions 4400 Cambridge Rd. Forth Worth, TX 76155 817-785-1220 IGCC®/IGMA® TruLite W-35 2015	1749	BC4/GSJ	U/C2	AA	LF	PIB/S2		Yes
Trulite Glass and Aluminum Solutions 3333 Holly Hall Houston, TX 77021 713-747-5430 IGCC®/IGMA® TRULITE W48 2015	2075	MC4/PLK/IC	U/C2	AA	LF	PIB/S2	IC	
Trulite Glass and Aluminum Solutions 7701 W. New York St. Indianapolis, IN 46214 800-876-0646 IGCC®/IGMA® Trulite W-14 2015	2002	MC3/PLK/IC	U/C2	AA	LF	PIB/S2	IC	
Trulite Glass and Aluminum Solutions 2522 Westcott Blvd. Knoxville, TN 37923 865-691-2040 AGC 05 IGCC®/IGMA® E2190 2015	2063 2220	BC4/GSJ/IC BC4/GSJ/IC	U/C2 U/C2	MA MA	LF LF	PIB/PS PIB/S2	IC IC	Yes Yes

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Trulite Glass and Aluminum Solutions 1513 North A St. Las Vegas, NV 89106 702-385-3095 Trulite Las Vegas IGCC®/IGMA® 2015	2368 3936	MC4/PLK/CT/IC BC4/GSJ/IC	U/C2 U/C2	AA MA	LF LF	PIB/S2 PIB/S2	IC IC	Yes
Trulite Glass and Aluminum Solutions 5700 South Moreland Road New Berlin, WI 53155 800-242-2071 IGCC®/IGMA® Trulite W-23 2015	3147	MC4/PLK	U/C2	AA	LF	PIB/S2		Yes
Trulite Glass and Aluminum Solutions 3320-B Maggie Blvd. Orlando, FL 32811 800-367-7211 IGCC®/IGMA® W04 2015	1908	BC4/GSJ/IC	U/C2	AA	LF	PIB/S2	IC	
Trulite Glass and Aluminum Solutions 1825 S. 43rd Avenue Phoenix, AZ 85009 800-854-8022 Trulite IGCC® IGMA® W30 2015	4120	MC4/PLK/IC	U/C2	MA	LF	PIB/S2	IC	
Trulite Glass and Aluminum Solutions 6200 Gorman Rd. Richmond, VA 23231 804-222-0120 AGC 10 IGCC®/IGMA® E2190 2015	2477 3155 3156 3392	MC4/PLK/IC MC4/PLK/IC MC4/PLK/IC MC4/PLK/IC	U/C2 U/C2 U/C2 U/C2	MA MA MA PHSS	LF LF LF LF	PIB/PS PIB/S2 PIB/PS PIB/S2	IC IC IC IC	Yes
Trulite Glass and Aluminum Solutions 180 Main Avenue Sacramento, CA 93725 916-388-5885 Trulite SAC IGCC®/IGMA® 2015	3735	MC4/PLK/IC	U/C2	AA	LF	PIB/PS	IC	
Trulite Glass and Aluminum Solutions 5807 Business Park San Antonio, TX 78218 210-653-7790 AGC 26 IGCC®/IGMA® E2190 2015	2213 2355	MC4/PLK/IC MC4/PLK/IC	U/C2 U/C2	MA MA	LF LF	PIB/PS PIB/S2	IC IC	
Trulite Glass and Aluminum Solutions 285 Northbrook Drive Youngsville, NC 27596 919-435-3050 IGCC®/IGMA® Trulite W20 2015	1647	MC4/PLK/IC	U/C2	AA	LF	PIB/S2	IC	

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Trulite Glass and Aluminum Solutions - East 3515 South 300 West Salt Lake City, UT 84115 801-268-2521 AGC 19 IGCC®/IGMA® E2190 2015	2448	MC4/PLK/CT/IC	U/C2	MA	LF	PIB/PS	IC	Yes
Trulite Glass and Aluminum Solutions - West 1655 South Awl Circle Salt Lake City, UT 84104 801-656-1660 Trulite W34 IGCC(R) IGMA(R) 2015	3010	M/C4/PLK/IC	U/C2	MA	LF	PIB/S2	IC	Yes
Trulite Industries 20 Royal Group Crescent Woodbridge, ON L4H 1X9 Canada 905-670-7040 Trulite IGCC/IGMA W-90 2015	2332	MC4/PLK/CT/IC	U/C2	AA	LF	PIB/S2	IC	
Trulite Industries 20 Royal Group Crescent Woodbridge, ON L4H 1X9 Canada 905-670-7040 Trulite IGCC/IGMA W-90 2015	3935	MC4/PLK/IC	U/C2	MA	LF	PIB/S2	IC	
Trulite Industries 20 Royal Group Crescent Woodbridge, ON L4H 1X9 Canada 905-670-7040 Trulite IGCC/IGMA W-90 2015	2032	BC4/PLJ/IC	U/C2/U	AA/AA	LF/LF	PIB/S2	IC	Yes
Trulite Industries 20 Royal Group Crescent Woodbridge, ON L4H 1X9 Canada 905-670-7040 Trulite IGCC/IGMA W-90 2015	2295	BC4/GSJ	U/C2/U	SS/SS	LF/LF	PIB/S2		Yes
Trulite Industries 20 Royal Group Crescent Woodbridge, ON L4H 1X9 Canada 905-670-7040 Trulite IGCC/IGMA W-90 2015	3806	BC4/GSJ	U/C2	PHSS	LF/LF	PIB/S2		Yes
TSY-Fong Glass Co., Ltd 83-1 Jiasing Road Wanluan Township Pintung County , Taiwan 923 China 886-8-7835-002 TSY-Fong IGCC®/IGMA® 2015	3170	MC4/PLK	U/U	AA	LF	PIB/S2		Yes
Twin Pane Insulated Glass Co., Inc. 86 E. Horseblock Rd. PO Box 279 Yaphank, NY 11980 631-924-1060 TP IGCC®/IGMA® 2015	1528	MC4/PLK/IC	U/C1	AA	LF	PIB/S1	IC	
United Plate Glass Co., Inc. 108 Grundman Drive Butler, PA 16001 800-772-7783 UPG 02 IGCC®/IGMA® 2015	1513	BC4/GSJ/IC	U/C3	MA	LF	PIB/PUR	IC	
Val y Val SA de CV Av. Framboyanes Lote 19 Manzana 6 Cd. Industrial Bruno Pagliai Heroica Veracruz, Veracruz 91697 Mexico 52-229-9811036 Val y Val IGCC®/IGMA® 2015	3528	BC3/MC1/GSK	U/C2	AA	LF	PIB/S2		

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VELUX America Inc. PO Box 5001 Greenwood, SC 29648-5001 864-941-4828 VELUX IGCC®/IGMA® 2015	2035	BC4/PLJ/AF	U/C2	SS	LF	PIB/S1		Yes
Vidrios el Castillo SC del RL de CV Av. Las Industrias #500 Esquina Av. Las Torres Parque Industrial Esobedo Escobedo, Nuevo Leon 66062 Mexico 81-8154-5600 Vidrios el Castillo IGCC®/IGMA® 2015	3516	BC4/GSJ	U/C2	AA	LF	PIB/S2		
Vidrios Marte SA de CV	2288	MC4/PLK	U/C2	AA	LF	PIB/PS		Yes
Tlatilco no 138 Col. Tlatilco Azcapotzalco, Distrito Federal Mexico 02860 Mexico 52 55 3098 7046 Vidrios MX IGCC®/IGMA® 2015	2289	MC4/PLK	U/C2	AA	LF	PIB/S2		Yes
Vidrios Marte SA de CV Av Oriente No 6 lot*, Esq. Edison Col. Industrial Valle De Oro San Juan Del Rio, Querétaro 76806 Mexico Vidrios Marte IGCC®/IGMA® 2015	3386	BC4/PLJ	U/C2	TS	MX	RHM/HM		Yes
View Inc. 12380 Kirk Road Olive Branch, MS 38654 662-892-3415 View Inc., IGCC®/IGMA® 2015	3305	BC3/MC1/MT	U/C2	FS	IB	PIB/PUR		Yes
	3306	BC3/MC1/MT	U/C2	FS	IB	PIB/S2		Yes
Vinyl Window Designs Ltd. 300 Chrislea Rd. Woodbridge, ON L4L 8A8 Canada 905-850-3222 Vinyl Window Designs IGCC®/IGMA® 2015	2248	BC3/MC1/MT/IC	U/C3	FS	IB	HM	IC	Yes
	2521	BC3/MC1/SS/IC	U/C3/U	SS/SS	MX/MX	RHM	IC	Yes
Viracon Inc. 800 Park Drive PO Box 990 Owatonna, MN 55060 507-451-9555 Viracon IGCC®/IGMA® Owatonna, MN 2015	1462	MC4/ALK/CT/IC	U/C3/U	MA/MA	LF/IF	PIB/S2	IC	Yes
	1911	MC4/ALK/CT	U/C3/U	SS/SS	LF/LF	PIB/S2		Yes
	980	MC4/ALK/CT	U/C3/U	AA/AA	LF/LF	PIB/S2		Yes

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Viracon Inc. 8373 Zell Miller Parkway Statesboro, GA 30458	1529	BC4/GSJ/AP	U/C3	MA	LF	PIB/S2		Yes
	1530	BC4/GSJ/AP	U/C3	AA	LF	PIB/S2		Yes
	2909	BC4/GSJ/AP	U/C3	SS	LF	PIB/S2		Yes
912-871-3500	3532	BC4/GSJ	U/C3/U	SS/SS	LF/LF	PIB/S2		Yes
Viracon IGCC®/IGMA® Statesboro, GA 2015	3533	BC4/GSJ/AP	U/C3/U	MA/MA	LF/LF	PIB/S2		
	3534	BC4/GSJ/AP	U/C3/U	AA/AA	LF/LF	PIB/S2		Yes
W. A. Wilson Inc. 6 Industrial Park Dr. PO Box 6712 Wheeling, WV 26003 304-232-2200 Starlite IGCC®/IGMA® 2015	2815	MC4/PLK/IC	U/C3	AA	LF	PIB/PUR	IC	Yes
	3854	MC4/PLK/IC	U/C3	AA	LF	PIB/S2	IC	
Weather Shield Mfg. Inc. 1201 Adams Avenue E. PO Box 432 Ladysmith, WI 54848 715-748-2100 x2676 WS L IGCC®/IGMA® 2015	2507	BC3/MC1/CT/IC	U/C2	BPS	IB	BPS	IC	Yes
Weather Shield Mfg. Inc. One Weathershield Plaza PO Box 309 Medford, WI 54451 715-748-2100 WS M IGCC®/IGMA® 2015	2985	BC3/MC1/MT/CT/IC	U/C2/U	FS/FS	IB/IB	RHM	IC	Yes
	3537	BC3/MC1/IC	U/C2	BPS	IB	BPS/RHM	IC	Yes
	3541	BC3/MC1/IC	U/C2	BPS	IB	RHM/RHM	IC	Yes
	3610	BC3/MC1/MT/IC	U/C2	FS	IB	HM	IC	Yes
Weather Shield Mfg. Inc. 400 Legacy Lane Park Falls, WI 54552 715-748-2100 x2676 WS P IGCC®/IGMA® 2015	2502	BC3/MC1/CT/IC	U/C2	BPS	IB	BPS	IC	Yes
	3558	BC3/MC1/CT/IC	U/C2	BPS	IB	BPS	IC	Yes
West Coast Insulated Glass Products 17730 Crusader Avenue Cerritos, CA 90703 562-653-9797 West Coast Glass IGCC®/IGMA® 2015	2383	MC4/PLK/IC	U/C2	AA	LF	PIB/PUR	IC	Yes
	2384	MC4/PLK	U/C2	AA	LF	PUR		
	2385	MC4/PLK/IC	U/C2	SS	LF	PIB/PUR	IC	Yes
	2590	MC4/PLK/IC	U/C2	AA	LF	PIB/S1	IC	Yes
Western Reflections, Changshu ZhongXin Building Materials Meili Town Changshu, Jiangsu 215500 China 616-748-5401 XYG IGCC®/IGMA® 2015	31881	BC3/MC1/IC	U/C2	BCS	IB	BCS	IC	
	31891	BC3/MC1/IC	U/C2	BCS	IB	BCS/PS	IC	
	34421	MC4/PLK/IC	U/C2	AA	LF	PIB/PS	IC	



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Western Reflections, Vidrio Decorativo Occidental S. A. de C.V.	26371	BC3/MC1/IC	U/C1	BCS	IB	BCS	IC	
Poniente 4 Entre Borte 7 y Gral Pedro Hinojosa	30831	MC4/PLK/IC	U/C2	AA	LF	PIB/PUR	IC	
Ciudad Industrial	30891	BC3/MC1/IC	U/C2	BCS	IB	BCS	IC	
Heroica Matamoros, Tamaulipas Mexico	30901	BC3/SS/CT/IC	U/C2	TS	MX	RHM	IC	
868-812-9152	31161	BC3/SS/CT/IC	U/C1/U	TS/TS	MX/MX	RHM	IC	
VDO IGCC®/IGMA® 2015	31181	BC3/MC1/MT/IC	U/C2	FS	IB	HM	IC	
	33091	MC4/PLK/CT/IC	U/C2	AA	LF	PUR	IC	
Western Reflections, Zeeland	18921	BC3/MC1/MT/IC	U/C2	BCS	IB	BCS	IC	
215 E. Roosevelt Avenue	30521	BC3/MC1/CT/IC	U/C2	TS	MX	RHM	IC	
Zeeland, MI 49464	34071	MC4/PLK/CT/IC	U/C2	AA	LF	PUR	IC	
616-772-9111								
ODL Zeeland IGCC®/IGMA® 2015								
White Aluminum Enterprises LLC	2335	BC4/ALJ	U/C2	AA	LF	HM/S2		
Plot D14 (51) D11 (48,49) ICAD-1								
PO Box 30665								
Abu Dhabi, United Arab Emirates								
97-150-6429735								
White Aluminum IGCC®/IGMA® 2015								
Wholesale Glass Dist.	2279	BC4/GSJ	U/C2	MA	LF	PIB/S2		
4287 Delp Street	2280	BC4/GSJ	U/C2	MA	LF	PIB/PS		
Memphis, TN 38118								
901-332-2200								
Wholesale Glass IGCC®/IGMA® 2015								
Windsor Windows	2349	BC3/MC1/MT/IC	U/C2	FS	IB	HM	IC	Yes
2210 Stafford St. Ext.								
Monroe, NC 28110								
704-283-7459								
Windsor Windows NC IGCC®/IGMA® 2015								
Windsor Windows	2285	BC3/MC1/MT/IC	U/C2	FS	IB	HM	IC	Yes
900 South 19th Street								
West Des Moines, IA 50265								
515-223-6660								
Windsor Windows IA IGCC®/IGMA® 2015								
Woodstone Co.	2632	BC3/MC1/MT	U/C3	FS	IB	HM		
1162 Main Street								
North Walpole, NH 03609								
603-445-2449								
WDSTN IGCC®/IGMA® 2015								

<u>LICENSEE</u>	<u>CERTIFICATION NUMBER</u>	<u>FRAME CONSTRUCTION</u>	<u>SUBSTRATE</u>	<u>SPACER</u>	<u>DESICCANT</u>	<u>SEALANT</u>	<u>INTERNAL COMPONENTS</u>	<u>G CIA</u>
Wuhan Aozheng Science and Technology Co., Ltd.	3658	BC3/GSJ	U/C2	MA	LF	PIB/S2		Yes
107 Guodao (South) dongxi Lake District Wuhan, Hubei 430040 China 86 13907166358	3708	BC4	U/C2	TP	IB	TP/S2		Yes
Wujiang CSG Huadong Architectural Glass Co., LTD 869 Pangjin Road Economic Development Zone Wujiang, Jiangsu 215200 China 86-512-81559999	3500	BC4/GSJ	U/C2	AA	LF	HMB/S2		
Xianning CSG Energy Conservation Glass Co., LTD. Guishan Road No. 35 Changjiang Industrial Park Economic Development Zone Xianning, Hubei 437000 China (1820) 724-0511	3914	MC4/GSJ	U/C2	AA	LF	PIB/PS		
	3915	MC4/GSJ	U/C2	AA	LF	PIB/S2		
Xinyi Group (Glass) Co., Ltd. Xinyi Glass Industrial Zone Humen Town Dongguan, Guangdong 52935 China 604-273-0813 XYG IGCC®/IGMA® 2015	2047	MC4/PLK	U/C2	SS	LF	PIB/S2		Yes
	2350	BC4/ALJ	U/C2	MA	LF	PIB/S2		Yes
	2352	BC4/ALJ	U/C2	TBSS	LF	PIB/S2		Yes
	2353	BC4/ALJ	U/C2	AA	LF	PIB/S2		Yes
YinJian DongGuan Glass Engineering Co., Ltd. 86 Huanboa Road Yisha District, Shatian Town Dongguan, Guangdong 523928 China (1376) 327-9690 YinJian IGCC®/IGMA® 2015	3265	BC4/GSJ	U/C2	AA	LF	PIB/S2		
	3266	BC4/GSJ	U/C2	AA	LF	PIB/PS		
YKK AP America 3340 Chestney Road Macon, GA 31217 YKK-AP IGCC®/IGMA® 2015	3870	BC3/BCS/IC	U/C2	BCS	IB	BCS	IC	Yes
	3901	BC4/IC	U/C2	SS	MX	RHM	IC	Yes
	3902	BC4/IC	U/C2	SS	MX	RHM	IC	Yes
Zhejiang Zhongli Energy Efficient Glass Mfg. Co., Ltd Weiba Road Linjiang Industrial Zone, Xiaoshan District Hangzhou, Zhejiang 311228 China 86-571-82988986 Zhejiang Zhongli IGCC®/IGMA® 2015	3066	BC4/GSJ	U/C3	AA	LF	PIB/PS		Yes
	3067	BC4/GSJ	U/C3	AA	LF	PIB/S2		Yes

**“IGCC®/IGMA® PROTOTYPES IN PROGRESS”**

The following candidate Licensees have a prototype test in progress for possible inclusion in the Program.

**MANUFACTURERS**

AGC Flat Glass	Quakertown, PA
Allan Window Technologies	Concord, ON
Allweather Windows	Edmonton, ON
Alumana Industries	Doha, Qatar
American Insulated Glass	Conley, GA
Associated Materials	Kinston, NC
Barracuda Manufacturing	Wixom, MI
Berkowitz, J.E.	Pedricktown, NJ
Beijing JinJing	Beijing, China
Caron et Guay	Beaupre, QC
Cascade Windows	Salt Lake City, UT
Central Valley Screen	Sacramento, CA
Changshu Otaike Building	Jiangsu, China
Changshu Weier Glass	Jiangsu, China
Changshu ZhongCheng	Changhsu, China
Chin Ta Glass	Yunlin, Taiwan
Columbia Commercial Building	Rockwall, TX
Consolidated Armor	Addison, TX
Crisacurva	Houston, TX
Dallas Glass Tempering	Doha, Qatar
DDG Glass Manufacturing	Masai, Joho
Dong Yang Glass	Gwangju-si, Korea
EFCO	Monett, MO
Fujian Province	Xiamen, Fujian
Glass Dynamics	Stoneville, NC
Glass Insulators	Bloomer, WI
GlassFab Tempering	Tracy, CA
Glasswerks LA	Southgate, CA
Glaz-Tech Industries	Englewood, CO
Guardian Industries	Webster, MA
Hurd Window and Door Acquisitions	Merrill, WI
IG Solutions	Brooklyn, NY
Industries Cover	St. Apollinaire, QC
Insulite Glass Company	Olathe, KS
International Glass Company	Ville D’Anjou, QC
Interpane Glas	Plattling, Germany
Intigral	Walton Hills, OH
Jiangyin Runhong	Jiangsu, China
Jinzhou Fortune Glass	Liaoning, China
Kawneer	Cranberry Township, PA
Kenyon Stained Glass	Grove City, OH
Kinro, IN	Goshen, IN
Kinro, AL	Double Springs, AL
Kinro, TX	Waxahachie, TX
LG Hausys	Ansung City, Korea
LTI Smart Glass, Inc	Pittsfield, MA
M Industria	Merida, Mexico
Marvin Windows	Warroad, MN

Nashville Tempered	Hendersonville, TN
Northern Building Products	Teterboro, NJ
ODL, Changshu ZhongXin	Changshu City, China
ODL, Vidrios Marte	Matamoras, Mexico
Oldcastle BuildingEnvelope®	Denver, CO
Oldcastle BuildingEnvelope®	Concord, ON
Oldcastle BuildingEnvelope®	Grand Prairie, TX
Oldcastle BuildingEnvelope®	Point aux-Tremble, QC
Oldcastle BuildingEnvelope®	Langley, BC
Patio Enclosures	Macedonia, OH
PFG Glass Industries	Langley, BC
Poma Glass	Boardman, OH
Productos De Valor	San Juan, Mexico
Qinhuangdao High Tech	Qinhuangdao, China
Qinhuangdao Zhenhong Door	Hebei, China
Reem Emirates	Abu Dhabi, UAE
Retro Teck Windows	Burnaby, BC
SAGE Electrochromics	Faribault, MN
Shine Glass	Taoyuan, China
Sierra Pacific	Red Bluff, CA
Silver Line	North Brunswick, NJ
Spectrum Glass	Abu Dhabi, UAE
Stanley Glass	Keelung, Taiwan
Taiwan Glass	Taipei, Taiwan
Thermos Laval	Laval, QC
Tianjin CSG Energy	Tianjin, China
Tianjin Northglass Safety Glass	Tianjin, China
Trulite Glass and Aluminum Solutions	Atlanta, GA
Trulite Glass and Aluminum Solutions	Indianapolis, IN
Trulite Glass and Aluminum Solutions	Knoxville, TN
Trulite Glass and Aluminum Solutions	Pittsburgh, PA
Trulite Glass and Aluminum Solutions	Salt Lake City, UT
TVITEC	Cubillo Del Dil, Spain
Twin Pane Insulated	Yaphank, NY
Unicel Architectural	Longueuil, QC
United Plate Glass	Lincolnton, NC
Vidrios Marte	Azcapotzalco, Mexico
View Glass	Olive Branch, MS
Weather Shield	Ladysmith, WI
West Coast Insulated	Cerritos, CA
Wojan Windows	Charlevoix, MI
Wujiang Golden	Wujiang City, China
Xinyi Glass	Liaoning, China
YKK-AP America	Macon, GA
Zamil Glass Industries	Kingdom of Saudi Arabia

NOTICE: In accordance with the terms of the Procedural Guide, the IGCC® Standard License Agreement, a manufacturer with a prototype product test in progress is not authorized to use the permanent Certification label for that product or to certify that its product is in compliance with Program Standards and Procedures until a passing prototype test report for that product is presented by the manufacturer to the Certification office and the manufacturer is otherwise in compliance with IGCC®/IGMA® Program Procedures



**Administrative Management Systems, Inc.**

**Administrative Office**  
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Sackets Harbor, NY 13685  
Phone: (315) 646-2234  
E-mail: [staff@amscert.com](mailto:staff@amscert.com)



## ***PROCEDURAL GUIDE***

(IGCC® Document II-10)  
**INSULATING GLASS CERTIFICATION COUNCIL AND INSULATING GLASS  
MANUFACTURERS ALLIANCE IGCC®/IGMA®  
CERTIFICATION PROGRAM FOR SEALED INSULATING GLASS**

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### **1.0 FOREWORD**

Acceptance of certified sealed insulating glass comes with the conviction that such certification assures a high level of quality and the integrity of the identifying mark or certification label is being reliably maintained by a competent certifying agency.

The existing ASTM specification(s) for sealed insulating glass provides a sound technical basis for the required quality of sealed insulating glass. With the addition of independent administration plus periodic routine in-plant visits and product evaluation, a program of product certification is developed in accordance with accepted standards. The certification program described here is predicated upon the concept of independent and impartial administration of the certification procedures in the IGCC® license agreement.

To ensure administration of the certification program in a uniform and equitable manner, this procedural guide has been prepared for the information and guidance of the licensees.

It should be noted that the "IGCC® License Agreement" is the governing document for operation of the certification program. This procedural guide, which is not an extension of that document, serves merely to describe the administrative procedures and routine operation of the certification program.

The standards utilized in the IGCC®/IGMA® program for authorizing certification to is the **ASTM E2190-10** (Modified 2/03)

### **2.0 GENERAL INFORMATION**

#### **The Certification Concept**

The IGCC®/IGMA® Certification Program is based upon the conviction that no standard of quality is good without the continuous adherence of the licensees to that standard. To buyers,

specifiers, code officials and users, the IGCC®/IGMA® certification label offers the manufacturers assurance that his sealed insulating glass units have been produced in conformance to the ASTM specification(s).

#### Who Can Participate?

Every manufacturer of sealed insulating glass is eligible, on a voluntary basis, to participate.

#### Who Conducts the Program?

The Insulating Glass Certification Council (IGCC®) and the Insulating Glass Manufacturers Alliance (IGMA®), are the sponsors of this certification program. Under License with IGMA®, IGCC® administers and Governs the certification program under which the Administrator periodically checks and reports compliance of the manufacturers of products having the IGCC®/IGMA® certification label.

#### Administration

Administrative Management Systems, Inc. (AMS) is the independent administrator of the certification program. AMS maintains the IGCC®/IGMA® office of certification and handles the routine day-to-day business. All transactions are done in the name of IGCC®/IGMA®.

#### How Can You Become a Licensee?

The following steps must be accomplished before IGCC®/IGMA® can authorize a manufacturer to use the IGCC®/IGMA® permanent label: (Modified 8/09)

- a) The manufacturer must present a passing prototype report from an approved IGCC®/IGMA® testing laboratory to the office of certification. Fabrication of prototype test samples shall be witnessed by the Administrators representative during a plant audit, at which time the manufacturers compliance with IGCC®/IGMA® Quality Assurance requirements is validated. (See section 10.0)
- b) The manufacturer signs two copies of the IGCC® License Agreement and sends these to the office of certification. IGCC® will countersign both copies and return one to the licensee.
- c) The licensee sends the office of certification the necessary certification fee.
- d) After receipt by the office of certification of the above, the administrator validates that particular model and sends to the licensee a "Notice of Authorization to Use the IGCC®/IGMA® Permanent Label." The permanent label must be affixed on each certified sealed insulating glass unit.
- e) The certified model will then be listed in the next published Certified Products Directory.

### **3.0 HOW THE CERTIFICATION PROGRAM WORKS**

American Society for Testing and Materials has test methods and specifications for sealed insulating glass. Sealed insulating glass must meet or exceed the applicable specification before it can be certified.

Recognized independent testing laboratories conduct all tests. The certification committee shall approve all laboratories, whose test reports are utilized by this certification program. As the sole judge of compliance with the applicable specifications, the administrator authorizes a product, which has been approved to be listed in the Certified Products Directory.

Licensees label sealed insulating glass units in accordance with the labeling requirements established by the Certification Committee.

Approved products are listed in the Certified Products Directory, which is published every six months. It is sent to door, sash and building manufacturers, glazing contractors, homebuilders, architects, regulatory agencies and code-making groups, etc. Directory listings contain the licensee's name, plant location and product description.

The administrator verifies production at the licensee's manufacturing location during twice per year audits. Audits are performed by a representative of the administrator. During each of these audits, the manufacturer's compliance with IGCC®/IGMA® Quality Assurance requirements is validated (See section 10.0). The prototype test report must be submitted within one year of the report date in order for the report to be considered as the test for the first year, two audits will take place at which time the auditor will compare current production with the product authorized to use the IGCC®/IGMA® permanent label. At the discretion of the administrator, when a licensee is located outside of North America and test sample fabrication is not required, one audit in a given year may be performed internally by personnel of the licensee. In this case the required audit information will be transmitted to the licensee's internal auditor and upon completion reviewed by the administrator.

During the first audit in the second year, specimens will be fabricated for testing. IGCC®/IGMA® will ask the manufacturer to produce a minimum of thirteen test specimens. The fabrication of these test specimens is witnessed and verifies that they are produced in accordance with the construction certified. During test specimen fabrication, only the IGCC®/IGMA auditor and employees of the licensee being audited shall be present. The licensee is instructed to send these test specimens to an approved IGCC®/IGMA® testing laboratory where they are tested. The specimens must be shipped to the laboratory within four weeks of fabrication. Tests are made at the laboratory recommended by the licensee and selected by the administrator from the approved list.

A monthly report listing the status of testing is mailed to the licensee by the office of certification on the 15<sup>th</sup> of each month. Upon completion of the test, the administrator mails results promptly to the licensee.

After initial certification (Prototype) testing, ASTM E2190 testing shall occur annually for the first 2 years of certification. If no failures occur, then testing may occur once every 2 years, at the discretion of the participant. (Modified 1/12)

#### **4.0 COMPLIANCE SAFEGUARDS**

### How is Compliance Assured?

Any certified product found in the course of routine audit and evaluation not to be in compliance with the model description or quality assurance requirements is subject to having authorization to use the IGCC®/IGMA® permanent label removed. The licensee is sent a request for clarification giving thirty days in which to demonstrate to the satisfaction of the administrator that his product is in compliance with the model description that is certified. If he does not respond, a warning of possible removal of authorization to use the IGCC®/IGMA® permanent label is sent giving an additional thirty days to respond. If he does not respond, authorization to use the IGCC®/IGMA® permanent label is **automatically terminated** at the end of that thirty-day period.

In the case of a routine test failing to comply with the specifications, the licensee will be officially notified that within 15 days he must respond by stating that a retest fabrication is requested and by paying all administrative and test fees. If there is no response within the 15 days, authorization to use the IGCC®/IGMA® permanent label is automatically terminated. If the retest option is accepted, the administrator will perform an audit and witness fabrication of the retest specimens within 45 days. (See guideline G.16)

### Challenging a Certified Product

Complaints of non-compliance from any corporation or business source will be investigated promptly upon receipt of the complaint in writing along with an appropriate surety deposit. A minimum surety deposit of \$1,500 will be required for each complaint of non-compliance. The surety deposit will be assessed at the rate of \$300 per man-day plus the reasonable cost of travel and other expenses entailed in resolving such incidents. Refunds of part or all of the surety deposit will be made when applicable. The surety deposit will cover all costs involved, unless the investigation proved non-compliance, in which case all costs will be borne by the licensee found to be in non-compliance.

### Complaints by Consumers

The administrator shall receive and log the complaint. It will be the consumer's responsibility to identify the label, information appearing on the spacer of glass and advise the administrator of the same. Note: If no IGCC®/IGMA® label exists, the product has not been certified by the manufacturer to IGCC®/IGMA® and the administrator and IGCC®/IGMA® have no further responsibilities or options.

Once the consumer has identified the label, name, etc. and advised the administrator, the administrator shall respond, advising the consumer of the name, address, primary contact, model description and other pertinent information at hand as it pertains to the subject licensee. Note: If the complaint is being made for reasons of product appearance or failure such as glass quality, fogging, seal failure, dust, etc., the consumer shall be advised to contact the licensee for manufacturer directly. Some manufacturers and their dealers or distributors offer warranties on their products. Normal claims, procedures and legal remedies are available to consumers on a state-by-state basis.

If the consumer wishes to determine whether or not a labeled product is in compliance with the model described through an investigation by IGCC®/IGMA®, the corporation or business



challenge procedure shall be utilized. The surety deposit shall be modified to \$400 and charges per man-day and shall be assessed against the surety deposit in the amount of \$300 plus reasonable travel costs and other expenses.

#### Withdrawal of Certified Product

Any product which has been authorized to use the IGCC®/IGMA® permanent label may be voluntarily withdrawn from the Certification Program by the licensee at any time. (Modified 8/09)

### **5.0 COSTS**

#### What Does the Program Cost?

The initial administration fee will be based on the date of authorization to use the IGCC®/IGMA® permanent label in a manner that participation in the Certification Program will be on a February 1 to January 31 basis thereafter. If the authorization date is between August 1 and December 1, 50% of the administration fee for the first year will be charged for participation and will include one audit prior to the following February 1 date. A licensee is invoiced for each item that is certified and listed separately in the Certified Products Directory. An additional invoice for testing laboratory fees will be issued upon fabrication of test units. For current fee schedule, contact the Administrative office or visit [www.igcc.org](http://www.igcc.org).

Testing of these units will not begin until payment has been received. Should failure of these units occur during certification testing, any remaining balance will be refunded to the licensee upon request. (Modified 8/09)

### **6.0 DOCUMENTS AND AGREEMENTS**

#### License Agreement

This agreement, incorporating independent program administration and routine, periodic, independent plant audits, sampling and evaluation, governs the relationship between IGCC® and the licensee.

Future amendments or revisions to the License Agreement will be recommended by the Certification Committee and enacted by the IGCC® Board of Governors.

#### Effective Date, Duration, and Termination

The License Agreement becomes effective on the date of its execution, has an initial duration of twelve months (adjustable to a February 1 to January 31 basis), and is automatically renewed for successive twelve month periods, unless either party gives notice, at least sixty days prior to date of expiration, that cancellation is requested or unless revoked by IGCC® for causes set forth in the document.

#### Administrative Service Agreement

This agreement entered into by IGCC® and Administrative Management Systems, Inc. (AMS) governs the relationship between IGCC® and AMS, the independent administrator. In general, it provides that the administrator:

- a) routinely audits licensee manufacturing facilities twice per year, and during the first audit in the second and subsequent years, witnesses fabrication of specimens for testing at one of the IGCC®/IGMA® approved testing laboratories,
- b) has the right to witness any and all testing,
- c) reviews all test reports in order to determine compliance of the certified product with the specifications,
- d) audits and recommends for approval, all test laboratory facilities for use in this certification program; test laboratories are recognized or approved by the certification committee,
- e) publishes and mails the IGCC®/IGMA® Certified Products Directory twice each year and handles all routine clerical duties of IGCC®/IGMA® with respect to certification matters,
- f) acts as IGCC® treasurer, invoicing licensees, maintaining a bank account and dispersing funds (fiscal reports are made to the Board of Governors),
- g) attends all scheduled meetings of the Certification Committee, and
- h) in all of its actions acts in the name of IGCC®.

#### IGCC®/IGMA® Administration Services and Exclusive Licensing Agreement

This agreement defines the relationship where IGMA® and IGCC® desire to combine the administration and marketing of their two certification programs into one certification program administered and governed by IGCC® under which both the IGCC® Mark and the IGMA® Mark are licensed to certification program participants meeting the requirements (“IGCC®/IGMA® Certification Program”)

#### Procedural Guide

This guide outlines program procedures in accordance with the provisions of the License Agreement and the Administrative Service Agreement, for the guidance of those concerned with the procedural details of the Certification Program's operation. It covers the steps to be taken in any given procedural situation in the interest of equitable and uniform treatment of licensees and the preservation of the integrity of the certification program.

#### Certified Products Directory

This directory is the one document and publication that is normally in the public's eye and contains a listing of the certified seal insulating glass units of each licensee.

#### Certification Label

The licensee permanently affixes this certification mark to each unit of certified sealed insulating glass. This certification mark may be reference to the Licensee's listing in the Certified Products Directory. The listing then provides a product description including the company name, plant location, etc. (Modified 8/09)

## **7.0 PROGRAM RESPONSIBILITY**

### **IGCC® Board of Governors**

The IGCC® Board of Governors has overall responsibility for the well-being and acceptance of the Certification Program by the industry, building officials and the public. It also bears legal corporate responsibility.

### **IGMA® Board of Directors**

The IGMA® Board of Directors may make recommendations to the IGCC® Board regarding the IGCC®/IGMA® Certification Program and may appeal any decision of IGCC® regarding certification or the IGCC®/IGMA® Certification Program.

### **IGCC® Certification Committee**

The IGCC® Certification Committee has the responsibility for the general procedure and policy pertaining to operation of the Certification Program. As a part thereof, it: (Modified 8/09)

- a) establishes "guidelines",
- b) determines the applicability of the specifications in a specific situation where a question is raised by a licensee or the administrator,
- c) approves test laboratories,
- d) determines which of the specifications are to be designated effective for the purposes of product certification and the date or dates on which they become effective, and
- e) recommends to the IGCC® Board of Governors changes to be made in the License Agreement.

## **8.0 LABEL REQUIREMENTS**

THE IGCC®/IGMA® CERTIFICATION LABEL MUST BE PERMANENTLY MARKED ON A VISIBLE PORTION OF EACH SEALED INSULATING GLASS UNIT OR IT IS NOT CERTIFIED BY THE MANUFACTURER TO THE PUBLIC. The label shall be etched, sand blasted, embossed, printed, Painted or otherwise permanently marked on the spacer or at least one component pane of the sealed unit. (See note #1 below)

This label must be visible after installation in the building. The IGCC®/IGMA® permanent label must be in block capital letters and have a minimum height of 0.050 inches (1.27 mm). The letters IGCC®/IGMA® must be followed by the ® registration mark or a close facsimile, i.e., IGCC®/IGMA®. The IGCC®/IGMA® permanent label must contain the company identification (company name, trade name or company code), plant code\*, registered "IGCC®/IGMA®" mark and a date code spanning no more than a 12 month period, plus or minus three months. The date code should commence with the beginning of each calendar year (effective for both the beginning and the ending of each period). Outdated spacers may be hand stamped to bring the label up to date. The plant code will only be required when there is more than one plant with an IGCC®/IGMA® certified product operating under the same company name. The IGCC®/IGMA® permanent label must be affixed to certified products only at the time and place of manufacture. The labeling must be approved by the administrator. The permanent label must be affixed only to the sealed insulating glass units of the licensee's own manufacture which have been certified by the manufacturer through IGCC®/IGMA®.

The permanent label must not be sold, transferred or otherwise disposed of in any manner other than being affixed to the licensee's certified production. The permanent label must not be affixed to any product from which certification has been withdrawn or which is produced with a process basically different from the one used when certification was obtained.

Example of Minimum Label:

**ABC Glass Co.(\*) IGCC®/IGMA® '15**

The IGCC®/IGMA® permanent label is listed under each company's name in the "Certified Products" section of this directory.

\* A plant code will only be required when there is more than one plant with an IGCC®/IGMA® certified product operating under the same company name.

Note#1:

When an NFRC certified window, door, skylight fabricator also fabricates IGCC®/IGMA® certified IG units and glazes these IG units into their own NFRC certified product, the IGCC®/IGMA® permanent label may appear on the window, door, skylight NFRC permanent label in lieu of the IGCC®/IGMA® permanent label appearing on the actual IG unit. IGCC®/IGMA® required label content and NFRC permanent label requirements shall apply. (Modified 8/10)

For Example:

NFRC 123 - N - 456 ----- ABC Windows - Dallas IGCC®/IGMA® 2015
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## **9.0 ADVERTISING GUIDELINES**

The following concepts are important to remember whether you are a participant, licensee in the IGCC®/IGMA® Certification Program, or a supplier to the sealed insulating glass industry. This discussion is intended to provide you with an accurate background description of the IGCC®/IGMA® Certification Program, to help you avoid making possibly misleading, deceptive, or ambiguous statements regarding the program in the advertising of your products. (Modified 8/09)

- 1) IGCC®/IGMA® is the sponsor of a certification program. IGCC®/IGMA® does not certify products.
- 2) The administrator audits laboratories and checks their equipment, audits licensees' production and fabrication of specimens, and validates test reports and certification claims.

- 3) Laboratories test specimens to specific test methods and specifications referenced by IGCC®/IGMA®
- 4) Manufacturers/licensees "certify" their products, affirming that their products are constructed similarly to specimens which were audited, tested and found to pass the stated criteria. A Licensee's Certification Statement is the imprinting, sandblasting, etching or other form of permanent marking of an IGCC®/IGMA® certification program designation and number to its product.
- 5) The IGCC®/IGMA® Certification Program does not have "members," inasmuch as the term "members" carries with it a connotation that some detailed criteria must be met in order to participate in the organization. Under the IGCC®/IGMA® concept, anyone can participate and "participants" simply must possess a "legitimate interest in the purposes of IGCC®/IGMA®." Manufacturers, on the other hand, which are "fabricators of sealed insulating glass units," become participants by virtue of executing a License Agreement with IGCC®. Any manufacturer of insulating glass may voluntarily enter into a License Agreement, provided that they intend to certify at least one product under the IGCC®/IGMA® Certification Program. Thus, the proper term to use for a manufacturer participant is "Licensee." A manufacturer, with a prototype in progress, is termed a "Candidate Licensee."
- 6) Unit specimens, not their components, are tested under the IGCC®/IGMA® program. Thus, if you are a supplier to the industry, statements indicating that your components have complied with the test methods would be incorrect. A better nomenclature for example, would be, that "Units tested to ASTM E2190 contained our X component have been found to meet the requirements of the specification(s)."
- 7) Should you have any questions concerning the IGCC®/IGMA® Certification Program, please contact:

Insulating Glass Certification Council  
Mr. John G. Kent  
PO Box 730, 100 West Main Street  
Sackets Harbor, NY 13685  
Telephone: 315-646-2234  
E-mail: staff@amscert.com

## **10.0 QUALITY ASSURANCE PROGRAM**

IGCC®/IGMA® require licensees to have a working quality assurance program for the fabrication of insulating glass. As a minimum, the licensee's quality assurance system must comply with the general requirements of IGMA TM 4000-02(07) which established 1) general requirements for quality systems and 2) provides practical solutions for implementing such a system. IGCC®/IGMA® requires compliance to these general requirements of IGMA TM 4000-02(07) but does not define the specifics of the quality assurance system which should be appropriate for the type, range and volume of work performed.

Adherence is verified during twice per year plant visits. These requirements were adopted to improve the overall quality of IG units in the program, and also to satisfy requirements established by the Department of Housing and Urban Development, HUD, the National Fenestration Rating Council (NFRC) and other regulatory and consumer driven organizations.

A licensee's QA program shall comply with IGMA TM 4000-02(07) which establishes requirements for the following: (Modified 8/09)

- 1) A quality systems manual
- 2) A designated person responsible for quality assurance
- 3) Process Control
- 4) Inspection and Testing (Spacer, Desiccant, Sealant, Gas Fill, Finished Product, Glass)
- 5) Calibration
- 6) Non-Conforming Products and Corrective Action
- 7) Storage and Handling
- 8) Field Service
- 9) Internal Quality Audits
- 10) Training
- 11) Statistical Techniques

#### **11.0 GAS CONTENT INITIAL AND AFTER WEATHERING CERTIFICATION AND TESTING (GCIA)**

A licensee must certify to seal durability requirements to participate in the gas content program. The IGCC®/IGMA® Gas Content program is voluntary if gas content units will NOT use IGCC®/IGMA® marked spacer, but is mandatory if IGCC®/IGMA® marked spacer will be used for gas content units. The program is intended to demonstrate a licensee's ability to initially fill to a minimum level and the ability of the construction of the IG unit to retain a minimum gas content level after exposure to the ASTM E2190 weathering cycle.

Licenses meeting a tested initial gas content of 90% or greater and a final after weathering gas content of 80% or greater shall be identified in the Certified Products Directory (CPD) with the designation "GCIA" for "Gas Content, Initial and After Weathering". Both initial and after weathering gas content must be compliant in order to be listed as "GCIA". The gas content certification process will be as follows: (Modified 8/10)

1. The normal minimum of thirteen (13) 14x20-inch (355x505 mm) test units for seal durability, fifteen (15) for multiple air space units, shall be fabricated under auditor witness during normal durability certification fabrication audits. All test units shall be gas filled with argon. All multiple air space units shall have both cavities filled and tested. Per guideline G.19 as applicable, coated glass shall be

used and multiple air space units shall have coated glass as the center lite for at least ten (10) test units intended for testing in accordance with ASTM E2188 and have coated glass on at least one outer lite for at least four (4) test units intended for testing in accordance with ASTM E2189. The test lab shall randomly select ten (10) units for initial gas content testing except that units containing internal components (IC) (i.e. grills or muntins) shall not be considered for testing. Units shall be inspected for any damage, and any damaged units not used. Testing for gas content after weathering shall be performed on the six (6) ASTM E2190 weathering test units.

2. Production Units – As of 6/23/10 selection and testing of production units is not required.
3. Units shall be tested for initial and after weathering gas content percent by non-destructive spark emission spectrography (SES) in accordance with ASTM E2649 Determining Argon Concentration in Sealed Insulating Glass Units Using Spark Emission Spectroscopy. Up to two (2) test units (14" x 20") may be used to replace any unit broken in shipping or handling.
4. Laboratories shall report results of testing as "percent initial gas content" and "percent after weathering gas content" to the nearest whole percent.
5. The calculation of percent initial gas content shall be the average of all ten (10) units tested. The calculation of percent after weathering gas content shall be the average of all six (6) weathered test units.
6. To be listed as complying with gas content certification, initial and after weathering (GCIA) the average gas content level must be 90% or greater initially and 80% or greater after weathering, and each of the tested units shall have a gas concentration of 50% or greater . These levels were selected as levels that can reasonably be reached by insulating glass fabricators on a consistent basis. It takes into consideration a) variations that may occur in the filling process, and b) variations that may occur in the testing process. If a licensee feels that its gas content is consistently greater than these gas content values, the licensee can include this information in the licensee's literature.
7. It is recognized that actual production units may not necessarily be 90% or greater initial gas content but shall meet the manufacturer's stated initial content values.
8. Special arrangements need to be made if regulatory compliance is required for gas content other than argon (see certification guideline A.GC.1).

## **12.0 CERTIFICATION GUIDELINES AND INTERPRETATIONS**

For guidance in labeling and certifying sealed insulating glass units the Certification Committee has adopted the below guidelines.

Additionally, certain topics that required added explanation and clarification have been presented in a series of Certification Notes as referenced. These Certification Notes are available on the IGCC®/IGMA® website (www.igcc.org) or by contacting the administrative office.

<b>ID #</b>	<b>Title</b>	<b>Initial Publish Date</b>	<b>Approval Date</b>
CN IG 1009	Certification of Internal Components (IC)	10/28/09	1/31/12
CN IG 1109	Certification of Capillary Tube, Breather Tube Systems	10/28/09	10/28/09
CN IG 0310	Certification of Multiple Air Space Units	3/1/10	3/2/11
CN IG 1010	Interim Certification	10/14/10	3/1/11
CN IG 0211	Certification and Testing of Vacuum Insulating Glass VIG	2/18/11	1/31/12
CN IG 0112	Desiccant Quantity Review of Changes (ACPF)	1/31/12	10/31/12

**ALWAYS**

**12.1** The following situations permit the licensee to **always** certify the sealed insulating glass units with the same IGCC®/IGMA® number.

**12.1.1 GLASS**

A.GL.1

Any change in glass thickness from that tested. (Modified 3/15/06)

A.GL.2

Any change in glass tint or color from that tested (clear glass is required in test specimens).

A.GL.3

Any change in glass size from that tested (14 by 20 inches is required for test specimens).

A.GL.4

Any change in glass type (i.e. tempered, heat strengthened, laminated or patterned glass) from that tested (annealed glass is normally used in all test specimens).

A.GL.5

Any change in glass shape from that tested (rectangular glass is required in test specimens). This guideline permits the same IGCC®/IGMA® number for triangular, circle head, trapezoidal and other shapes.

A.GL.6

Any change in glass supplier from that tested.

A.GL.7 (Deleted 3/15/06)



A.GL.8 (Deleted 3/15/06)

A.GL.9 (Deleted 3/2/11)

### **12.1.2 SPACER**

A.SP.1

Any change in air space dimension from that tested (one-quarter inch to one-half inch air space is allowed for testing).

A.SP.2

Any change in spacer wall thickness from that tested.

A.SP.3

Any change in spacer seam design (i.e. butt seam or lock seam) from that tested.

A.SP.4

Any change in supplier of spacer from that tested, everything remaining the same.

A.SP.5

Corners or connections which are soldered, welded, brazed or bent, but uncut, may be used interchangeably with the same IGCC®/IGMA® number. (Adopted 2/19/85)

A.SP.6

Corners or connections may be changed from mechanical connections (MC) to bent-uncut corners (BC), using the same IGCC®/IGMA® number utilizing joiners or corner keys of plastic, aluminum, stainless, or galvanized steel. (Modified 5/14/08)

A.SP.7

Any change in spacer profile from that tested. (Adopted 7/29/04)

### **12.1.3 INTEGRATED SPACER SYSTEMS**

Defined as a a pre-fabricated multi-component, multi-material and/or multi-function spacer system. Contact the IGCC®/IGMA® Administrative Office for the most current list of reviewed integrated spacer systems and their generic class.

A.SS.1

A licensee may certify a thermally broken Integrated Spacer System (ISS) on the "IGCC®/IGMA® List of Reviewed Integrated Spacer Systems" utilizing the same IGCC®/IGMA® number as the base spacer generic material (single homogeneous component) provided regular test units include the thermally broken ISS, all other guidelines applicable. (Adopted 1/31/12)

A.SS.2

A licensee may use a temporary alternate integrated spacer system on the IGCC®/IGMA® list of reviewed integrated spacer systems (most current version) in the same generic class by a)

notifying the administrator of the change, b) having test specimens witnessed by the administrator's representative at the next regular audit, and c) sending the test specimens to an IGCC®/IGMA® approved testing laboratory within four weeks of the test specimens' fabrication date. However, Guideline G.26 shall apply where applicable. The licensee may temporarily use the certification label on a provisional basis commencing with written notification of the administrator and end when test results are received by the administrator. (Modified 1/31/12)

#### **12.1.4 DESICCANT**

##### A.DE.1

A manufacturer may use the same IGCC®/IGMA® number on production units having air space thickness equal to, or greater than the model tested provided the desiccant Adsorption Capacity per Perimeter Foot (ACPF) remains the same (-10%) or is greater. A manufacturer may use the same IGCC®/IGMA® number on production units having an air space thickness smaller than the model tested provided the manufacturer maintains the same or more sides filled with desiccant (Modified 1/31/12)

##### A.DE.2

A change in supplier of the same generic type of desiccant from that tested will not require a different IGCC®/IGMA® number. However, Guideline A.SS.2 shall apply where applicable. (Modified 1/31/12)

##### A.DE.3

The use of the same loose fill desiccant manufactured in different particle size ranges will not require a different IGCC®/IGMA® number. (Modified 1/31/12)

A.DE.4 (Deleted 1/31/12)

A.DE.5 (Deleted 1/31/12)

A.DE.6 (Deleted 1/31/12)

#### **12.1.5 SEALANT**

##### A.SE.1

Any increase in moisture vapor transmission path length is an acceptable alternate for labeling.

##### A.SE.2

A licensee may use a temporary alternate sealant on the IGCC®/IGMA® list of reviewed sealants (most current version) in the same generic class by a) notifying the administrator of the change, b) having test specimens witnessed by the administrator's representative at the next regular audit, and c) sending the test specimens to an IGCC®/IGMA® approved testing laboratory within four weeks of the test specimens' fabrication date. The licensee may temporarily use the certification label on a provisional basis commencing with written notification of the administrator and end when test results are received by the administrator. (Modified 6/23/10)

### **12.1.6 GAS CONTENT**

A.GC.1 (Deleted 3/2/11)

### **NEVER**

**12.2** The following situations never permit the licensee to certify with the same IGCC®/IGMA® number. They require the use of a different IGCC®/IGMA® number.

### **12.2.1 SPACER**

N.SP.1

A change in spacer material, i.e. aluminum to steel or any other material will require a different IGCC®/IGMA® number.

N.SP.2

A change in spacer surface finish, i.e. anodized to mill finish or hot dip to electro galvanized will require a different IGCC®/IGMA® number.

N.SP.3

A change in corner design from soldered, welded, braised or bent(BC) to mechanical corner(MC) will require a different IGCC®/IGMA® number. (Modified 5/14/08)

N.SP.4

A change in corner key material to another material, except to the same material as the spacer, will require a different IGCC®/IGMA® number. All plastic keys and joiners are considered generically equivalent. This guideline does not apply to A.SP.6. (Modified 5/14/08)

N.SP.5

If bent, uncut spacer corners or connections(BC) are changed to mechanically fastened spacer corners(MC); a new IGCC®/IGMA® number is required. (Modified 5/14/08)

### **12.2.2 DESICCANT**

N.DE.1

A change in generic type of desiccant will require a different IGCC®/IGMA® number. For purpose of desiccant guidelines, the generic types of desiccant are 1) LF=Loose Fill desiccant, 2) IB=Imbedded desiccant system, 3) MX=Desiccant Matrix. (Modified 1/31/12)

### **12.2.3 SEALANT**

N.SE.1

In a single sealant system, a change in generic type of sealant will require a different IGCC®/IGMA® number.

N.SE.2

In a two sealant system, a change in generic type of primary sealant will require a different IGCC®/IGMA® number.

N.SE.3

In a two sealant system, a change in generic type of secondary sealant will require a different IGCC®/IGMA® number.

N.SE.4

Any decrease in the minimum design moisture vapor transmission path length will require a different IGCC®/IGMA® number.

N.SE.5

Any increase in thickness of design moisture vapor transmission path (glass to spacer dimension) will require a different IGCC®/IGMA® number.

## GENERAL

### **12.3 CLASS I - UNIT MODIFICATION**

#### DEFINITIONS

Breather Tube - Tube inserted into the I.G. spacer and intended to be sealed prior to glazing of the unit.

Capillary Tube - Tube inserted into the I.G. spacer and intended to be left permanently open.

Capillary, Tube and How It Is Related to Membrane - IGCC®/IGMA® observes that organically sealed insulating glass units are not actually hermetically sealed, but rather are composed of sealing systems which demonstrate sufficiently low water and gas transmission rates as to pass the accelerated weathering conditions imposed in ASTM standard(s). We acknowledge that certain capillary tube designs may also control the passage of water and gases in such a manner as to allow breathing but still demonstrate the ability to pass the test conditions.

#### G.0 - Capillary Tube (Permanently Open Tube)

An I.G. construction incorporating a permanently open capillary tube will be considered and listed for durability as equivalent to a previously IGCC®/IGMA® program durability certified I.G. model without a capillary tube, provided the following applies: (Modified 10/28/09)

- a. Material and construction of the units are identical, except for the inclusion of the capillary tubes.
- b. Both sets of I.G. units reach the same performance level when tested according to ASTM standard(s). The units with capillary tubes need only be tested once.
- c. The test must be run by an IGCC®/IGMA® approved lab. Unit installation instruction must be supplied to the lab.

- d. Preparation of test specimens need not be witnessed. However, the test result must be reviewed and approved by the administrator.

G.1 Breather Tube (Temporarily Open Type)

A licensee is permitted to insert the open end of a breather tube in a bag or container of desiccant during shipment of a specimen to the test laboratory for durability testing. The breather tube must be sealed prior to testing. Unit installation/sealing instruction must be supplied to the lab. (Modified 10/28/09)

G.2 Breather Tube (Temporarily Open Type)

The addition of a breather tube is acceptable, for shipping only, even though not in the durability test specimen. The breather tube should be properly sealed before installation. Unit installation/sealing instructions must be supplied to the lab. (Modified 10/28/09)

G.3 Edge Protection

The addition of edge protection such as metal banding, metallic foil, barrier coat, etc., is acceptable with the same IGCC®/IGMA® number.

G.7 (Deleted 1/1/07)

G.8 Internal Components (IC)

A minimum of three (3) of the thirteen (13) double pane, five (5) of the fifteen (15) multiple airspace test specimens shall be constructed utilizing all of the components of an internal components (IC) system, which are used in the ultimate product. Such systems may include but are not limited to blinds, films, decorative glass inserts, grills and muntins. These units shall be used for volatile fog testing in accordance with ASTM E2189. When testing muntins or grills, test samples shall be fabricated dividing the sample into nine equal areas (3 by 3). A licensee may use the same IGCC®/IGMA® number for units manufactured without internal components (IC) providing regular testing has been accomplished in accordance with the above procedure. (Modified 1/31/12)

G. 15 Multi-Cavity

Multiple air space units may be certified with the same IGCC®/IGMA® number as single air space units, provided that the construction of each space complies with the guidelines for single space units; pressure communication of spaces is permitted, but not required. This guideline shall apply to multiple air space products that use glass or a suspended coated film (SCF) as an airspace barrier. Testing of multiple air space units shall be performed initially and in lieu of single air space unit testing at least once each (4) years. When testing multiple air space units with coated glass, the coated glass shall be on at least one outer lite for the units intended to be tested for volatile fog in accordance with ASTM E2189. (Modified 6/23/10)

G. 17 (Deleted 1/1/07)

G. 18 (Deleted 1/1/07)

### G.19 Coated Glass

An Insulating glass unit constructed with coated glass with the coating toward the air space (pyrolytic or sputter coated) shall be certified utilizing the same IGCC®/IGMA® number provided regular test units include one lite of the coated product per test sample. Only the highest volume coated product need be tested. Testing of sputter coated non-edge deleted will cover sputter coated edge deleted, Pyrolytic and uncoated (clear). Testing of sputter coated edge deleted will cover Pyrolytic and uncoated. Testing of Pyrolytic will cover Pyrolytic and uncoated. Testing uncoated (clear) will only cover uncoated (clear). When testing multiple air space units with coated glass, the coated glass shall be on at least one outer lite for the units intended to be tested for volatile fog in accordance with ASTM E2189. (Modified 6/23/10)

### G.26 Adsorption Capacity per Perimeter Foot (ACPF)

For all Certified Products and prototypes for Certification testing, the fabricator shall have on file a copy of the **Desiccant supplier's specification showing the minimum equilibrium water adsorption capacity (weight %) as measured at 25 °C (77 °F) and 50 % Relative Humidity (+/- 5%)**. Additionally the fabricator shall document the weight of desiccant or desiccant system (grams) in the certified product or prototype. From this data, the fabricator shall document the adsorption capacity per perimeter foot (ACPF) using the following formula: (Modified 1/31/12)

$$\text{ACPF (grams/ ft.)} = \frac{\text{Weight of Desiccant Product (g)} \times \text{Adsorption Capacity (wt \%)}}{\text{Perimeter (Feet)} \times 100}$$

Note: For all 14 x 20 inch test specimens the perimeter is 5.66 feet

### G.27 Structural Modification, i.e. Hole for Gas Fill; Electrical Connectors or Conductors

A sealed insulating glass unit that has been structurally modified, (i.e. hole or holes for gas filling (AP), connectors or conductors that penetrate the seal (primary or secondary)(SP)) shall be tested regularly for certification assembled with standard production procedures including these modifications. (Modified 5/7/14)

### G.29 IG Integrated Sash Technology

When testing IGCC®/IGMA® units using IG Integrated Sash Technology, IG fabricators would have the option of testing integrated IG units in one of two methods: 1) glass size shall be 14x20-inch and the sash shall be cut away to fit in a 14x20-inch testing opening, or 2) a larger sash which accommodates 14x20-inch glass may be tested. This option would need to be reviewed with the test lab ahead of time to ensure the test chamber can accommodate the larger sash size. All testing is completed with no glazing beads and all fabrication holes or simulated hole punches in place. If the sash is cut away, this function must be performed by the IG fabricator. (Adopted 5/3/05)

### G.30 Applied Surface Coatings to an IG Spacer and Spacer Components

An insulating glass unit utilizing an applied surface coating to an IG spacer and spacer components shall be initially certified under the normal certification testing process. The application of the coating will be documented in the product audit report. A surface coating may be added to or removed from an already certified product utilizing the same certification

number by applying guideline G.5. Applied surface coatings would include, but not be limited to paints, coatings and adhesion promoters. Spacer and spacer components with an embedded or etched into the surface color are not subject to this guideline and may be certified with the same IGCC®/IGMA® number. (Modified 3/2/11)

#### G.32 GCIA and Capillary and Breather Tubes and Systems

(Refer to guideline(s) G.0, G.1, G.2) An IG construction incorporating a permanently or temporarily open system or tube, (Capillary, breather or other) may be Gas Content Initial and After Weathering certified (GCIA) with the same IGCC®/IGMA® number provided regular test units include all the components of the system or tubes. Unit installation and/or final sealing instructions must be supplied to the laboratory and performed at the laboratory. (Modified 8/6/13)

#### G.34 Bent or Curved IG Units

Special note should be taken that the ASTM E2190 test method does not provide for testing of Bent or Curved IG units. As such, it is only flat IG units that fall within the IGCC®/IGMA® Certification Program. This, however, in no way precludes the ultimate use of Bent or Curved IG units. Labeled spacer may be used in IG units, other than flat glass, but in that case, certification does not apply. (Adopted 3/2/11)

### **12.4 CLASS II - SPECIMEN**

#### G.6 Specimens – Quantity

No more than 4 additional test units shall be labeled by the auditor for testing (13 units required for double pane and 15 units required for multiple air space.) When gas content testing (GCIA), ship the additional auditor “labeled” units to the testing laboratory. (Modified 8/23/07)

#### G.9 Specimens - Production (Deleted 1/1/07)

#### G.10 Specimens - Production

If a licensee is not producing units at the time of an audit a labeled unit from inventory may be cut apart for inspection, provided that the date code is within the audit period.

#### G.11 Specimens - Production

A portion of the audit will be used to determine whether a licensee is using the IGCC®/IGMA® label on unauthorized units.

#### G.12 Specimens - Shipment

Units fabricated for test during an audit must be shipped directly to the approved test facility within four weeks of the date of fabrication. If they are not, the audit may be considered invalid and another audit must take place. But for normal in plant quality inspection processes performed by the manufacturer, there shall be no ‘pre-testing’ of any test sample being forwarded to the approved test facility. In situations where fabricated test units are deemed unacceptable for test by the licensee as a result of a normal plant quality inspection process, the licensee shall be allowed to re-fabricate test samples only once. This re-fabrication must occur within 45 days of the original fabrication. All costs related to this guideline are to be borne by the licensee. (Modified 5/14/08)

#### G.14 Specimen Frequency

The prototype test will be considered as the test for the first year of certification (providing application is made within 12 months from the date of the test report). This is effective for matters initiated after May 1982. The next fabrication for testing purposes will be in the first half of the second year. (Modified 1/31/12)

#### G.31 Suspension of Testing

There may be situations where the program participant wishes to suspend testing (gas or durability) before completion. For prototype fabrications this shall be at the discretion of the program participant and has no effect on the certification listing. For certified unit testing, with consideration for guideline G.12, any suspension of the test, gas or durability, shall be deemed as a failure of that portion of the test. G.12 would not be applicable once testing has started. (Adopted 5/14/08)

### **12.5 CLASS III - EQUIVALENCY**

#### G.5 Gray Area

Situations that are not included in the "Always" or "Never" categories listed above, fall into the gray area. The gray area situation is covered by Minutes item 10.10.77.10 and is repeated here.

When there is a change and the licensee desires to use the same IGCC®/IGMA® number, the licensee shall immediately notify the administrator with all details of the change and also satisfy either 1 or 2 below:

- 1) establish equivalency by passing the same level of ASTM test as certified to by:
  - a) having specimens tested at an IGCC®/IGMA® independent testing laboratory or
  - b) having specimens tested at an in house (licensee) facility, testing done in house by a licensee must be done under the surveillance of the administrator.Specimens must be fabricated and submitted to the laboratory within two weeks after notification of the administrator. During the test period, the licensee may temporarily use the certification label on a provisional basis or:
- 2) demonstrate the equivalency of the change to the satisfaction of the Certification Committee or a subcommittee. (Specimens not required.)

#### G.21 Transfer

If a licensee manufactures the same model using the same technology at a different location, a IGCC®/IGMA® number with a temporary status will be issued provided that testing (durability and/or gas content) of the model is initiated at the next scheduled testing audit. This guideline may not be applied to products for which certification has been previously removed due to test failure. (Modified 12/06/06)

#### G.23 Equivalency

A licensee needs to establish equivalency for a model only once.

#### G.24 Vision Glass Areas



Special note should be taken that the ASTM E2190 test method only provides testing for "Vision glass areas." As such, it is only these types of units that fall within the IGCC®/IGMA® Certification Program. This, however, in no way precludes the ultimate use of these units in other applications, e.g. Spandrel units.

(Adopted 8/28/86)

Labeled spacer may be used in IG units, other than vision glass, but in that case, certification does not apply. (Adopted 4/16/91)

#### G.28 Certifying Additional Constructions

A current licensee with currently certified products may certify additional constructions or replace a certified construction at the same plant location by having specimens tested at an IGCC®/IGMA® independent testing laboratory. These samples need not be witnessed by an IGCC®/IGMA® representative. Upon completion of passing test results the construction shall be eligible for IGCC®/IGMA® certification. IGCC®/IGMA® witnessed testing must occur at the next regular audit. (Adopted 7/28/99)

#### G.33 Duplicate Certification

There may be situations where the program participant wishes to certify separately a model variation for which IGCC®/IGMA® would allow equivalency, both variations under a single certification number. Some examples of this duplicate certification may be dual pane and multiple air space, various moisture vapor transmission path lengths (sightlines), variations in coated glass. This duplicate certification shall be allowed and each variation given a separate certification number. Each certification number will be treated as it's own certified model and be subject to normal product fees, testing and auditing requirements.

#### G.35 Multiple Sources of Same Generic Category

If a licensee regularly uses multiple sources of supply within the same generic category each source of supply (A and B) shall be tested on a rotational basis. If one source of supply (A) is tested and fails to comply, the same source of supply (A) must be tested to maintain certification for that source of supply. If certification for (A) is no longer required by the licensee the retest due to failure must still occur with (B) or a new alternate source of supply (C). (Modified 8/6/13)

### **12.6 CLASS IV - APPEALS, REVIEW AND DE-CERTIFICATION**

#### G.13 Monetary

The administrator shall remove authorization to use the IGCC®/IGMA® permanent label from all of any licensee's products for failure to pay monies due to IGCC®/IGMA® within 60 days of invoice date (reference License Agreement A. 13 and B.6).

#### G.16 Failure to Comply

In cases where a routine test fails to comply with the specifications: (Modified 8/6/13)

- 1) Upon notification of failure of routine test samples to reach the certified level, the licensee will be officially notified. Within 15 days the licensee must respond to the certified letter stating a retest fabrication is requested by paying all required administrative and test fees. If there is no response within 15 days, authorization to use the IGCC®/IGMA® permanent label will be removed.

If the retest option is accepted:

- a) Request for retest option is granted by IGCC®/IGMA® only upon receipt in full of any administrative and retest fees within 15 days of date of mailing of the notification of failure.
  - b) IGCC®/IGMA® will perform an audit and witness fabrication of retest specimens within 45 days of payment of fees in 1) above.
  - c) Licensee must ship and deliver retest specimens to the testing laboratory within 7 days of fabrication. (Copy of shipping papers and delivery receipt must be received by IGCC®/IGMA® within 14 days of fabrication of retest specimens.)
- 2) There is to be no change in certification status during the retest period. All routine audits will continue. Sample fabrication for subsequent routine testing of the questionable model will be suspended pending the outcome of the retest.
  - 3) If the retest units comply, they shall be considered as the next routine test.
  - 4) If the retest units fail, the licensee is issued a cease and desist order on use of the label immediately.
  - 5) The licensee may choose to accept certification at any level passed by the retest, although it might be a lower level than originally desired.

#### G.20 Authorization to use the IGCC®/IGMA® Permanent Label

Authorization to use the IGCC®/IGMA® permanent label will be removed if a routine audit discloses that a licensee is labeling units containing the same unauthorized construction for the third time.

#### G.22 Clarification of Due Process Appeal Process

Clarification of due process appeal process under License Agreement, Paragraph A.11:

A Licensee's appeal from a final adverse decision by the Administrator, under License Agreement Paragraph A.11, shall in the first instance be to the Certification Appeals Subcommittee of the Certification Committee, which acts as an executive committee for the Certification Committee in order to provide a prompt hearing for the Licensee and to act on the Licensee's appeal as quickly as possible. A decision by the Certification Appeals Subcommittee favorable to the Licensee shall be a final decision. A decision by the Certification Appeals Subcommittee adverse to the Licensee may be appealed to the full Certification Committee for a due process review and hearing. Such an appeal to the Certification Committee must be made in writing within 30 days of an adverse decision by the Certification Appeals Subcommittee and this appeal will be heard at the next meeting of the Certification Committee. Pending a hearing by the

Certification Committee on such an appeal, the Licensee may maintain certification for the product at issue.

**Committee rule to clarify guideline G.22 as adopted by  
the Certification Committee at minute 10.31.12.10**

The Chairman of the Certification Committee may call for a special meeting of the Committee (with notice provided in the same way as for a special meeting of the Board of Governors under the Bylaws), and the Committee may conduct a special meeting (at the physical location identified in the notice or by use of conference telephone or other communication equipment by means of which all persons participating in the meeting can communicate with each other), with such special meeting to be at a date and time other than the next regularly scheduled meeting of the Committee, and at which special meeting any proper business of the Committee, including business under Procedural Guideline G.22, may be conducted. (Modified 10/31/12)

February 2015

**SPECIFICATION USED FOR SEALED INSULATING GLASS**

- **ASTM E2188**
- **ASTM E2189**
- **ASTM E2190**
- **ASTM E2649**

Specification may be obtained by contacting:

ASTM  
100 Barr Harbor Drive  
West Conshohocken, PA 19428-2959  
Telephone: (610) 832-9585  
Web Address: [www.astm.org](http://www.astm.org)

**Adopted: May 13, 1977**  
**Revised: August 1, 1981**  
**Revised: January 15, 1986**  
**Revised: January 17, 2012**

IGCC® STANDARD PARTICIPANT'S AGREEMENT APPLICABLE TO "SUPPLIER" (NON-IG UNIT MANUFACTURER), "PUBLIC INTEREST", "TEST LABORATORY", "TRADE ASSOCIATION", IG-UNIT "USER", "OTHER PERSON/ORGANIZATION WITH LEGITIMATE INTEREST" OR "CONSUMER" PARTICIPANTS IN IGCC®

This Agreement, made and effective this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, by and between \_\_\_\_\_ (hereinafter called "PARTICIPANT") and INSULATING GLASS CERTIFICATION COUNCIL, INC. (hereinafter called IGCC®), an Illinois not-for-profit tax-exempt corporation having its administrative office at 100 West Main Street, Sackets Harbor NY 13685, hereby provides as follows:

In consideration for being approved as an IGCC® Program Participant, and for the right to vote under the IGCC® Corporate Bylaws as an IGCC® Program Participant, I attest and agree, personally or on behalf of my employer, as follows:

A. IGCC Corporate Bylaws: I attest that I have read the IGCC ® Corporate Bylaws and that I or my employer have a legitimate interest in the goals of IGCC®, and I agree, personally or on behalf of my employer, to be bound by the IGCC® Corporate Bylaws.

B. Eligibility and Participant Category: I attest as follows, personally or on behalf of my employer, and request to be recognized, either personally or on behalf of my employer, as a PARTICIPANT in IGCC® in one of the following participation categories: Supplier (Non-IG Unit Manufacturer); Public Interest; Test Laboratory; Trade Association; IG-Unit User; Consumer; Other person/organization with legitimate interest in the purposes of the IGCC® corporation: \_\_\_\_\_ (Please indicate category).

1. I understand that IGCC®-approved test laboratory participants conducting tests in the IGCC® Certification Program also sign and are obligated to follow the provisions of the IGCC® standard test laboratory agreement, and that IGCC® IG-Unit manufacturer licensee-participants sign and are obligated to follow the provisions of the IGCC® standard license agreement for IG-unit manufacturers, and become participants in IGCC® thereby.

2. I attest that I do not manufacture IG-units nor am I employed by an IG-unit manufacturer (as such, neither I nor my employer qualify to become an IGCC®-IG Unit manufacturer-licensee). If my Participant category or eligibility changes (e.g. by beginning fabrication of IG units), this Agreement will be null and void.

C. Annual Fee: The annual fee for a Supplier (Non-IG Unit Manufacturer) Participant is \$350.00 per company (as of 1/17/2012), subject to change by the IGCC® Board of Governors. There is no fee for public interest or consumer participants. On behalf of my employer, I agree this annual fee for a Supplier Participant (Non-IG Unit Manufacturer) in IGCC® shall be payable upon receipt of an invoice and shall be non-refundable.

D. Voting Rights and Responsibilities: (1) I understand and agree the IGCC®/IGMA certification program is structured and operated such that program policies and decisions are made in open parliamentary due-process committees whose meetings and actions shall be conducted with impartial review and implementation governance and administrative process. (2) I understand and agree that the IGCC® Certification Committee, as the primary working committee in which I may cast a vote as a Participant (if eligible under the Bylaws), shall operate free from commercial, financial or other interests that might conflict with IGCC's best interests and goals as set forth in IGCC's Corporate Bylaws, and I shall recuse myself from casting any vote in which a conflict of interest may exist. (3) I understand and agree that members of the Certification Committee provide a balance of interests where no single interest dominates. (4) I understand and agree each Participant is responsible for maintaining the confidentiality of specific information as may be requested and appropriate. (5) I understand and agree that the IGCC Board of Governors has ultimate governance authority under the IGCC Corporate Bylaws and applicable law, and that IGCC Participants and Participants' meetings are governed specifically by IGCC Corporate Bylaws Articles III and IV.

E. Dispute Resolution Process: I agree, personally or on behalf of my employer, to the following dispute resolution process, which is the same dispute resolution process applicable to IGCC® IG-Unit Manufacturer-Licensee Participants under the IGCC® standard license agreement for IG-Unit Manufacturers:

Any claim, complaint, dispute or related controversy asserted by me or my employer arising out of or regarding participation in IGCC® under this Agreement, or the operation of IGCC® under the IGCC® Corporate Bylaws, including the determination of the scope or applicability of this Agreement, and any arbitration pursuant to this standard IGCC® Participant's Agreement, shall be governed by the laws of the State of Illinois and the Illinois Not-for-Profit Corporation Act (under which IGCC® is incorporated), and the parties to this IGCC® Participant's Agreement agree that any such claim, complaint, dispute or related controversy not settled amicably between the parties will be resolved exclusively by submitting any such claim, complaint, dispute or related controversy (following a mandatory 20 day period in which no claim, complaint, dispute or related controversy shall be submitted to arbitration and during which the parties will seek a mutually agreeable resolution of any claim, complaint, dispute or related controversy) to binding contract arbitration, unless both parties consent to mediation or some other form of dispute resolution. In the event of contract arbitration, the arbitration will be conducted by a neutral third party arbitrator accepted by both parties. In the event that the parties do not agree to the appointment of any arbitrator, any claim, complaint, dispute or related controversy asserted by me or my employer regarding participation in IGCC® under this Agreement, or the operation of IGCC® under the IGCC® Corporate Bylaws, shall be resolved under the most-current Commercial Arbitration Rules of the American Arbitration Association. The place of the arbitration shall be in Illinois or some other mutually agreeable location. In any arbitration proceeding, reasonable discovery of evidence shall be allowed, and strict conformity to legal rules of evidence shall not be necessary, and the parties may offer evidence as is relevant and material to the dispute, which shall be considered in the arbitrator's reasonable discretion. The arbitrator, exercising his or her discretion, shall conduct the proceedings with a view to expediting the resolution of the claim, complaint, dispute or related controversy. The prevailing party in the arbitrator's Decision and Final Award shall be entitled

to recover reasonable attorney's fees and costs it may incur in connection with the arbitration proceeding. The arbitrator's Decision and Final Award shall be enforceable in any court of competent jurisdiction.

F. To maintain or commence Participant status, this Agreement needs to be signed by Participant. This Agreement supersedes and replaces any predecessor IGCC® Standard Participant's Agreement to which I or my employer is a party.

SIGNED and DATED:

PARTICIPANT: \_\_\_\_\_  
Please sign and print name and title/authority; and date

Company/Business/Organization Name: \_\_\_\_\_

Street Address: \_\_\_\_\_

Telephone Number: \_\_\_\_\_; Fax Number: \_\_\_\_\_

Email Address: \_\_\_\_\_; Website: \_\_\_\_\_

Primary IGCC® Program contact for Participant: \_\_\_\_\_(Please print)

APPROVED and AGREED:

INSULATING GLASS CERTIFICATION COUNCIL, INC. (IGCC®)  
P.O. Box 730, 100 West Main Street, Sackets Harbor, NY 13685  
Telephone: (315) 646-2234 Fax: (315) 646-2297 Email: staff@amscert.com

By: \_\_\_\_\_(Please sign and date \_\_\_\_\_)  
John G. Kent, IGCC® Administrative Manager

\* A copy signed by IGCC® will be returned to Participant

February 2015



100 West Main, PO Box 730  
Sackets Harbor, NY 13685  
Phone: (315) 646-2234  
Fax: (315) 646-2297  
E-mail: staff@amscert.com



**STANDARD LICENSE AGREEMENT FOR AMS CERTIFICATION UNDER IGCC®/IGMA®  
CERTIFICATION PROGRAM FOR SEALED INSULATING GLASS UNITS**

**(as revised effective July 30, 2014, and constituting the successor effective agreement, pursuant to the terms herein, for all preceding fully-executed IGCC®/IGMA® Certification Program standard license agreements)**

This Agreement, made this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, by and between Administrative Management Systems, Inc. (AMS), a New York corporation, hereinafter called "LICENSOR", and INSULATING GLASS CERTIFICATION COUNCIL, INC, (hereinafter "IGCC®" or PROGRAM SPONSOR), an Illinois not-for-profit tax-exempt corporation each having their office at 100 West Main St. P.O. Box 730, Sackets Harbor, NY 13685, and (legal entity) \_\_\_\_\_ having its principal office at (location) \_\_\_\_\_, (hereinafter called "LICENSEE"), hereby provides as follows:

**WITNESSETH:**

1. WHEREAS, Licensor is the certification body for the certification program noted below and as designated in the attached addendum(s) and hereinafter referred to as the Certification Program, sponsored by designated Program Sponsor for Sealed Insulating Glass Units, which will provide for (1) the validation of a manufacturers certification of such products by means of independent laboratory testing and evaluation to the requirements of applicable Specification(s) and applicable Test Method(s) and ASTM Standards; and under the further terms and conditions of the Certification Program set forth in this Agreement and the Program's Procedural Guide, and also providing for (2) the stipulation by each such manufacturer that the manufacturer maintains a quality assurance program which covers the production of all the units to which this agreement refers; and  
2. WHEREAS, the term "Sealed Insulating Glass Certification Program(s)" as used herein refers to the sealed insulating glass certification program as designated and described in greater detail in the Addendum(s) which are attachment(s) to this Standard License Agreement and hereby made a part thereof;  
3. WHEREAS, The responsibilities of the Licensor and Program Sponsor are limited to the tasks set forth in this Certification Program Standard License Agreement and any requirements as may be necessary to maintain accreditation to applicable standards; Licensor and Program Sponsor do not endorse, warrant, or guarantee products validated or certified under the Certification Program, and  
4. WHEREAS, Licensor and Program Sponsor are willing to accept participation in said Certification Program by all manufacturers of Sealed Insulating Glass Units under the terms set forth herein; and  
5. WHEREAS, Program Sponsor is the uncontestable sole owner of the designated program mark and label IGCC®; the aforesaid mark/label, and/or other mark(s)/label(s) cross-licensed to Program Sponsor IGCC® are hereby licensed by Program Sponsor to Licensor (AMS), which has entered into a valid service agreement with Program Sponsor IGCC® for authorization of use of the mark,

and which mark(s) is/are hereby licensed by Licensor and Program Sponsor to Licensee and said label(s)/mark(s) shall be permitted to appear on Licensee's registered Certification Program marks/labels which are permitted by Licensor to be affixed to the Sealed Insulating Glass Units complying with the pertinent requirements of the Certification Program; and  
6. WHEREAS, the Licensor and Program Sponsor may contract for services with independent laboratories which have signed and meet the requirements of the Testing Laboratory Agreement, and with auditors and other service providers deemed necessary for the operation of the program who have entered into a valid agreement ; and  
7. WHEREAS, the Program Sponsor shall appoint a "Certification Committee" which shall be structured and operate in accordance with the requirements of the IGCC® By-laws: meetings of this committee shall be called by the Chairman of the Certification Committee at least once each year; and  
8. WHEREAS, the procedural guide shall be adhered to by the Licensor, Program Sponsor and the Licensee; and  
9. WHEREAS, the Licensor shall conduct all aspects of the program in accordance with standards and accreditation requirements that may be identified by the certification program, this license agreement, the procedural guide and program documents and procedures; and  
10. WHEREAS, Licensee is willing to participate in and support said Program under the terms and conditions set forth in this Agreement.

Therefore, be it  
RESOLVED, that it is agreed by and between the parties hereto as follows:

**LICENSEE:**

A.1) Shall sign this Agreement by providing the signature of its corporate officer or authorized representative, and also its primary Certification Program contact, where noted herein.



A.2) Shall allow the Licensor's representative, and observers from accreditation bodies or program sponsor without prior notice, free access at any time during regular business hours, to Licensee's place of manufacture of Sealed Insulating Glass Units certified hereunder and to witness the manufacture of samples which are to be tested for compliance with the requirements. Licensee's refusal to permit access for audit purposes hereunder is cause for removal of its entire product listing from the Certified Products Directory and the withdrawal of its rights to affix Certification Marks/Labels thereto. Acceptable reasons for not permitting entrance for audits would include strikes, acts of God, and circumstances beyond immediate control of the manufacturer. Areas which may have been set aside for research or prototype development may be restricted. It is understood that the Licensor or his representative shall be allowed to pick up samples from the field for audit or testing. It is understood that periodic tests will be made on each model to be certified and that said tests will be made at the laboratory selected by the Licensor or Licensee from the approved list. Licensor will notify the Licensee of compliance or non-compliance. It is further understood that routine expense of sampling and testing will be borne by the Licensee. The Licensor will charge each Licensee accordingly and so contract for applicable services. Expenses for packaging, shipping, and purchasing of glass for testing will also be borne by the Licensee.

A.3) Shall affix to each of its certified products the permanent Certification Mark/Label assigned by the Licensor:

- a) Only at the time and place of manufacture; and
- b) Only to Sealed Insulating Glass Units of Licensee's own manufacture, which have been so approved by the Licensor.

A.4) Shall not sell, transfer or otherwise dispose of Certification Mark/Labels in any manner other than affixing to Licensee's certified production.

A.5) Shall not affix hereafter the Certification Program registered mark, or Participant's Certification Mark/Label registered with Licensor, to any product from which certification has been withdrawn or which is produced with a process basically different from the one used when certification was obtained. A model change shall be as defined by the certification program.

A.6) Shall upon a finding by the Licensor that a certified product of Licensee has been changed as defined by the Certification Committee have thirty (30) days in which to submit a request for waiver of retest or request a new audit and retest at Licensee's expense if no waiver is granted. Failure of Licensee to act as required immediately above shall constitute due cause for exclusion of this product from the program.

A.7) May withdraw a certified product from the Program by written declaration and request for removal of said product from the Licensor's listing signed by the authorized representative of the Licensee.

A.8) Shall use all practical means at its command continuously to assure that its products hereunder certified fully comply with the Specification requirements, and are manufactured in the same manner as test specimens, and are subject to a quality assurance program maintained by Licensee, and Licensee shall so stipulate to the Licensor's representatives during the periodic visits of said representatives to Licensee's facilities described above in Section A.2) or when otherwise requested by the Licensor.

A.9) Shall refrain from using terms implying or claiming certification, validation, accreditation, or the like in connection with advertising referring to products which have not been certified, or from which validation of certification claim has been suspended, withdrawn, or terminated.

A.10) In connection with the advertising of model systems which the Licensor has approved and granted a certification number or mark/label, the Licensee must use the following concepts as guidelines: Licensor (AMS) is the Certification Body or certifier, (IGCC®) the Certification Program Sponsor. Licensee (Manufacturer) certifies that the product is the same as the model

which has been tested. Licensor validates the test results through Audits according to the certification program guidelines.

A.11) Shall abide by the decision of the Licensor as to the conformance or non-conformance of Licensee's products with the requirements of the Certification Program, determined in accordance with the requirements of the specification testing and quality assurance requirements as defined by the Certification Program. It is understood that the Licensor shall be the sole judge of conformance or non-conformance with the Specifications applicable to the Certification Program, for purposes of Licensor's validation of Licensee's certification of such a product under this Program. Where questions involving interpretation arise, the matter will be referred to the Program Sponsor for ruling.

A.12) Agrees that notice regarding the status of any of its certified products shall be carried in the Certified Products Directory maintained by Licensor on behalf of Program Sponsor.

A.13) Shall pay the participation fees shown in the Schedule of Fees, current version, upon signing of this Agreement and at each regular renewal thereof. It is understood, that this Schedule of Fees may be changed from time to time by the Licensor and Program Sponsor.

A.14) Agrees that the Licensor may, at his discretion, use any and all data, exclusive of Licensee's Company name, address, proprietary product designation or any other information which may provide clues as to the manufacture of the products, for the purpose of comparing test methods and correlating test methods with field performance.

A.15) Shall legibly and permanently mark or label each certified product in accordance with the current label requirements of the certification program, which may be changed from time to time.

A.16) Shall furnish Licensor with any information regarding its product as may be necessary to properly identify Licensee's Certified Product for listing in the Certified Products Directory.

A.17) Shall regularly mail to the Licensor, at the same time as such material is furnished others, copies of its catalogs and other literature, excluding price and discount information, where such materials list Licensee's products certified hereunder. The Licensee shall not reference its product certification in a manner as to bring the Licensor or Program Sponsor into disrepute and shall not make statements regarding its product certification that may be considered misleading or unauthorized. If certification documents are provided to others, the documents shall be reproduced in their entirety.

A.18) Shall abide by and comply with all procedural details which the Licensor and Program Sponsor may prescribe for the implementation of the Certification Program, provided that such procedural details are not inconsistent with the provisions and purposes of this License Agreement.

A.19) Shall have the right, at its option, to designate a nominee from Licensee's organization for consideration for appointment to the IGCC® Certification Committee.

A.20) Shall notify Licensor within (120) days, of any changes that may affect its ability to conform with the Certification Program requirements;

A.21) Shall in making reference to product certification in communication media such as documents, brochures, or advertising, including websites, comply with Certification Program requirements;

A.22) Shall keep a record of all complaints made known to it relating to compliance with certification requirements and makes the records available to the Licensor when requested, and

- 1) Take appropriate action with respect to such complaints and any deficiencies found in products that affect compliance with the requirements for certification;
- 2) Document the actions taken

#### **LICENSOR AND PROGRAM SPONSOR:**

B.1) Shall prepare and publish at least twice each year, with such interim supplements as may be desirable, a Certified Products

Directory (hard copy and/or electronic) containing a listing of the Certified Insulating Glass Products which have been found by testing and audit of quality assurance programs to be in compliance with each required specification for each Licensee then in good standing with Licensor and Program Sponsor. This directory shall include the Licensee's assigned certification number, name, location and product certification status.

B.2) Shall promptly distribute (hard copy and/or electronic) substantial quantities of each Directory and supplement to door, sash, and building products manufacturers, glazing contractors, home builders, architects, regulatory agencies and code-making groups, and publicize the Directory to trade publications.

B.3) Shall provide and maintain a list of approved laboratories qualified to perform tests required hereunder and to authorize tests herewith specified. Said list of approved laboratories is to be developed by the IGCC® Certification Committee.

B.4) Shall prepare and maintain a procedural guide and the standard forms which may be adopted for use with the Licensee and the approved laboratories in connection with the operation and program requirements of the Certification Program, including the testing and quality assurance requirements thereof.

B.5) Shall hold all test reports and correspondence with Licensees and others, relating to Licensee's products or tests, in strict confidence, except for communication necessary to effect proper listing in the Certified Products Directory, communication necessary to effect any program approvals or accreditation, and as required by law.

B.6) Shall not list in or remove from the Certified Products Directory any product or Licensee except on due notification in writing from an authorized representative of the Licensee or because Licensee fails to pay applicable fees as provided in the most current Schedule of Fees.

B.7) Shall administrate the Certification Program to provide and authorize all sampling and testing, review and approve test data, perform periodic evaluations or other duties and functions herein provided for including granting maintaining, extending, suspending or withdrawing certification.

**IT IS FURTHER AGREED THAT:**

C.1) A certification test hereunder denotes and is limited to a test in accordance with the requirements of the appropriate specifications and related test methods.

C.2) Each branch or affiliated plant of each Licensee manufacturer must be registered individually, and products therefrom tested and certified separately and apart from products manufactured in other plants or branches of any Licensee manufacturer.

C.3) A procedure exists for handling appeals and complaints and may include complaints of non-conformance which provides for samples of like product to be provided by Licensee in a specified manner for repetition of tests within thirty (30) days, the total cost of which, including test specimens, is to be borne by the complainant, unless the test proves non-conformance, in which case the costs will be borne by the Licensee; tests are to be initiated by the Licensor promptly upon receipt of a complaint in writing along with the appropriate surety deposit. Complaints and Appeals regarding the Certification Program that cannot be resolved by Licensor shall be resolved by the Program Sponsor.

C.4) This agreement shall become effective on the date of signing and shall extend for a period of 12 months and shall be renewed automatically for successive periods of 12 months each, and remain in effect unless Licensor, Program Sponsor or Licensee, at least sixty (60) days prior to the date of expiration, gives notice in writing that cancellation or termination is requested (which shall be deemed agreed and effective at the conclusion of said notice period) and unless revoked and terminated by Licensor or Program Sponsor for causes set forth in this Agreement and in accordance with procedures set forth in the Agreement and the Certification Program Procedural Guide.

C.5) If this agreement is terminated, then upon the effective date of such termination, Licensee shall:

- a) Not affix the registered quality Certification Mark/Labels to any product which Licensee shall thereafter manufacture; and
- b) Make no further reference to, or use of, Licensor's certification or Program Sponsor's Certification Program or registered Certification Mark/Labels as used earlier in the Certification Program.

C.6) Licensor, in the event it shall be necessary to exclude Licensee from participation in the Certification Program in accordance with the provisions hereof, may do so by giving Licensee thirty (30) days written notice of Licensor's termination of the License Agreement.

C.7) The terms of this Agreement and any disputes arising from or about this Agreement, and any arbitration pursuant to this Agreement, shall be governed by the laws of the State of Illinois, in which the program sponsor is incorporated. The parties agree that all disputes relating to the interpretation of, or otherwise about or arising from the terms of this Agreement not settled amicably between them will be submitted (following a mandatory 20 day period in which no claim shall be submitted to arbitration and during which the parties will seek a mutually agreeable resolution of any claim or dispute) exclusively and solely to binding contract arbitration, unless each party consents to mediation or some other form of dispute resolution. In the event of contract arbitration, the arbitration will be conducted by a neutral third party arbitrator accepted by each party. In the event that the parties do not agree to the appointment of any arbitrator, any controversy or claim arising out of or relating to this contract, or the breach thereof, shall be resolved under the most-current Commercial Arbitration Rules of the American Arbitration Association. The place of the arbitration shall be in Illinois, or some other mutually agreeable location. In any arbitration proceeding, reasonable discovery of evidence shall be allowed, and strict conformity to legal rules of evidence shall not be necessary, and the parties may offer evidence as is relevant and material to the dispute, which shall be considered in the arbitrator's reasonable discretion. The arbitrator, exercising his or her discretion, shall conduct the proceedings with a view to expediting the resolution of the dispute. If any party submits an arbitration claim to enforce any of the terms of this Agreement, the prevailing party shall be entitled to recover reasonable attorney's fees and costs it may incur in connection with the arbitration proceeding. A final award by the arbitrator shall be enforceable in any court of competent jurisdiction.

C.8) In the event any part or parts of this Agreement are found to be void, the remaining provisions shall nevertheless be binding with the same effect as though the void parts were deleted.

C.9) The use of any Mark/Label governed by this Agreement on any unqualified product, or the use of any such Mark/Label by a manufacturing or assembly or other facility other than that registered will not be permitted by the Licensee, its employees, its representatives, and its agents. If the use of any Mark/Label in contravention of this Agreement is discovered, after a due process hearing review by the Certification Committee, the Licensor and Program Sponsor will have cause to institute or seek all or any of the following actions: a) Revocation of license; b) Imposition of an award in favor of Licensor or Program Sponsor of liquidated damages of five thousand dollars (\$5,000); c) Legal action preventing the Licensee from having the applicable Mark/Labels printed, attached, or used in any manner by Licensee, with the entire cost of such legal action to be borne by the Licensee.

C.10) In the event Licensor promptly notified all those to whom it has sent the then most recent issue of the Certified Products Directory or supplement thereto, as well as the National Better Business Bureau and the trade press, regarding any incorrect listing or reference to Licensee's product(s) published in any Certified Products Directory, supplement thereto, or elsewhere, Licensee agrees not to hold Licensor or Program Sponsor liable in any way for any damage caused by such incorrect listing or reference, unless such

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damage was the result of an intentional tort, willful act or gross negligence by Licensor or Program Sponsor.

C.11) Licensee shall indemnify and hold Licensor and Program Sponsor harmless as to any expense whatsoever for, or incurred in connection with, any claims, losses, or defense of claims or losses, which may be asserted by a third party against Licensor and Program Sponsor by reason of this Agreement and services performed hereunder,

C.12) No party shall make use of the others' trademarks, trade names or name in any manner without the prior written approval of the other provided each party hereby authorizes the other, during the term of this Agreement, to state that the Licensee is a participant in this Certification Program.

THIS LICENSE AGREEMENT may not be transferred, assigned, or otherwise disposed of to any other company, individual, or successor company without the express prior written consent of the Licensee, Licensor, and Program Sponsor.

By mutual agreement of Licensee, Licensor, and Program Sponsor, THIS AGREEMENT supersedes and replaces the predecessor IGCC® Standard License Agreement, in the form executed between the parties, if Licensor, Program Sponsor and Licensee have executed any such predecessor IGCC® Standard License Agreement. If such a predecessor agreement was executed, that predecessor agreement is hereby cancelled, by mutual agreement, effective as of execution of THIS AGREEMENT (which is a successor standard agreement to the earlier IGCC® Standard License Agreement), with the 60 days notice of cancellation period for the predecessor agreement hereby waived by Licensee.

February 2015

**LICENSEE:** Company \_\_\_\_\_  
Street Address \_\_\_\_\_  
City, State and Zip \_\_\_\_\_  
Telephone Number \_\_\_\_\_

Signed By \_\_\_\_\_ Title \_\_\_\_\_  
(Corporate Officer or Authorized Representative)  
E-Mail Address: \_\_\_\_\_ Date \_\_\_\_\_

Signed By \_\_\_\_\_ Title \_\_\_\_\_  
(Primary IGCC® Certification Program Contact)  
E-Mail Address: \_\_\_\_\_ Date \_\_\_\_\_

**LICENSOR:** Administrative Management Systems, Inc. (AMS)

By \_\_\_\_\_ Title President  
Date \_\_\_\_\_

**PROGRAM SPONSOR:** Insulating Glass Certification Council, Inc. (IGCC®)

By \_\_\_\_\_ Title Administrative Manager  
Date \_\_\_\_\_

**\*A COPY SIGNED BY LICENSOR AND PROGRAM SPONSOR WILL BE RETURNED TO LICENSEE.**

**Addendum**

Where referenced "Sealed Insulating Glass Certification Program" refers to the below certification programs.

IGCC®/IGMA® Program

On February 3, 2009 the IGCC® Certification Program and IGMA® Certification Program were combined into one program called the IGCC®/IGMA® Certification Program in a formal documented agreement called the ADMINISTRATION SERVICES AND EXCLUSIVE LICENSING AGREEMENT.

The IGCC®/IGMA® ADMINISTRATION SERVICES AND EXCLUSIVE LICENSING AGREEMENT names Insulating Glass Certification Council (IGCC®) responsible for governance of IGCC®/IGMA® Certification Program. As such, the following responsibilities for the IGCC®/IGMA® Certification Program are:

Program Sponsor: IGCC® Insulating Glass Certification Council  
Program Administrator and Certification Body: Administrative Management Systems, Inc.

Relevant and Applicable Requirements:  
IGCC® Procedural Guide and Standards  
IGCC®-IGMA® Certified Products Directory

**IGCC®/IGMA® APPROVED LABORATORIES PRESENTLY CONDUCTING TESTS IN ACCORDANCE WITH ASTM E2190 & E2649**

Participants in the program may choose any laboratory from the approved lab list.

125	<b>Architectural Testing Inc.</b> 2524 East Jensen Avenue Fresno, CA 93706 Attn: Ryan Johnson rjohnson@archtest.com Attn: Tyler Westerling twesterling@archtest.com Phone: 559.233.8705	55	<b>China National Safety Glass Testing</b> Guanzhuang Dongli Chaoyang District Beijing, PR CHINA 100024 Attn: Xin Yong Shi rockyshi@263.net Phone: 86.10.51167390
195	<b>Architectural Testing Inc.</b> 22155 68 Avenue South Kent, WA 98032 Attn: Jeff Dideon jdideon@archtest.com Attn: Patricia Cain pcain@archtest.com Phone: 253.395.5656	50	<b>Exova</b> 2395 Speakman Drive Mississauga, ON L5K 1B3 CANADA Attn: David Bailey, Ext. 307 david.bailey@exova.com Phone: 905.822.4111
175	<b>Architectural Testing Inc.</b> 2865 Market Loop, Suite B Southlake, TX 76092 Attn: John Waskow jwaskow@archtest.com Attn: Holli Dawsey hdawsey@archtest.com Phone: 817.410.7202	285	<b>Fenestration Testing Laboratory</b> 8148 NW 74th Avenue Medley, FL 33166 Attn: Jose Sanchez jose@fenlab.com Phone: 305.885.3328
150	<b>Architectural Testing Inc.</b> 849 Western Avenue North St. Paul, MN 55117-5245 Attn: Dan Johnson djohnson@archtest.com Attn: Zane Wybest zwybest@archtest.com Phone: 651.636.3835	65	<b>MT Group</b> 403 County Road, Unit 1 Cliffwood, NJ 07721 Attn: Frank Pennisi frankp@mtgroup.com Attn: Wayne Breighner wayneb@mtgroup.com Phone: 732.725.6177
100	<b>Architectural Testing Inc.</b> 130 Derry Court York, PA 17402-9405 Attn: Christian Lapadat clapadat@archtest.com Attn: John Ziegler jziegler@archtest.com Phone: 717.764.7700	750	<b>National Certified Testing Labs (QTI)</b> 3310 Hill Avenue Everett, WA 98201 Attn: Christoper Shafer cshafer@nctlinc.com Phone: 425.259.6799
60	<b>CAN-BEST</b> 38 Regan Road, Unit 4 Brampton, ON L7A 1C6 CANADA Attn: Elie Alkhoury elie@can-best.com Attn: Ken Shelbourn ken@can-best.com Phone: 905.840.2014	800	<b>National Certified Testing Labs (NCTL)</b> Five Leigh Drive York, PA 17406 Attn: Dan Zeiders dzeiders@nctlinc.com Attn: Drew Klinedinst dklinedinst@nctlinc.com Phone: 717.846.1200
		80	<b>Shanghai Institute of Quality Inspection and Technical Research (SQI)</b> No. 900, Jiangyue Road Minhang District, Shanghai CHINA 201114 Attn: Ms. Longmei Wang walm74@163.com Phone: +86.21.54336371