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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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Jim Krahn, President
Don Boutelle, Vice President, Treasurer
Elaine Rodman, Secretary

IGCC® CERTIFICATION COMMITTEE

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 Alternate</u>
AAG-AI Abbar Architectural Glas	Ezhilenth Narayanan	Jean Lelievre	
AGC Flat Glass North America	Mark B. Cody	Thomas Mewbourne	
Ajiya Safety Glass SDN BHD	Liew San Siang		
All Counties Glass	Dane Treiber		
Allweather Windows	Tabrez Kassam	Thuy Vu	Robert Giles
Alside Window Co-Midwest	Christian Cirino	Lucas Pederson	
Alumco LLC	Rey John Elape		
American Insulated Glass Inc.	Richard Freeman	Shane Ellerbee	
Architectural Glass of North Ame			
Architectural Glass Products, LL	Sharon Gambill		
Architectural Window Mfg. Corp.	Greg Shaffer		
Barracuda Manufacturing	Daniel Summers		
Beijing Century Decorative Glas	Jerry Han		
Berkowitz J. E., LP	Jim Stinsman		
Blue Star Glass Inc.	Maureen Poole		
Brin Northwestern Glass Co.	Stan Mariska	Doug Nelson	
Cardinal IG	Robert G. Spindler	Roger O'Shaughnessy	James Larsen
Cascade Windows Inc.	Jeshu Taylor		
Changshu Da-Yang Glass Speci	Ms. Tangli		
Changshu Hard Glass Co., Ltd.	Juck Li		
Changshu Weier Glass Products	Denise Weier		
Ching Chyau Co., Ltd.	Tony Chang		
Coastal Glass Distributors	Jeromy Richey		
Coral Industries Glass Division	Eric Fleming		
Craftsman Fabricated Products,	Brian Altwine		
Cristacurva	Sara Villarreal		
Custom Glass Prod. Of Carolina	Steven Reeder		
Custom Glass Products Inc.	Victor Reeder	Eric Reeder	Joseph Oboikovitz
Dallas Flat Glass	Roberts Varela	Joe Lazon	
Diamond Windows & Doors Mfg.	Chin Nee		
Dlubak Corporation	Chris Cotton		
DongGuan CSG Architectural GI	Xiong Pei		
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Dynamic Windows & Doors Inc.	Grant Wood		
Eckelt Glas GmbH	Christian Eckelt		
EFCO Corporation	Mark Crane		
Emirates Glass L.L.C.	Jerry Dowling		
FAKRO GP Sp. Z.0.0.	Rafal Rynduch		

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Flat Glass Distributors	Tom Hanley		
Fuyao Group (Fujian) Engineerin	Zheng Xuekai		
General Glass	Ric Dolan		
Gentek Building Products Ltd. P	John Mavin		
GGI Glass Distributors Corp.	Ron Vance		
Glass Dynamics	Michael Lankford	Conrad Lankford	
Glass Enterprises Inc.	Jean Yankanich		
Glass Insulators Inc.	Stacy Marik		
GlassFab Tempering Services, I	Brian Frea		
Glasswerks LA, Inc.	Dennis Jasmer		
Glaz-Tech Industries, Inc.	Jack Brown		
Glenny Glass Co.	Braxton Smith		
Global Security Glazing	Mark Johnson		
Graham Architectural Products	Joel Gibson	Bruce Croak	
Guang Dong Golden Glass Tech	Wu Cong zhen		
Guangdong Avic Special Glass	Mike Guo		
Guardian Fabrication, Inc.	David J. Cooper	Kevin Olah	Carrie L. Karasiewicz
Gulf Glass Industries, LLC	Samih Fatayerji		
Hangzhou Zhongtian Glass Co.	Sou Lin		
Hankuk Haniso Co.,Ltd.	HS Kim		
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Harvey Industries, Inc.	Peter Gent		
Hehr Glass Company	Pete Adams		
High Tech Energy Saving Dorwi	Cindy Sun		
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Lamiver Inc.	Michael Sartain		
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Mannix Exterior Wall Systems, I	Jerry Esposito		
Marvin Windows and Doors	James Krahn	Douglas Steinbring	

<u>Licensee</u>	<u>Primary Member</u>	<u>First Alternate</u>	<u>Second Alternate</u>
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MLC Windows	Michele LoChirco		
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Northwest Glass, Inc.	Ben Gillette		
Northwestern Inds, Inc.	Tammy Nguyen	Henry Heiss	Debbie Zimmer
Norwood Classic Window and E	Norman Ray		
ODL, Changshu ZhongXin Buildi	Chuck Pergler		
ODL, Inc.	Chuck Pergler		
OKALUX GmbH	Dominik Betz		
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Paramount Windows	Ryan Dudeck		
Patio Enclosures	Kent Nusser	Craig Cox	
Pella Corporation	Cody Muhs		
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Colin S. Brady	Twin Pane	1981-1982
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
John Colapietro	Tempglass, Inc.	1992-1993
Robert G. Spindler	Cardinal IG	1993-1996
James Krahn	Marvin Windows	1996-1999
Mark Cody	AFG Industries	1999-2002
Lyle N. Krohnberg	Viracon, Inc.	2002-2004
Mike Grossman	Vitro America, Inc.	2004-2007
Ray Wakefield	Trulite Industries	2007-2011

**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 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.

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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

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
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 61

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>
AAG-Al Abbar Architectural Glass Sanaa St., PO Box 1626 Ras Alkhorr, Industrial Estate Dubai, UAE 104-333-1362 Al Abbar IGCC ® E2190 2012	2977 3285	BC3/MC1 BC3/MC1	U/C1 U/C1	MA MA	LF LF	PIB/S2 PIB/PUR		
AGC Flat Glass North America 1201 Hwy 67 E Alvarado, TX 76009 817-477-1144 AGC 24 IGCC®/IGMA® E2190 2012	1790	BC4/PLJ	U/C2	MA	LF	PIB/S2		
AGC Flat Glass North America 365 McClurg Road-Suite E Boardman, OH 44512 330-965-1000 AGC 61 IGCC®/IGMA® E2190 2012	2374 2654 2903 2904	BC3/MC1/IC BC3/MC1/MT/IC BC3/MC1/IC BC3/MC1/AP/IC	U/C3 U/C U/C2 U/C2/U	BCS FS TS/TS SS/SS	IB IB MX/MX MX/MX	BCS HM HM HM	IC IC IC IC	Yes Yes Yes Yes
AGC Flat Glass North America 575 Currant Rd. Fall River, MA 02720 508-675-9220 AGC 07 IGCC®/IGMA® E2190 2012	3197 3198	MC4/PLK/IC MC4/PLK/IC	U/C2 U/C2	MA MA	LF LF	PIB/PS PIB/S1	IC IC	Yes Yes
AGC Flat Glass North America 160 N. High Street PO Box 220 Hebron, OH 43025-0220 740-929-2443 AGC 15 IGCC®/IGMA® E2190 2012	3418 3419	MC4/PLK/IC MC4/PLK/IC	U/C2 U/C2	AA AA	LF LF	PIB/PS PIB/S2	IC IC	
AGC Flat Glass North America 6600 Suemac Pl. Jacksonville, FL 32254-2792 904-378-7901 AGC 02 IGCC®/IGMA® E2190 2012	1447 1456	BC4/PLJ/IC MC4/PLK/IC	U/C2 U/C2	AA AA	LF LF	PIB/PS PIB/S1	IC IC	
AGC Flat Glass North America 2522 Westcott Blvd. Knoxville, TN 37923 865-691-2040 AGC 05 IGCC®/IGMA® E2190 2012	2063 2220	MC4/PLK/IC MC4/PLK/IC	U/C2 U/C2	MA MA	LF LF	PIB/PS PIB/S2	IC IC	

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AGC Flat Glass North America 3200 Austell Rd. Marietta, GA 30060 770-434-2041 AGC 01 IGCC®/IGMA® E2190 2012	2356 3307	MC4/PLK BC3/MC1/MT	U/C2 U/C2	AA FS/FS	MS IB/IB	PIB/PS PIB/HM		Yes Yes
AGC Flat Glass North America 710 Landry Opelousas, LA 70570 337-948-7447 AGC 88 IGCC®/IGMA® E2190 2012	2341	BC4/GSJ	U/C2	MA	LF	PIB/S2		
AGC Flat Glass North America 480 California Road Quakertown, PA 18951 215-538-9424 AGC 63 IGCC®/IGMA® E2190 2012	2586 2832 2932 2957	BC3/MC1/AP/IC BC3/MC1/MT/IC BC3/MC1/IC BC4/IC	U/C2/U U/C3/U U/C3 U/C3/U	TS/TS FS/FS BCS SS/SS	MX/MX IB/IB IB MX/MX	HM HM BCS HM	IC IC IC IC	Yes Yes Yes
AGC Flat Glass North America 6200 Gorman Rd. Richmond, VA 23231 804-222-0120 AGC 10 IGCC®/IGMA® E2190 2012	2099 2477 3155 3156	MC4/PLK/IC MC4/PLK/IC MC4/PLK MC4/PLK	U/C2 U/C2 U/C2 U/C2	MA MA MA MA	LF LF LF LF	PIB/S2 PIB/PS PIB/S2 PIB/PS	IC IC	Yes Yes
AGC Flat Glass North America 3515 South 300 West Salt Lake City, UT 84115 801-268-2521 AGC 19 IGCC®/IGMA® E2190 2012	2448 3010 3478 3479	MC4/PLK/CT/IC MC4/PLK/IC MC4/PLK/IC MC4/PLK/IC	U/C2 U/C2 U/C2 U/C2	MA MA AA AA	LF LF LF LF	PIB/PS PIB/S2 PIB/PS PIB/S2	IC IC IC IC	Yes Yes Yes Yes
AGC Flat Glass North America 5807 Business Park San Antonio, TX 78218 210-653-7790 AGC 26 IGCC®/IGMA® E2190 2012	2213 2355 3223	BC4/SSJ BC4/GSJ/IC BC4/IC	U/C2 U/C2 U/C2	AA AA BCS	LF LF IB	PIB/PS PIB/S2	IC IC	
Ajiya Safety Glass SDN BHD Lot 575, 1 KM Lebuhraya Segamat-Kuantan Segamat, Johor 85000 Malaysia 607-9313133 Ajiya® IGCC®/IGMA® ASTM E2190 2012	2871	MC4/PLK	U/C2	MA	LF	PIB/S2		
All Counties Glass 2020A East Miner Avenue Stockton, CA 95205 209-888-8720 ACG Stockton IGCC®/IGMA® 2012	3016	MC4/PLK/IC	U/C2	AA	LF	HM/RHM	IC	
All Weather Windows 3100 Caravalle Drive Mississauga, ON L4V 1K9 Canada 905-696-0005	3324	BC3/MT/IC	U/C2	FS/FS	IB/IB	HM	IC	Yes

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Allweather Windows	2538	BC3/MC1/IC	U/C1	TS	IN	RHM/HM	IC	Yes
18550, 118A Avenue North West	2539	BC3/PLK	U/C1	FS/FS	IB/IB	HM		Yes
Edmonton, AB T5S 2K7 Canada								
780-451-0670								
AWW IGCC® E2190 2012								
Alpen High Performance Products	1939	BC2/MC2/CT/PLK	U/SCF/U	GS/GS	LF/LF	PIB/PUR		Yes
6268 Monarch Park Place	1951	BC2/MC2/CT/GSJ	U/SCF/C2	GS/GS	LF/LF	PIB/S1		Yes
Longmont, CO 80503	3162	BC2/MC2/CT/PLK/AP	U/SCF2/C2	GS/GS/FS	LF/LF	PIB/PUR		
303-834-3600								
SMI Alpen IGCC®/IGMA® E2190 2012								
Alside Window Co.-Northwest	2587	BC3/MC1/MT/IC	U/C3	FS	IB	HM	IC	Yes
19720 Bothell- Everett Highway	2588	BC3/MC1/SS/IC	U/C3	TS	MX	RHM/HM	IC	Yes
Bothell, WA 98012	3034	BC3/MC1/MT/IC	U/C3/U	FS/FS	IB/IB	HM	IC	Yes
(425) 481-7101	3250	BC3/MC1/SS/IC	U/C3/U	TS/TS	MX/MX	RHM/HM	IC	Yes
Alside Bothell IGCC®/IGMA® 2012								
Alside Window Co-Central	2839	BC3/MC1/IC	U/C3	TS	MX	HM	IC	Yes
PO Box 2010	2840	BC4/MT/IC	U/C3	FS	FS	HM	IC	Yes
Akron, OH 44309	3017	BC3/MC1/IC	U/C3/U	TS/TS	MX	HM	IC	Yes
330-922-5343	3018	BC3/MT/IC	U/C3/U	FS/FS	IB/IB	HM	IC	Yes
Alside Cuyahoga Falls	3332	BC3/MC1/IC	U/C3	SS	MX	HM	IC	Yes
IGCC®/IGMA® 2012								
Alside Window Co-Midwest	1133	BC3/MC1/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	3200	BC3/MC1/SS/IC	U/C3/U	TS/TS	MX/MX	HM	IC	Yes
330-922-2069								
AWCMW IGCC®/IGMA® 2012								
Alside Window Co-SE	1148	BC3/MC1/IC	U/C3	TS	MX	HM	IC	Yes
3800 Farmgate Road	2068	BC3/MC1/MT/IC	U/C3	FS	IB	HM	IC	Yes
Kinston, NC 28501	3103	BC3/MC1/MT/IC	U/C3/U	FS/FS	IB/IB	HM	IC	Yes
252-527-5050	3199	BC3/MC1/SS/IC	U/C3	TS/TS	DM/DM	HM	IC	Yes
AWCSE IGCC®/IGMA® 2012	3335	BC3/MC1/IC	U/C3	TS	DM	HM	IC	
Alside Window Co-SW	2070	BC3/MC1/IC	U/C3/U	TS	MX	HM	IC	Yes
7550 E. 30th St.	2551	BC3/MC1/MT/IC	U/C3	FS	IB	HM	IC	Yes
Yuma, AZ 85365	3218	BC3/MC1/IC	U/C3/U	TS/TS	DM/DM	HM	IC	Yes
928-344-6500	3219	BC3/MC1/MT/IC	U/C3/U	FS/FS	IB/IB	HM	IC	Yes
AWCSW IGCC®/IGMA® 2012								
Alumco	2851	MC4/ALK	U/C	AA	LF	PIB/S2		
Plot 568-693 Dubai Investment Park								
Emirates Road								
PO Box No. 49668								
Dubai, UAE UAE								
9714-885-43-55								
Alumco IGCC®/IGMA® 2012								

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Aluminum Technology Auxiliary Industries PO Box 40625 Doha-Qatar Doha, Qatar UAE (9744) 460-2334	3267	BC4/GSJ	U/C2	MA	LF	PIB/S2		
Alyusuf Thermo Glass W.L.L. Bldg. B-921, Blk.-917, R.D. 126, PO Box 5211 Tubli, Manama Kingdom of Bahrain (9731) 787-9000 IGCC @ CBA '04	3046	MC4/GSJ	U/C3	MA	MS	PIB/S2		
American Insulated Glass Inc. 3965 East Conley Road PO Box 750 Conley, GA 30288 404-361-9154 American Insulated Glass IGCC®/IGMA® 2012	2962	BC3/MC1/MT	U/C2	FS	FS	PIB		
Architectural Glass of North America 200 Mountain Road Collingwood, ON L9Y 4V5 Canada 705-444-6654	3327 3328 3329	BC4/GSJ BC4/GSJ BC4/GSJ	U/C1 U/C1 U/C1/U	AA SS SS/SS	MS MS MS/MS	PIB/S2 PIB/S2 PIB/S2		
Architectural Glass Products, LLC. 6200 Maple Avenue St. Louis, MO 63130 314-725-8088 Architectural Glass Products, LLC IGCC®/IGMA® 2012	2664 2666	MC4/PLK MC4/PLK	U/C2 U/C2	AA PHSS	LF LF	PIB/PUR PIB/PUR		
Architectural Window Mfg. Corp. 359 Veterans Blvd. Rutherford, NJ 07070 201-939-2200 AWM IGCC®/IGMA® 2012	1579 2748	BC4/PSJ/IC BC4/PSJ/IC	U/C2 U/C1	AA MA	LF LF	PIB/S1 PIB/S1	IC IC	
Barracuda Manufacturing 48230 West Rd. Wixom, MI 48393 248-624-5050 Barracuda IGCC®/IGMA® 2012	2076 2258	BC3/MC1/MT/IC BC4/MT/IC	U/C2/U U/C2	FS/FS FS	IB/IB IB	HM S1	IC IC	Yes Yes
Beijing Century Decorative Glass Products Co., Ltd. Qu Zhao Quan Ying Zhen Chen Ge Zhuang Cun Shun Yi, Beijing China 86-10 60432558 Bejing Century IGCC®/IGMA® 2012	3004	MC4/PLK	U/C	AA	MS	PIB/PS		

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Berkowitz J. E., LP One Gateway Boulevard PO Box 427 Pedricktown, NJ 08067 856-456-7800 JEB IGCC®/IGMA® 2012	1565 2317	BC3/PLJ MC4/PLK	U/C2 U/C2	AA TBAA	LF MS	PIB/S2 PIB/S2		Yes
Blue Star Glass Inc. 2300 US Highway 1 Building 31 North Brunswick, NJ 08902 732-422-1272 Blue Star IGCC® E2190 2012	2745	BC4/SLJ	U/C1	MA	MS	PIB/S2		
Brin Northwestern Glass Co. 2300 N. 2nd Street Minneapolis, MN 55411 612-529-9671 BV IGCC®/IGMA® 2012	1580	BC4/GSJ/AP/IC	U/C1	MA	LF	PIB/PUR	IC	Yes
Cardinal IG 4611 15th Ave N.W. Fargo, ND 58102 701-492-0920 CIG-6 IGCC®/IGMA® 2012	1464 1492 3456 3457	BC4/PLJ/CT/IC BC4/ALJ/CT/IC BC4/PLJ/CT/IC BC4/ALJ/CT/IC	U/C2 U/C2 U/C2/U U/C2/U	SS AA SS/SS AA/AA	LF LF LF/LF LF/LF	PIB/S1 PIB/S1 PIB/S1 PIB/S1	IC IC IC IC	Yes Yes Yes Yes
Cardinal IG 301 E. McSwain Drive PO Box 99 Fremont, IN 46737 260-495-4105 CIG-5 IGCC®/IGMA® 2012	1452 1453 3446 3447	BC4/GSJ/IC BC4/ALJ/CT/IC BC4/GSJ/IC BC4/ALJ/CT/IC	U/C2 U/C2/U U/C2/U U/C2/U	AA SS/SS AA/AA SS/SS	LF LF/LF LF/LF LF/LF	PIB/S1 PIB/S1 PIB/S1 PIB/S1	IC IC IC IC	Yes Yes Yes Yes
Cardinal IG 716 North East 6th Street PO Box 99 Greenfield, IA 50894 641-343-7113 CIG-2 IGCC®/IGMA® 2012	1030	BC4/PLJ/IC	U/C2/U	SS/SS	LF/LF	PIB/S1	IC	Yes
Cardinal IG 3125 Neal Creek Mill Road Hood River, OR 97031 541-354-1280 CIG-9 IGCC®/IGMA® 2012	1923 1924 2553 2554	BC4/ALJ/IC BC4/PLJ/IC BC4/ALJ/IC BC4/PLJ/IC	U/C2 U/C2 U/C2/U U/C2/U	AA SS AA/AA SS/SS	LF LF LF/LF LF/LF	PIB/S1 PIB/S1 PIB/S1 PIB/S1	IC IC IC IC	Yes Yes Yes Yes
Cardinal IG 50 Elmwood Rd. Mountain Top, PA 18707 570-474-3100 CIG-11 IGCC®/IGMA® 2012	2221 2222	BC4/ALJ/MT/IC BC4/PLJ/MT/IC	U/C2/U U/C2	AA/AA SS	LF/LF LF	PIB/S1 PIB/S1	IC IC	Yes Yes

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Cardinal IG	1036	BC4/PLJ/AF/IC	U/C2	SS	LF	PIB/S1	IC	Yes
1011 E. Madison St.	1306	BC4/ALJ/AF/CT/IC	U/C2	AA	LF	PIB/S1	IC	Yes
Spring Green, WI 53588	3168	BC4/ALJ/IC	U/C2/U	AA/AA	LF/LF	PIB/S1	IC	Yes
(608) 588-3846	3169	BC4/PLJ/IC	U/C2/U	SS/SS	LF/LF	PIB/S1	IC	Yes
CIG-3 IGCC®/IGMA® 2012								
Cardinal IG	1039	BC4/PLJ/AF/CTIC	U/C2	SS/SS	LF/LF	PIB/S1		Yes
1620 Town Line Rd.	1295	BC4/ALJ/AF/IC	U/C2	AA	LF	PIB/S1	IC	Yes
Tomah, WI 54660								
608-372-3300								
CIG-4 IGCC®/IGMA® 2012								
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								
540-892-5600								
CIG-10 IGCC®/IGMA® 2012								
Cardinal IG	1574	BC4/ALJ	U/C2	AA	LF	PIB/S1		Yes
201 Cardinal Road	1718	BC4/PLJ	U/C2	SS	LF	PIB/S1		Yes
Waxahachie, TX 75165	2837	BC4/AJ/IC	U/C2/U	AA/AA	LF/LF	PIB/S1	IC	Yes
972-937-4969	2838	BC4/PLJ	U/C2/U	SS/SS	LF/LF	PIB/S1		Yes
CIG-8 IGCC®/IGMA® 2012								
Cascade LBL Windows	3193	BC3/MC1/SS/IC	U/C3	TS	MX	HM	IC	
10255 SW Spokane Court								
Tualatin, OR 97062-8823								
503-692-6167								
LBL Windows IGCC®/IGMA® 2012								
Cascade Windows Inc.	2944	BC3/MC1/MT/IC	U/C2	FS	IB	HM	IC	
5323 Harold Gatty Drive	2989	BC3/MC1/MT/IC	U/C3	FS	IB	HM	IC	Yes
Salt Lake City, UT 84116								
801-428-7791								
Cascade SLC IGCC®/IGMA® 2012								
Cascade Windows Inc.	2701	BC3/MC1/SS/IC	U/C3	TS	MX	HM	IC	Yes
10507 East Montgomery Drive								
Spokane, WA 99019-8621								
509-789-3049								
Cascade SPO IGCC®/IGMA® 2012								
Changshu Da-Yang Glass Specialties Co., Ltd	2874	BC3/MC1/IC	U/C	BSS	IB	BSS/HM	IC	
Zhoashi Town	2875	BC3/MC1/IC	U/C	FS	IB	HM	IC	
Changshu City, Jiangsu 215518	2876	MC4/PLK/IC	U/C	AL	LF	PIB/HM	IC	
China								
(865125) 238-1045								
Changshu Day-Yeng Glass IGCC®/IGMA® 2012								

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Changshu Hard Glass Co., Ltd.	2592	BC3/MC1/SJ/IC	U/C2/U	BCS/BCS	IB/IB	BCS/MPS	IC	Yes
Zhouhang Haiyu Town	2592	BC3/MC1/SJ	U/C2/U	BCS/BCS	BCS/BCS	BCS/MPS		Yes
Changshu City, Jiangsu China	2593	MC4/PLK/IC	U/C2/U	AA/AA	LF/LF	HM/PUR	IC	Yes
86-512-52590663	3140	BC3/MC1/MT/IC	U/C2/U	FS/FS	IB/IB	PU	IC	Yes
HG IGCC/IGMA 2012								
Changshu Weier Glass Products Co. Ltd.	3073	MC4/PLK/IC	U/C2	AL	LF	PIB/PUR	IC	Yes
Haiyu Town, Changshu City								
Changshu, Jiangsu 215519 China								
86-512-52569644								
Changshu Weier IGCC®/IGMA® 2012								
Ching Chyau Co., Ltd.	2891	MC4/PLK	U/C1	AL	LF	PIB/S2		
No. 560, Feng-Lin Second Road								
Ta-Liao District								
Kaohsiung City, Taiwan 831 ROC								
886-7-7878959								
Ching Chyau IGCC®/IGMA® 2012								
Cmech Ltd.	3260	MC4/PLK/IC	U	TBAA	MS	PIB/PS	IC	
No. 388 FengGuang Road								
ZhongXin Town								
ZhenCheng City, GuangDong Province 511365 China								
86-020-61737991								
IGCC ® CBA '04								
Coastal Glass Distributors	2853	BC3/MC1/MT/IC	U/C2/U	FS/FS	IB/IB	HM	IC	
7421 E. Spartan Blvd.								
Charleston, SC 29418-8462								
843-552-6377								
CGD IGCC®/IGMA® 2012								
Consolidated Glass & Mirror Corporation	3214	BC3/MC1/MT/IC	U/C2/U	FS/FS	IB/IB	HMB	IC	Yes
110 Jack Guynn Drive	3215	BC3/MC1/ADM	U/C2	BCS	IB	BCS		Yes
Galax, VA 24333								
276-236-5196								
GRD024 IGCC®/IGMA® 2012								
Coral Industries Glass Division	2428	BC4/MT	U/C3	FS	IB	HM		
3010 Rice Mine Road	2549	BC4/MT	U/C3/U	FS/FS	IB/IB	S1		
PO Box 40228								
Tuscaloosa, AL 35404								
205-345-1013								
Coral IGCC®/IGMA® 2012								

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Craftsman Fabricated Products 4822 Southerland Houston, TX 77092 713-353-5800 CFP IGCC®/IGMA® 2012	1868	BC3/MC1/PLJ/AJ	U/C2	MA	LF	PIB/S2		
Cristacurva Pedro Martinez Rivas #728 Zapopan, Jalisco 45150 Mexico (3) 342-7979 Cristacurva IGCC®/IGMA® 2012	2726	BC4/CT/GSJ	U/C2/U	MA/MA	LF	PIB/S2		
Custom Glass Prod. Of Carolina 1475 Harrison Rd. Salisbury, NC 28144 704-633-4946 CGPC IGCC®/IGMA® 2012	3105	MC4/PLK	U/C2	AA	LF	PIB/PS		
Custom Glass Products Inc. 7515 Venture Circle Weston, WI 54476 715-359-2252 CGP IGCC®/IGMA® 2012	2979	MC4/PLK/IC	U/C2	MA	LF	PIB/S2	IC	
Dallas Flat Glass 2150 Hutton Drive Carrollton, TX 75006 972-506-9580 DFGD IGCC®/IGMA® 2012	3038	MC4/PLK/IC	U/C3	AA	LF	PIB/PS	IC	
Diamond Windows & Doors Mfg 99 East Cottage Street Boston, MA 02125 617-282-1688 Diamond Windows IGCC®/IGMA® 2012	2694	MC4/PLK/IC	U/C2	AA	LF	PIB/PS	IC	
Dlubak Corporation 520 East Chestnut St. Blairsville, PA 15717 724-459-9540 Dlubak IGCC®/IGMA® 2012	3124	MC4/PLK	U/C1	AA	LF	PIB/S2		
DongGuan CSG Architectural Glass Co., Ltd. CSG Green Energy Industrial Park DongGuang Machong Town, Dongguan City, China 86-769-88280936 CSG IGCC®/IGMA® 1476 2012	1476	BC4/GSJ	U/C	AA	LF	HM/PS		
	2660	BC4/GSJ	U/C	AA	LF	HM/S2		

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Duo Seal Glass, LLC	2485	MC4/PLK/IC	U/C1	AA	LF	PIB/PUR	IC	
500 Nordhoff Place	2486	MC4/PLK/IC	U/C1	AA	LF	PIB/S1	IC	
Englewood, NJ 07631								
201-567-7902								
Duo Seal IGCC®/IGMA® 2012								
Dynamic Windows & Doors Inc.	2680	MC4/PLK/IC	U/C2	AA	LF	PIB/RHM	IC	Yes
30440 Progressive Way								
Abbotsford, BC V2T 6W3 Canada								
604-864-8200								
Dynamic Windows IGCC®/IGMA® 2012								
Eckelt Glas GmbH	2228	BC4/SSJ	U/C1/U	MA/MA	LF/LF	PIB/PS		Yes
ResthofstraBe 18	2229	BC4/SSJ	U/C1/U	SS/SS	LF	PIB/PS		Yes
Postfach 10	2230	BC4/SSJ	U/C1/U	SS/SS	LF/LF	PIB/S2		Yes
Steyr, A4403 Austria								
43 7252 894 0								
Eckelt IGCC®/IGMA® 2012								
EFCO Corporation	2244	BC3/MC1/AP/IC	U/C2	TS	MX	RHM/HM	IC	
1000 County Road & Bridle Lane								
Monett, MO 65708-9214								
417-235-6011								
EFCO IGCC®/IGMA® 2012								
Emirates Glass L.L.C.	2246	MC4/ALK	U/C1	MA	LF	PIB/PUR		
Interchange 4, Al Quoz Industrial Area	2334	MC4/ALK	U/C1	MA	LF	PIB/S2		
PO Box 29769								
Dubai, United Arab Emirates								
971-434-7151								
EmiratesIGCC®/IGMA® 2012								
FAKRO GP Sp. Z.O.O.	2042	BC2/MC2/PLK	U/C2	GS	LF	PIB/PUR		Yes
ul. Wegierska 144A								
33-300 Nowy Sacz POLAND								
VAT nubmer: PL 734-30-11-797 ,								
481-844-4035								
FAKRO IGCC®/IGMA® 2012								
Fenplast, Inc.	2087	BC3/MC1/MT/IC	U/C1/U	FS/FS	IB/IB	HM	IC	Yes
160, boul. de L'industrie								
Candiac, QC J5R 1J3 Canada								
514-990-0012								
Fenplat IGCC®/IGMA® 2012								
Flat Glass Distributors	2467	BC3/MC1/MT/IC	U/C1	FS	IB	FS/HM	IC	
5355 Shawland Road								
Jacksonville, FL 32254								
904-354-5413								
FGD IGCC®/IGMA® 2012								

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Fuyao Group (Fujian) Engineering Glass Co., Ltd.	2894	BC4/LC1	U/C2	MA	LF	HM/S2		Yes
Area II, Fuyao Industrial Area Fuqing, Fujian 350301 China 86-0-591-85363733 Fuyao Group IGCC®/IGMA® 2012	2895	BC4/LC1	U/C2	MA	LF	HM/PS		Yes
General Glass 6763 NE 59th Place Portland, OR 97218 503-253-1147 General Glass IGCC®/IGMA® 2012	2971	MC4/PLK/IC	U/C2	MA	LF	PIB/S1	IC	
Gentek Building Products Ltd. Partnership 6320 Colonel Talbot Rd. London, ON N6P 1J1 Canada 519-652-3246 Gentek IGCC®/IGMA® 2012	2382	BC3/AP/IC	U/C3	FS	IB	HM	IC	Yes
GGI Glass Distributors Corp. 101 Venture Way Secaucus, NJ 07096 201-553-1850 GGI IGCC®/IGMA® 2012	1963	MC4/PLK/IC	U/C1	AA	LF	PIB/S1	IC	
Glass Dynamics 8901 220 Bypass PO Box 938 Stoneville, NC 27048 336-573-2393 GDI IGCC®/IGMA® 2012	1925	BC4/SSJ/IC	U/C2	MA	LF	PIB/S2	IC	Yes
	3166	MC4/PLK/IC	U	TBCS	LF	PIB/S2	IC	
Glass Enterprises Inc. 2277 New York Avenue Bensalem, PA 19020 215-638-1007 Beta-Pane IGCC®/IGMA® 1436 2012	1436	BC4/SJ/IC	U/C1	AA	LF	PIB/PUR	IC	
Glass Insulators Inc. 507 Main Street Bloomer, WI 54724 715-568-3649 Glass Insulators IGCC®/IGMA® 2012	3144	BC3/MC1/MT/IC	U/C2/U	FS/FS	IB/IB	PUR	IC	Yes
	3145	BC4/GSJ/IC	U/C2	MA	LF	PIB/PUR	IC	Yes
	3157	BC3/MC1/MT/IC	U/C2/U	FS/FS	IB/IB	HM	IC	Yes
GlassFab Tempering Services Inc. 1448 Mariani Court Tracy, CA 95376 209-229-1060 GlassFab IGCC®/IGMA® 2012	2623	MC4/PLK	U/C2	MA	LF	PIB/PS		
	2685	MC4/PLK	U/C2	MA	LF	PIB/S2		

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Glasswerks LA, Inc. 8600 Rheem Avenue South Gate, CA 90280 213-216-3627 Glasswerks IGCC®/IGMA® 2012	2653 2702	BC4/PLJ BC4/PLJ	U/C2 U/C2	AA AA	LF LF	PIB/PS PIB/S1		
Glaz-Tech Industries, Inc. 8017 Edith Blvd. Albuquerque, NM 87113 (505) 898-1460 GTI Albuquerque IGCC®/IGMA® 2012	1285	MC4/PLK	U/C2	AA	LF	PIB/PS		
Glaz-Tech Industries, Inc. 5098 Treasure Valley Way Nampa, ID 83687 208-389-1080 GTI Nampa IGCC®/IGMA® 2012	3076	MC4/PLK/IC	U/C2	AA	LF	PIB/PS	IC	
Glaz-Tech Industries, Inc. 3702 West Buckeye Pheonix, AZ 85009 (602) 272-1544 GTI Pheonix IGCC®/IGMA® 2012	2926	MC4/PLK/IC	U/C2	AA	LF	PIB/PS	IC	
Glaz-Tech Industries, Inc. 2191 South 300 West, Suite # 5 Salt Lake City, UT 84115 801-467-3136 GTI SLC IGCC®/IGMA® 2012	2330	MC4/PLK/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® 2012	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® 2012	2919 2920 3109	MC4/PLK/IC MC4/PLK/IC MC4/PLK/IC	U/C2 U/C2 U/C2	AA AA AA	LF MS LF	PIB/PS PIB/HM PIB/S1	IC IC IC	
Glenny Glass Co. 209 Castleberry Court Milford, OH 45150 800-535-2133 GLG IGCC®/IGMA® 2012	2427	MC4/PLK/IC	U/C3	MA	LF	PIB/PS	IC	

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Global Security Glazing 616 Selfield Road Selma, AL 36073 334-875-1900 Global IGCC®/IGMA® 2012	2003	MC4/PLK	U/C2	MA	LF	PIB/S2		
Graham Architectural Products 1551 Mt. Rose Ave. York, PA 17403-2909 717-849-8100 Graham IGCC®/IGMA® 2012	1428	BC4/SJ	U/C1	AA	LF	PIB/S1		
Guang Dong Golden Glass Technologies Diejin Enterprise District Shantou College Road Shantou, Guang Dong, China GDGG IGCC®/IGMA® 2012	2386	BC4/GSJ	U/C2	MA	LF	PIB/S2		
Guangdong Avic Special Glass Technology Huangfengling Industrial Zone Shiyan Town, Bao Shenzhen, Guangdong 518108 China (7552) 763-3580 Guangdon Avic IGCC®/IGMA® 2012	2614	BC4/GSJ	U/C2	AA	MS	PIB/S2		
Guardian Fabrication Inc. 5 Cudworth Road Webster, MA 01570 508-943-6600 GRD-062 IGCC®/IGMA® 2012	2849 2963 2964	BC3/MC1/MT/IC BC4/GSJ/IC MC4/GSK/IC	U/C2 U/C2 U/C2	FS AA PHSS	IB LF LF	HM PIB/S2 PIB/S2	IC IC IC	Yes Yes Yes
Guardian Industries Canada Corp 355 Attwell Drive Rexdale, ON M9W 5C2 Canada 416-679-5242	3452 3453	BC4/AAJ BC4/MT	U/C3 U/C3	AA FS	LF IB	PIB/PS PS		Yes Yes
Gulf Glass Industries, LLC 13th Industrial Area PO Box 6022 Sharjah, United Arab Emirates 971-65-385500 GGI IGCC®/IGMA® 1710 2012	1710 2096	BC4/ALJ BC4/ALJ	U/C2 U/C2	MA MA	LF LF	PIB/S2 PIB/PUR		Yes
Hankuk Haniso Co.,Ltd. Processed Glass Sector 585-14 Gajwa Dong Seo-Gu Incheon, 404-250 Korea Hankuk IGCC®/IGMA® 2012	2387	BC4/MT	U/C2	AA	LF	PIB/S2		

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Hartung Glass Industries	2327	BC4/GSJ/CT/IC	U/C2	MA	LF	PIB/PS	IC	Yes
8211 Siena Avenue	2347	BC4/GSJ/CT/IC	U/C2	MA	LF	PIB/S2	IC	Yes
Sacramento, CA 95828								
916-266-5700								
HGI SAC IGCC®/IGMA® 2012								
Hartung Glass Industries	2493	MC4/PLK/IC	U/C2/U	MA/MA	LF/LF	PIB/PS	IC	Yes
17830 West Valley Highway	2494	MC4/PLK/IC	U/C2/U	MA/MA	LF/LF	PIB/S2	IC	
Tukwila, WA 98188	3207	MC4/PLK/IC	U/C2/U	PHSS/PHSS	LF/LF	PIB/PS	IC	Yes
800-552-2227	3208	MC4/PLK/IC	U/C2/U	PHSS/PHSS	LF/LF	PIB/S2	IC	Yes
HGI TUK IGCC®/IGMA® 2012	3220	MC4/PLK/IC	U/C2/U	MA/MA	LF/LF	PB/MPU	IC	Yes
	3221	BC3/MC1/MT/IC	U/C2/U	FS/FS	IB/IB	RHM	IC	Yes
Hartung Glass Industries	2671	BC3/MC1/MT	U/C2	FS	IB	RHM		Yes
10450 SW Ridder Road	2672	BC4/GSJ	U/C2	MA	LF	PIB/RHM		Yes
Wilsonville, OR 97070	2673	MC4/PLK	U/C2	MA	LF	PIB/S2		Yes
503-682-3846	2674	MC4/PLK	U/C2	MA	LF	PIB/PS		Yes
HGI WIL IGCC®/IGMA® 2012								
Harvey Building Products	1531	BC3/MC1/AP/IC	U/C3	TS	MX	HM	IC	
30 Jack's Bridge Road	2712	BC3/MC1/AP/IC	U/C3/U	TS/TS	MX/MX	HM/RHM	IC	Yes
Londonderry, NH 03503-2145	2798	BC3/MC1/IC	U/C2	BCS	IB	BCS/RHM	IC	Yes
603-216-8400	2799	BC2/MC2/IC	U/C2	BPS	IB	BPS	IC	Yes
HII-1 IGCC®/IGMA® 2012								
Harvey Industries, Inc.	2715	BC3/MC1/AP/IC	U/C3	TS	MX	HM	IC	Yes
7 Ledgewood Boulevard	2716	BC3/MC1/AP/IC	U/C2	TS	MX	HM	IC	
North Dartmouth, MA 02747	2718	BC3/MC1/AP/IC	U/C3/U	TS/TS	MX	HM/RHM	IC	Yes
508-998-9779	2719	BC3/MC1/AP/IC	U/C2/U	TS/TS	MX	HM/RHM	IC	Yes
HII-3 IGCC®/IGMA® 2012	2720	BC3/MC1/AP/IC	U/C3/U	TS/TS	MX	HM/RHM	IC	Yes
	3068	BC3/MC1/AP/IC	U/C3	TS	MX	HM	IC	Yes
	3070	BC3/MC1/AP/IC	U/C3	SS	MX	HM	IC	Yes
	3071	BC3/MC1	U/C3	SS	MX	HM		Yes
Hehr Glass Company	1752	MC4/PLK	U/C1	AA	LF	PIB/S2		
1021 Walnut Ave.	1796	MC4/PLK	U/C1	AA	LF	PIB/PUR		
Pomona, CA 91766								
909-628-5557								
HEHR Glass 1752 IGCC®/IGMA® 2012								
High Tech Energy Saving Dorwin Co., Ltd.	2595	BC3/MC1/PLK/IC	U/U	BSS	LF	BSS/PS	IC	
Haihe Road	2596	MC4/PLK/IC	U/U	MA	LF	PIB/PS	IC	
Economic and Technical Development Zone								
Quinhuangdao, 066004 China								
335-850-3784								
High Tech Energy IGCC®/IGMA® 2012								

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Hongzhou Zhongtian Glass Co. Ltd. No. 101 Jianshe 3rd Xiaoshan Economic and Technical Development Zone Hangzhou, 311215 China 86-571-82870109 Hanzhou Zhongtian Glass IGCC®/IGMA® 2012	2841	BC4/GSJ	U/C2	AA	LF	PIB/S2		
Hurd Window and Doors Acquisitions, Inc. 1815 Water St. Merrill, WI 54452 715-748-1716 HWDI IGCC®/IGMA® 2012	1815	MC4/PLK/IC	U/C2	AA	LF	PIB/RHM	IC	Yes
	1816	BC3/MC1/IC	U/C2	TS	MX	RHM	IC	Yes
	1818	BC4/GSJ/IC	U/C2	SS	MX	RHM	IC	Yes
Insulated Glass of America, Inc. 102 East Fields Street PO Box 475 Dallas, NC 28034 704-917-0880 IGA IGCC® E2190 2012	2544	BC3/MC1/PLK/IC	U/C2	AA	LF	PIB/S1	IC	Yes
	3158	MC4/PLK/IC	U/C2	AA	LF	PIB/HM	IC	
Insulite Glass Co., Inc. 780 W. Frontier Circle PO Box 2803 Olathe, KS 66063-0803 913-780-2233 ISL IGCC®/IGMA® 1702 2012,	1702	BC4/GSJ/IC	U/C2	MA	LF	PIB/S2	IC	Yes
	2008	BC4/GSJ/IC	U/C	MA	LF	PIB/PS	IC	
	2735	BC4/GSJ/IC	U/C1	PHSS	LF	PIB/PS	IC	Yes
Insulpane of Connecticut Ind. 30 Edmond St Hamden, CT 06517 203-865-8212 Insulpane CT IGCC®/IGMA® 2012	1966	BC3/MC1/PLK/IC	U/C2	AA	LF	PIB/PS	IC	
	2208	MC4/PLK/IC	U/C1	AA	LF	PIB/HM	IC	
International Glass Products 11111 Colbert Ville D'Anjou, QC H1J 2S1 Canada 514-494-1575 Inde-Pane IGCC®/IGMA® 2012	2319	BC3/MC1	U/C1	SS	DM	RHM		Yes
	2981	BC3/MC1/IC	U/C1	SS	MX	RHM	IC	Yes
Intigral 6750 Vistoria East Austintown, OH 44515 330-793-7677 EST IGCC®/IGMA® 1200 2012	1200	BC3/MC1/AP/IC	U/C3	TS	MX	HM	IC	Yes
	3027	BC3/MC1/MT/IC	U/C3/U	FS/FS	IB/IB	HM	IC	Yes
	3028	BC3/MC1/MT/IC	U/C3/U	FS/FS	IB/IB	HM	IC	Yes
	3301	BC3/MC1/IC	U/C2/U	SS/SS	MX/MX	HM	IC	Yes

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Intigral	1788	BC3/MC1/IC	U/SCF/U	TS/TS	MX/MX	PIB/PUR	IC	Yes
7850 Northfield Rd.	2037	BC3/MC1/IC	U/C3	TS	MX	RHM/HM	IC	Yes
Walton Hills, OH 44146	3031	BC3/MC1/MT/IC	U/C3/U	FS/FS	IB/IB	HM	IC	Yes
440-439-0980	3032	BC3/MC1/MT/IC	U/C3/U	FS/FS	IB/IB	HM	IC	Yes
EST IGCC®/IGMA® 2012	3072	BC3/MC1/IC	U/C3/U	SS/SS	MX/MX	HM	IC	Yes
	3129	BC3/MC1/IC	U/C3/U	TS/TS	MX/MX	HM	IC	Yes
Jasan Glass - JSG	2274	BC4/ALJ	U/C1	MA	LF	PIB/S2		
459-1 Neojo-Ri, Jori-Eup, Paju	2275	BC4/SSJ	U/C2	SS	LF	PIB/S2		
Gyeonggi, 413-821 Korea								
82-31-941-6289								
Jasan Glass 2274/2275 IGCC®/IGMA® 2012								
Jersey Tempered Glass, Inc.	689	MC4/PLK/IC	U/C3	AA	LF	PU	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® 2012								
Jiangmen SYP Engineering Glass Ltd	2856	BC4/GSJ	U/C2	AA	LF	PIB/S2		
10# Yinyuan Road	2857	BC4/GSJ	U/C2	AA	LF	PIB/PS		
Economic Development Zone Xinhui	3237	BC4/GSJ	U/C2	SS	LF	PIB/S2		
Jiangmen City, Guangdong 529141	3238	BC4/GSJ	U/C2	PHSS	LF	PIB/S2		
China								
86-750-6398999	3258	BC4/GSJ	U/C2	PHSS	LF	PIB/PS		
Jiangmen SYP IGCC®/IGMA® 2012	3259	BC4/GSJ	U/C2	SS	LF	PIB/PS		
Jiangmen Yamako Glass Co., Ltd.	2900	BC3/MT/IC	U/C2	FS	IB	FS/HM	IC	
River Bank South Road								
Daze Town, Xinhui District								
Jiangmen City, China								
852-279-6886								
JYG IGCC®/IGMA® 2012								
Jinzhou Fortune Glass Spring Glass Co., Ltd.	2811	BC3/MC1/IC	U/C	BSS	MX	BSS/PS	IC	
Chaoyang New Street, Jingang Road	2813	BC3/MC1/CT/IC	U/C	BCS	MX	BSS/PS	IC	
The Economic Development Zone	3203	BC3/MC1	U/C2	BSS	DM	BSS		
Jinzhou City, Liaoning Province	3204	BC3/MC1/IC	U/C2	BSS	MX	BSS	IC	
121007 China								
86-416-3581084								
Jinzhou Fortune Glass IGCC®/IGMA® 2012								
Kenyon's Stained Glass Factory, Inc.	2391	BC3/MC1/PLK/IC	U/C2	AA	LF	PU	IC	
5720 North Meadows Drive								
Grove City, OH 43123								
614-539-8740								
Kenyon IGCC®/IGMA® 2012								

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KINRO, Inc.	3341	BC3/MC1/MT/IC	U/C3	FS	IB	HM	IC	Yes
2051 2nd Ave, NE	3342	BC4/IC	U/C3	TS	MX	HM	IC	Yes
Cairo, GA 39828								
229-377-2552								
KINRO, Inc.	3339	BC3/MC1/MT/IC	U/C3	FS	IB	HM	IC	Yes
112 Brewer Street	3340	BC4/IC	U/C3	TS	MX	HM	IC	
Double Springs, AL 35553								
205-489-5051								
KINRO, Inc.	2568	BC3/MC1/MT/IC	U/C3	FS	IB	HM	IC	Yes
2423 Messick Rd.	2684	BC4/IC	U/C3	TS	MX	HM	IC	Yes
Goshen, IN 46526	2756	BC3/MC1/IC	U/C3	SS	MX	HM/HM	IC	Yes
574-534-6660	3094	BC4/SS/IC	U/C2	TS	MX	HM	IC	Yes
KINRO IN IGCC®/IGMA® 2012								
KINRO, Inc.	2073	BC3/MC1/CT/IC	U/C3	TS	MX	HM	IC	Yes
944 North Kings Road	3008	BC3/MC1/MT/IC	U/C3	FS	IB	HM	IC	
Nampa, ID 83687								
208-466-4523								
KINRO ID IGCC®/IGMA® 2012								
KML Windows, Inc.	2373	BC4/MT/CT/IC	U/C2	FS	IB	RHM	IC	Yes
71 Second Street								
Strathroy, ON N7G 3H8 Canada								
519-245-2270								
KML IGCC®/IGMA® 2012								
Lamiver Inc.	3012	MC4/PLK	U/C2	AA	LF	PIB/S2		
3805 Dollard Desjardins								
Montreal, QC H1B 5W9 Canada								
514-640-6490								
Lamiver IGCC®/IGMA® 2012								
Louisville Plate Glass Company	1281	MC4/PLK	U/C2	AA	LF	PIB/S2		
1401 W Broadway	2897	MC4/PLK/IC	U/C2	AA	LF	PIB/PS	IC	
PO Box 1203								
Louisville, KY 40201								
502-584-6145								
LPG IGCC®/IGMA® 2012								
Manko Windows	2634	BC4/SS/IC	U/C2	MA	LF	PIB/PS	IC	
700 New York Avenue								
Des Moines, IA 50313								
515-288-7427								
GP IGCC®/IGMA® 1747 2012								
Mannix Exterior Wall Systems, Inc.	1746	MC4/PLK	U/C2	AA	LF	PIB/PUR		
345 Crooked Hill Road								
Brentwood, NY 11717								
631-231-0800								
Mannix IGCC®/IGMA® 1746 2012								

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Marvin Windows and Doors PO Box 100 Warroad, MN 56763 218-386-1430 Marvin Windows IGCC®/IGMA® 2012	1848	MC4/PLK/IC	U/C2	AA	LF	PIB/PUR	IC	
Medieval Glass India Limited 335 KM Milestone, National Highway No. 1 Village Bacchowal, P.O. Theing Tehsil Phillaur District Jalandhar, Punjab 144410 India 91-99152-95666 IGCC ® CBA '04	2850	BC4/IC	U/C	BSS	LF	PS	IC	
Mid-American Glass 147 S. Sturdevant St. PO Box 3428 Davenport, IA 52808-3428 563-326-6294 Mid American IGCC®/IGMA® 2012	2315	MC4/PLK/IC	U/C3	AA	LF	PIB/RHM	IC	
Miroirs Laurier 153 boul. Laurier Laurier-Station, QC G0S 1N0 Canada 418-728-2023 MLG IGCC®/IGMA® E2190 2012	2559	MC4/PLK/IC	U/C2	PHSS	LF	PIB/PS	IC	Yes
	2629	MC4/PLK/IC	U/C2	TBSS	LF	PIB/S2	IC	Yes
MLC Glass 2553 23 Mile Road Shelby Township, MI 48316 586-731-1630 MLC IGCC®/IGMA® 2012	2307	BC4/PLJ/IC	U/C2	MA	LF	PIB/PS	IC	Yes
	2612	MC4/PLK/IC	U/C2	SS	LF	PIB/PS	IC	Yes
Nashville Tempered Glass LLC 1241 Avondale Dr. Hendersonville, TN 37075 615-826-5522 NTGC IGCC®/IGMA® 2012	3173	MC4/GSK	U/C1	AA	LF	PIB/PS		
Northwest Glass, Inc. 127 Regal St. PO Box 21258 Billings, MT 59104 406-252-7196 NWG IGCC®/IGMA® 2012	865	MC4/PLK/CT/IC	U/C2/U	AA/AA	LF/LF	PU	IC	
Northwestern Inds, Inc. 2501 Commodore Way Seattle, WA 98199 206-285-3140 NWI Sea WA IGCC® 2012	1635	MC2/BC2/PLJ/IC	U/C2/U	MA/MA	LF/LF	PIB/S2	IC	Yes

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Northwestern Inds, Inc. 7595 East 30th Street Yuma, AZ 85365-6532 206-285-3140 N.W.I. IGCC®/IGMA® 2012	2249	BC4/SJ	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 2012	2730	MC4/PLK/IC	U/C2/U	PHSS/PHSS	LF/LF	PIB/PS	IC	Yes
ODL, Changshu ZhongXin Building Materials Co., Ltd. Meili Town Changshu City, Jiangsu Province 215500 China 616-748-5401 XYG IGCC®/IGMA® 2012	2776	MC4/PLK/IC	U/C	AA	LF	PIB/PS	IC	
	3188	BC3/MC1/IC	U/C2	BSS	MX	BSS	IC	
	3189	BC3/MC1/IC	U/C2	BSS	MX	BSS/PS	IC	
ODL, Inc. 65 Courtland Avenue Vaughan, ON L4K 3T1 Canada 905-532-9495 ODL Vaughn IGCC®/IGMA® 2012	2948	MC4/PLK/IC	U/C1/U	AA/AA	LF/LF	PIB/RHM	IC	Yes
	2950	MC4/PLK/IC	U/C2	AA	LF	PIB/RHM	IC	Yes
	3061	BC3/MC1/MT/IC	U/C2	FS	IB	RHM	IC	Yes
ODL, Inc. 215 E. Roosevelt Avenue Zeeland, MI 49464 616-772-9111 ODL Zeeland IGCC®/IGMA® 2012	1892	BC3/MC1/MT/IC	U/C1	BCS	IB	BCS	IC	
	3052	BC3/MC1/CT/IC	U/C2	TS	MX	RHM	IC	
	3053	MC4/PLK/IC	U/C2	AA	LF	PUR	IC	
ODL, Inc., Vidrio Decorativo Occidental S. A. de C. V. Poniente 4 Entre Borte 7 y Gral Pedro Hinojosa Ciudad Industrial H. Matamoros Tamps., Mexico 616-772-9111 VDO IGCC® E2190 2012	2637	BC3/MC1/MT/IC	U/C1	BCS	IB	BCS	IC	
	3083	MC4/PLK/IC	U/C2	AA	LF	PIB/PUR	IC	
	3089	BC3/MC1/IC	U/C2	BCS	IB	BCS	IC	
	3090	BC4/SS/IC	U/C2	TS	MX	RHM	IC	
	3116	BC3/MC1/CT/IC	U/C1/U	TS/TS	MX/MX	RHM	IC	
	3118	BC3/MC1/MT/IC	U/C2	FS	IB	RHM	IC	
	3309	MC4/PLK/IC	U/C2	AA	LF	PUR	IC	
OKALUX GmbH Am Jospershecklein 1 97828 Marktheidenfeld-Atfeld Deutschland, Germany 939-190-0241 OKA IGCC®/IGMA® 2012	1866	MC4/PLK	U/C2	MA	LF	PIB/S2		
	2656	BC4/PLJ	U/C2	SS	LF	PIB/PS		Yes

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Oldcastle BuildingEnvelope™ 5334 Barthel Drive PO Box 130 Albertville, MN 55301 763-497-3212 Oldcastle 22 IGCC®/IGMA® E2190 2012	1968 2501	MC4/PLK/IC BC4/SSJ/IC	U/C2 U/C2	MA PHSS	LF LF	PIB/S1 PIB/S1	IC IC	Yes Yes
Oldcastle BuildingEnvelope™ 1611 S.E. Commerce Avenue Battle Ground, WA 98604 360-816-7777 Oldcastle 73 IGCC®/IGMA® E2190 2012	1537 2403	MC4/PLK/IC MC4/PLK/IC	U/C2 U/C2	AA PHSS	LF LF	PIB/S2 PIB/S2	IC IC	Yes Yes
Oldcastle BuildingEnvelope™ 1001 Foster Ave. Bensenville, IL 60106 630-595-3750 Oldcastle 23 IGCC®/IGMA® E2190 2012	1823	BC4/PLJ/MT/IC	U/C2	AA	LF	PIB/S2	IC	
Oldcastle BuildingEnvelope™ 4257 30th St. PO Box 54 Burnips, MI 49314 616-896-8341 Oldcastle 28 IGCC®/IGMA® E2190 2012	1424 2605 732	MC4/PLK/IC MC4/PLK MC4/PLK/IC	U/C2 U/C2 U/C2	AA SS AA	LF LF LF	PIB/PUR PIB/S2 PIB/S2	IC IC	Yes Yes
Oldcastle BuildingEnvelope™ 3601 - 72 Avenue SE Calgary, AB T2C2K3 Canada 403-279-2544 Oldcastle 93 IGCC®/IGMA® E2190 2012	2703 2725 2878 2879	MC4/PLK/IC MC4/PLK/IC BC3/MC1/MT/IC MC4/PLK/IC	U/C2/U 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
Oldcastle BuildingEnvelope™ 4161 S Morgan St. Chicago, IL 60609 773-523-8400 Oldcastle 24 IGCC®/IGMA® E2190 2012	1289 1986 1987	BC4/PLJ/IC MC4/PLK/IC BC4/PLJ	U/C1 U/C1 U/C1	AA AA AA	LF LF LF	PIB/RHM RHM PIB/S1	IC IC	 Yes Yes
Oldcastle BuildingEnvelope™ 2195 Langstaff Road Concord, ON L4K2B2 Canada 905-660-3806 Oldcastle 94 IGCC®/IGMA® E2190 2012	2516 2652	BC4/GSJ BC4/GSJ	U/C2 U/C2	PHSS MA	LF LF	PIB/S2 PIB/S2		Yes Yes
Oldcastle BuildingEnvelope™ 14117 Industrial Park Blvd, NE Covington, GA 30014 678-212-7700 Oldcastle 42 IGCC®/IGMA® E2190 2012	914	MC4/PLK/AP/IC	U/C2	MA	LF	PIB/S2	IC	Yes

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Oldcastle BuildingEnvelope™ 11205 E. 37th Ave. Denver, CO 80239 303-371-5511 Oldcastle 71 IGCC®/IGMA® E2190 2012	1940 2689	BC3/MC1/CT/IC MC4/PLK/IC	U/C2/U U/C2/U	FS/FS AA/AA	IB/IB LF/LF	RHM PIB/S2	IC IC	Yes Yes
Oldcastle BuildingEnvelope™ 99 Murray Hill Parkway East Rutherford, NJ 07073 800-647-7673 Oldcastle 17 IGCC®/IGMA® E2190 2012	3078	MC4/PLK/IC	U/C1	MA	LF	PIB/S2	IC	
Oldcastle BuildingEnvelope™ 6850 Stevenson Blvd. Fremont, CA 94538 510-651-2292 Oldcastle 84 IGCC®/IGMA® E2190 2012	1111	MC4/PLK/IC	U/C2	AA	LF	PIB/S2	IC	
Oldcastle BuildingEnvelope™ 1101 Fountain Pkwy. Grand Prairie, TX 75050 972-647-4028 Oldcastle 83 IGCC®/IGMA® E2190 2012	3079	BC3/MC1/GSJ	U/C2	MA	LF	PIB/S1		
Oldcastle BuildingEnvelope™ 895 Motor Pkwy. PO Box 18039 Hauppauge, NY 11788-8839 631-234-2200 Oldcastle 15 IGCC®/IGMA® E2190 2012	2235 2911	BC4/GSJ/IC MC4/GSK/IC	U/C2 U/C2	MA PHSS	LF LF	PIB/S2 PIB/S2	IC IC	Yes Yes
Oldcastle BuildingEnvelope™ 1331 W. Sam Houston Pkwy N. Houston, TX 77043 713-464-5611 Oldcastle 65 IGCC®/IGMA® E2190-12	1137	BC4/SSJ/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® E2190 2012	653	MC4/PLK/AP/IC	U/C2/U	MA/MA	LF/LF	PIB/S2	IC	Yes
Oldcastle BuildingEnvelope™ 5075 275th Street Langley, BC V4W 0A8 Canada 604-607-1300 Oldcastle 91 IGCC®/IGMA® E2190 2012	2322 2323 2324 3367	MC4/PLK/IC MC4/PLK/IC BC3/MC1/MT/IC MC4/PLK/IC	U/C2/U U/C2/U U/C2/U U/C2	AA/AA AA/AA FS/FS PHSS	LF/LF LF/LF IB/IB LF	PIB/HM PIB/S2 RHM PIB/S2	IC IC IC IC	Yes Yes Yes Yes

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Oldcastle BuildingEnvelope™ 5631 Ferguson Dr. Los Angeles, CA 90022 323-887-6000 Oldcastle 74 IGCC®/IGMA® E2190 2012	1437 3303	MC4/PLK/IC MC4/PLK/IC	U/C2 U/C2	AA MA	LF LF	PIB/S2 PIB/S2	IC IC	 Yes
Oldcastle BuildingEnvelope™ 17851 NW Miami Court Miami, FL 33169 305-652-3350 Oldcastle 82 IGCC®/IGMA® E2190 2012	1101	MC4/PLK/IC	U/C1	AA	LF	PIB/S1	IC	
Oldcastle BuildingEnvelope™ 1500 Glen Ave., Techni Park Moorestown, NJ 08057 856-234-9222 Oldcastle 12 IGCC®/IGMA® E2190 2012	3290	BC4/SJ	U/C2	AA	LF	PIB/S2		Yes
Oldcastle BuildingEnvelope™ Ampoint Industrial Park 291 "M" Street Perrysburg, OH 43551 419-666-2000 Oldcastle 81 IGCC®/IGMA® E2190 2012	2642 3262	BC4/AP/SJ BC4/AP/SJ	U/C2 U/C2	PHSS AA	LF LF	PIB/S2 PIB/S2		 Yes
Oldcastle BuildingEnvelope™ 3404 W. Papago St. Phoenix, AZ 85009 602-253-6980 Oldcastle 63 IGCC®/IGMA® E2190 2012	1766	MC4/PLK/IC	U/C2	AA	LF	PIB/S2	IC	
Oldcastle BuildingEnvelope™ 12755 boul Industriel Pointe-aux-Trembles, QC H1A 4Z6 Canada 514-640-5355 Oldcastle 95 Montreal IGCC®/IGMA® 2012	2883 2884	MC4/PLK MC4/PLK	U/C2/U U/C2/U	AA/AA PHSS/PHSS	LF/LF LF/LF	PIB/S2 PIB/S2		 Yes Yes
Oldcastle BuildingEnvelope™ 1900 Midland St. Rock Hill, SC 29730 803-366-5167 Oldcastle 44 IGCC®/IGMA® E2190 2012	3081	MC4/PLK/IC	U/C2	MA	LF	PIB/S2	IC	Yes
Oldcastle BuildingEnvelope™ 5103 Janice Ave. Schofield, WI 54476 715-359-2432 Oldcastle 27 IGCC®/IGMA® E2190 2012	1178 1312 1319 2583 2647	BC3/MC1/IC BC3/PLK BC3/MC1/PLK BC3/MC1/PLK/IC BC3/MC1/PLK/IC	U/C2 U/C2/U U/C2/U U/C2/U U/C2/U	TS AA/AA AA/AA PHSS/PHSS PHSS/PHSS	MX LF/LF LF/LF LF/LF LF/LF	PIB/PUR PIB/PUR PIB/S2 PIB/S2 PIB/PUR	IC IC IC	 Yes Yes Yes Yes Yes
	3337 3338	BC3/PLK BC3/PLK	U/C2/U U/C2/U	AA/AA AA/AA	LF/LF LF/LF	PIB/PUR PIB/PUR		 Yes Yes

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Oldcastle BuildingEnvelope™ 10000 N. Harrison Shawnee, OK 74804 405-275-5510 Oldcastle 61 IGCC®/IGMA® E2190 2012	1168	MC4/PLK	U/C2	AA	LF	PIB/S1		Yes
Oldcastle BuildingEnvelope™ 5115 East Hartford St. Tampa, FL 33619 813-247-3184 Oldcastle 43 IGCC®/IGMA® E2190 2012	1933	BC3/MC1/PLK/IC	U/C2	AA	LF	PIB/S2	IC	
Oldcastle BuildingEnvelope™ 1700 Daniel Boone Ind. Dr. Warrenton, MO 63383 636-456-3452 Oldcastle 21 IGCC®/IGMA® E2190 2012	3370	MC4/PLK	U/C2	MA	MS	PIB/S2		Yes
	3371	MC4/PLK	U/C2	MA/MA	MS/MS	PIB/S2		Yes
Oldcastle BuildingEnvelope™ 30 Cooperative Way Wright City, MO 63390 636-745-3030 Oldcastle 35 IGCC®/IGMA® E2190 2012	2043	BC4/MC1/GSJ	U/C2	MA	LF	PIB/S2		Yes
	2206	BC4/GSJ	U/C2/U	SS/SS	LF/LF	PIB/S2		Yes
	2400	BC4/SSJ	U/C2	PHSS	LF	PIB/S2		Yes
	2893	BC4/MC1/GSJ	U/C2/U	MA/MA	LF/LF	PIB/S2		Yes
Paramount Windows 105 Panet Rd. Winnipeg, MB R2J 0S1 Canada 204-233-4966 Paramount Windows IGCC®/IGMA® 2012	1992	BC3/MC1/MT/IC	U/C2	FS/FS	IB/IB	HM	IC	Yes
Patio Enclosures 720 East Highland Road Macedonia, OH 44056 330-468-0700 PEI IGCC®/IGMA® 2012	1851	BC4/GSJ	U/C1	FS	IB	RHM		Yes
Pella Corporation 2000 Proline Place Gettysburg, PA 17325-8297 717-338-1179 PEL GET IGCC®/IGMA® 2012	2688	BC3/MC1/MT/IC	U/C2	FS	IB	HM	IC	Yes
	2692	BC3/MC1/IC	U/C2	SS	MX	RHM/HM	IC	Yes
Pella Corporation 307 Pella Way Murray, KY 42071 270-767-2636 PEL MUR IGCC®/IGMA® 2012	2741	BC3/MC1/MT/IC	U/C2	FS	IB	HM	IC	Yes
	2742	BC3/MC1/IC	U/C2	SS	MX	RHM/HM	IC	Yes

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Pella Corporation 1500 South Highway 59 Shenandoah, IA 51601 712-246-6324 PEL SHE IGCC®/IGMA® 2012	3294	BC4/PLJ/IC	U/C2	SS	LF	PIB/S1	IC	Yes
Pella Corporation 1800 North Main Avenue Sioux Center, IA 51250 712-722-5609 PEL SIO IGCC®/IGMA® 2012	3291	BC4/PLJ/IC	U/C2	SS	LF	PIB/S1	IC	Yes
Pella Corporation - Portland 18600 N.E. Wilkes Road Portland, OR 97230 503-405-9168 PEL POR IGCC®/IGMA 2012	2695 2696 3292 3409	BC3/MC1/IC BC3/MC1/MT/IC BC4/PLJ/IC BC3/MC1/MT/IC	U/C2 U/C2 U/C2 U/C2	SS FS SS FS	MX IB MS IB	RHM/HM RHM PIB/S1 RHM	IC IC IC IC	Yes Yes Yes Yes
Pennsylvania Insulating Glass 6395 SR 103 N, Bldg 62 Lewistown, PA 17044 717-247-0560 PAIG IGCC®/IGMA® 2012	2250 2406	MC4/PLK/IC MC4/PLK/IC	U/C3 U/C3	AA AA	LF LF	PIB/PUR PIB/S1	IC IC	
Perficom S.A. DE C.V. AV. Central No. 3 San Juan Del Rio, Queretaro 76802 Mexico 52-42 72 72 92 32 Perficom IGCC®/IGMA® 2012	2852	BC4	U/C	BCS	IB	BCS		Yes
PFG Glass 27413 55th Avenue Langley, BC V4W 3Y1 Canada PFG IGCC®/IGMA® 2012	2470 2578 3043	BC3/MC1/MT/CT BC3/MC1/MT/IC BC3/MC1/MT/IC	U/C2 U/C2/U U/C2	FS FS/FS FS	IB IB/IB IB	PIB/S2 RHM PIB/RHM	 IC IC	
Pioneer Windows 200 Union Avenue PO Box 70 Johnstown, NY 12095 518-762-5526 Pioneer IGCC®/IGMA® 2012	2663	MC4/PLK	U/C2	AA	LF	PIB/HM		
Portes Patio Resiver 100, 181e Rue Beauceville, QC G5X 2T1 Canada 418-774-2949 Portes Patio IGCC®/IGMA® 2012	2877	BC4/IC	U/C1/U	FS/FS	IB/IB	HM	IC	Yes

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PPG Inds. Inc.	2297	BC3/MC1/SS/IC	U/C3	TS	MX	RHM	IC	Yes
400 Park Circle Drive	3346	MC3/IC	U/C3	SS/SS	DM	RHM	IC	Yes
Carlisle, PA 17013								
717-486-3366								
PPG Allentown IGCC®/IGMA® 2012								
Prelco Inc.	1388	MC4/PLK/AP	U/C1	AA	LF	PIB/S2		Yes
94 Boulevard Cartier	2268	MC4/PLK/AP	U/C1	AA	LF	PIB/PS		Yes
Riviere-du-loup, QC G5R 2M9	2270	MC4/PLK/AP	U/C2	PHSS	LF	PIB/S2		Yes
Canada								
418-862-2274	2458	MC4/PLK	U/C2	SS	LF	PIB/S2		Yes
PRELCO IGCC®/IGMA® 2012	2459	MC4/PLK	U/C2	SS	LF	PIB/PS		Yes
	3288	MC4/PLK/AP	U/C2	PHSS	LF	PIB/S2		
Prelco MTL Inc.	2491	MC4/PLK/IC	U/C1	AA	LF	PIB/S2	IC	Yes
3740 Dollard-Desjardins	2597	MC4, PLK	U/C1	AA	LF	PIB/PS		Yes
Montreal, QC H1B 5X2 Canada	2598	MC4/PLK	U/C1	PHSS	LF	PIB/PS		Yes
514-640-1122								
LIT IGCC®/IGMA® E2190 2012								
PRL Glass Systems	2905	MC4/PLK/IC	U/C1	MA	LF	PIB/PS	IC	
251 Mason Way	2906	MC4/PLK/IC	U/C1	MA	LF	PIB/S2	IC	
City of Industry, CA 91746								
626-961-5890								
PRL IGCC®/IGMA® 2012								
Productos De Valor Agregado en	3150	MC4/PLK	U/C2	AA	LF	PIB/S2		
Cristal S.A. de C.V.								
Rio de los Remedios No. 1 Col								
San Juan Ixhuatepec								
Tlalnepantla Edo De Mexico, Mexico								
52-55-5227-6000/6055								
IGCC ® CBA '04								
ProTemp Glass, Inc.	2226	BC4/GSJ	U/C2	MA	MS	PIB/PS		Yes
360 Applewood Crescent	2227	BC4/GSJ	U/C2	MA	LF	PIB/S2		Yes
Concord, ON L4K 4V2 Canada	2753	BC4/SSJ	U/C2	PHSS	MS	PIB/PS		Yes
905-760-0701	2754	BC4/SSJ	U/C2	PHSS	MS	PIB/S2		Yes
Protemp IGCC®/IGMA® 2012								
Qinhuangdao Allide Art Glass Co.,	2827	BC4/IC	U/C1/U	BSS/BSS	IB/IB	BSS/PS	IC	Yes
Ltd.								
#3 Miluojiang Road	3092	MC4/PLK/IC	U/C3	AA	LF	HM/PS	IC	Yes
Economic & Technical Development Zone								
Qinhuangdao, Hebei 066004 China								
86-335-8503726								
Qinhuangdao Allide Art Glass IGCC®/IGMA® 2012								

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Qinhuangdao Xinhua Glass Processing Ind. Co., Ltd. Haihe Road Economic and Technical Development Zone Qinhuangdao, 066004 China 335-850-3784 Xinhua Glass IGCC®/IGMA® 2012	2594	BC3/MC1/IC	U/C2	BSS	IB	BSS/PS	IC	
Reem Emirates Aluminum ICAD-1 Mussafah PO Box 36863 Abu Dhabi, UAE UAE (9712) 599-4301 Reem IGCC®/IGMA® 2012	2996	BC4/PLK	U/C3	MA	LF	PIB/S2		
Robert Bowden, Inc. 850 White Circle Court PO Box 4237 Marietta, GA 30061 678-819-6163 RBI IGCC®/IGMA® 2012	2433	BC4/PLJ/IC	U/C2	BPS	IB	BPS	IC	
Sage Electrochromics Inc. One Sage Way Faribault, MN 55021 507-331-4959 SAGE IGCC®/IGMA® 2012	2679	BC4/PLJ/CT	U/C2	SS/SS	LF/LF	PIB/S1		Yes
	2844	BC3/MC1/MT	U/C2	FS	IB	FS/S2		
Second City Glass LLC 929 W. Exchange Avenue Chicago, IL 60609 312-674-8436 #6	3226	BC3/MC1/CT	U/C1	BCS	IB	BCS		
SEMCO Hao Hiep Industrial Zone Phu Yen Province, Vietnam Vietnam (939) 027-7141 SEMCO IGCC®/IGMA® 2012	2759	BC3/MC1/MT/IC	U/C	BSS	MX	BSS/HM	IC	
	2829	BC4/MT/IC	U/C	FS	IB	HM	IC	
Serious Energy, Inc. 1136 Industrial Park Road Vandergrift, PA 15690 412-445-4654 SMI Vandergrift IGCC®/IGMA® E2190 2012	3410	BC3/MC1/IC	U/C2	TS	MX	PIB/PUR	IC	Yes
	3411	BC3/MC1/MT/IC	U/C2	FS	IB	HM	IC	Yes
	3412	BC3/MC1/IC	U/C2/U	TS/TS	MX/MX	PIB/PUR	IC	Yes
	3413	BC2/MC2/PLK/IC	U/C2	GS	LF	PIB/HM	IC	Yes
Shanghai Kinghua IG Blinds Co. Ltd No. 158, Alley 299 Wushuang Road HuaTing Town, Jiading, Shanghai 201811 China 86-138-1650-1596	3316	MC4/PLK	U/C	AA	MS	PIB/PS		

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Shanghai SYP Building Glass Ltd 611 Kangqiao Road Pudong New Area, Shanghai 201315 China 86-22-38108108 SYP 01 IGCC®/IGMA® 2012	1880	BC4/GSJ	U/C2	AA	LF	PIB/S2		
Shanghai SYP Engineering Glass Ltd 75 Kangliu Road Pudong New Area, Shanghai 201315 China 86-21-38108108 SYP 02 IGCC®/IGMA® 2012	2523 2524 3231 3232	BC4/GSJ BC4/GSJ BC4/GSJ BC4/GSJ	U/C2 U/C2 U/C2 U/C2	AA AA SS PHSS	MS MS MS MS	PIB/S2 PIB/PS PIB/S2 PIB/S2		
Shenbo Special Architectural Glass Industrial Co., LTD Macau Industry Zone, Zhangge Village Guanlan Town Shenshen, China 86-852-21173390 HONGKONG SHENBO LIMITED IGCC® 2012	2573	BC4/GSJ	U/C3	MA	LF	PIB/S2		
Shenzhen Jiayeda Glass Processing Co., Ltd No. 2 Zone A, Tangtou Industrial Area Shiyan, Shenzhen 5810000 China 852-6952-0203 Shenzhen Jiayeda IGCCIGMA® 2012	3123	MC4/PLK	U/C	AA	LF	PIB/S1		
Shine Glass Co., Ltd. No. 3-1, Gongye 5th Road Pingzhen City, Taoyuan County Taiwan, China 886-222-9919 SYG IGCC®/IGMA® 2012	2729	MC4/PLK	U/C	AA	LF	PIB/PS		
Shinn Fu Pair Glass Co. No. 1-1, Wen Ming 3 Street Kweishan, Taoyuan Taiwan, China 886-3-3283226 SFP IGCC®/IGMA® 2012	1822	MC4/PLK	U	AA	LF	PIB/S2		
Sierra-Pacific 11605 Reading Road PO Box 8489 Red Bluff, CA 96080 530-527-9620 SPW IGCC® E2190 2012 + order#	3289	BC3/MC1/CT/IC	U/C2/U	FS/FS	IB/IB	RHM	IC	

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SIGCO, Inc. 48 Spiller Drive Westbrook, ME 04092 207-775-2676 SIGCO IGCC®/IGMA® 2012	1444 2203 2465 3131 3139 3360	MC4/PLK/IC MC4/PLK/IC MC4/PLK MC4/PLK/IC MC4/SSK/IC MC4/PLK/IC	U/C2 U/C3 U/C3 U/C2 U/C2 U/C2	AA AA TBAA PHSS SS PHSS	LF LF LF LF LF LF	PIB/S2 PIB/S2 PIB/S2 PIB/S2 PIB/S2 PIB/S2	IC IC IC IC IC	Yes
Silver Line Windows and Doors 3801 Regency Crest Drive Dallas, TX 75041 214-221-9500 Silverline TX IGCC®/IGMA® 2012	2746 3074	BC3/MC1/SS/IC BC3/MC1/GS/IC	U/C2 U/C2	TS TS	MX MX	RHM RHM	IC IC	Yes
Silver Line Windows and Doors 16801 South Exchange Avenue Lansing, IL 60438 708-474-9100 Silverline IL IGCC®/IGMA® 2012	2728 2954 3182 3183	BC3/MC1/SS/IC BC3/MC1/MT/IC BC3/MC1/SS/IC BC3/MC1/MT/IC	U/C2 U/C2 U/C2 U/C2	TS FS TS FS	DM FS DM IB	RHM RHM RHM RHM	IC IC IC IC	Yes Yes Yes Yes
Silver Line Windows and Doors 1700 West Fork Drive Lithia Springs, GA 30122 770-819-9311 Silverline GA IGCC®/IGMA® 2012	2826 2872 3205 3206	BC4/IC BC3/MC1/MT/IC BC4/IC BC3/MC1/MT/IC	U/C2 U/C2 U/C2 U/C2	TS FS TS FS	MX IB 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® 2012	2669 2956	BC3/MC1/SS/IC BC3/MC1/MT/IC	U/C2 U/C2	TS FS	MX IB	RHM RHM	IC IC	Yes Yes
Silver Line Windows and Doors One Silver Line Drive North Brunswick, NJ 08902 800-234-4228 Silverline NJ IGCC®/IGMA® 2012	2662 2734 3184	BC3/MC1/SS/IC BC3/MC1/MT/IC BC3/MC1/SS/IC	U/C2 U/C2 U/C2	TS FS TS	MX IB MX	RHM RHM RHM	IC IC IC	Yes Yes Yes
Soladigm 12380 Kirk Road Olive Branch, MS 38654 901-481-1488	3277 3278 3279	BC3/MC1/MT BC3/MC1/MT/IC BC4/GSJ	U/C2	FS	IB IB LF	PIB/PU	IC	Yes Yes Yes
Solar Seal Co. 55 Bristol Drive South Easton, MA 02375 508-238-0112 Solar Seal IGCC®/IGMA® 2012	1079	MC4/PLK/IC	U/C1	AA	LF	PIB/S2	IC	

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Southern Wholesale Glass 111 Industrial Blvd. Americus, GA 31719 229-928-5656 Southern Wholesale IGCC®/IGMA® 2012	2360	BC3/MC1/MT/IC	U/C	FS	IB	RHM	IC	
Southwall Insulating Glass, LLC. 4404 West Ann Lurie Place Chicago, IL 60632 586-212-6978 Southwall IG IGCC®/IGMA® 2012	2803 2805 3175 3195 3196	BC4/GSJ BC3/MT/IC BC3/MC1/PLJ/IC BC3/MC1/PLK/IC BC3/MC1/PLK/IC	U/SCF/U U/C2/U U/2SCF/C2 U/SCF/C2 U/2SCF/C2	ZS/ZS FS/FS ZS/ZS/ZS ZS/ZS ZS/ZS/ZS	MS/MS FS/FS LF/LF/LF LF/LF LF/LF/LF	PIB/PUR HM PIB/PUR PIB/S2 PIB/S2	IC IC IC IC IC	Yes Yes Yes Yes Yes
Sunview Patio Doors Ltd. 500 Zenway Blvd Woodbridge, ON L4H 0S7 Canada 905-851-1006 Suvview Patio Doors IGCC®/IGMA® 2012	3013	BC3/MC1/MT/IC	U/C3/U	FS/FS	IB/IB	HM	IC	Yes
Suzhou Taifeng Glass Decoration Co. Ltd The End of Taoyuan Road Taicang City, Jiangsu China China 0086-512-53553995 Suzhou Taifeng IGCC®/IGMA® 2012	3003	BC4/GSJ/IC	U/C/U	AL/AL	MS/MS	HM/PS	IC	
Syracuse Glass Co., Inc. 1 General Motors Drive Syracuse, NY 13206 315-437-9971 SGC IGCC®/IGMA® 2012	823 828	BC4/GSJ/IC BC4/GSJ/IC	U/C2 U/C2	AA AA	LF LF	PIB/PS PIB/S2	IC IC	Yes Yes
Tai Shan City Da Heng Art Glass Ltd. No. 1 Toi Hok Road South Industrial Zone Shui Bu Town, Tai Shan City Guangdong, 529000 China 86-750-5456889 Tai Shan IGCC®/IGMA® 2012	2534	BC4/SSJ/IC	U/U	BSS	IB	BSS	IC	
Taiwan Glass Corp. No. 261, Sec. 3, Nanking E. Road Taipei, 105 Taiwan 886-2-27130333 Taiwan Glass Ind. Corp. 1356 IGCC®/IGMA® 2012	2053	MC4/PLK	U/C1	AA	MS	PIB/S2		
Tecnolglass S.A. Avenida Circunvalar a 100 mts de la Via 40 Barranquilla, Columbia 57 5 373 4000 Tecnoglass IGCC®/IGMA® 2012	1393 1813 2683 3009	BC4/SSJ/AP BC4/SSJ/AP MC4/PLK/AP BC4/SSJ	U/C2 U/C2 U/C2 U	MA MA SS MA	LF LF LF LF	PIB/PS PIB/S2 PIB/S2 PIB/S2		Yes Yes Yes Yes

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Texas Tempered Glass Inc. 1901 Little York Houston, TX 77093 713-697-2828 Texas Tempered IGCC®/IGMA® 2012	2960	BC4/GSJ/IC	U/C2	MA	LF	PIB/S1	IC	
TG Changjiang Glass Co., Ltd 1 Taibo Road Zhangpu Town Kunshan City, Jiangsu 215321 China 86-512-57450000-294 IGCC ® CBA '04	3217	BC3/MC1	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® 2012	2059 2067	BC4/ALJ BC4/PLK	U/C1 U/C1	AA AA	LF LF	HM/PS HM/S2		
The Woodstone Co. 1164 Main Street North Walpole, NH 03609 603-445-2449 WDSTN IGCC®/IGMA® 2012	2632	BC3/MC1/MT	U/C	FS	IB	HM		
Thermo BSL 130 Chemin des Raymond Riviere-du-loup, QC G5R 4L9 Canada 418-862-2611 Thermos BSL IGCC®/IGMA® 2012	2705 3001	MC4/PLK/IC MC4/PLK/IC	U/C1 U/C2/U	SS/SS TBSS/TBSS	LF/LF LF/LF	PIB/HM PIB/HM	IC IC	Yes Yes
Thermoseal Glass Corp. 400 Water Street Gloucester City, NJ 08030 856-456-3109 TSL IGCC®/IGMA® 2012	2998	BC3/MC1/MT	U/C1	FS	IB	PIB		Yes
Thompson I.G. LLC. 3196 Thompson Rd. Fenton Operation Fenton, MI 48430 810-629-9558 TIG IGCC®/IGMA® 2012	1367 2698	MC4/PLK/IC MC4/PLK/IC	U/C2 U/C2	MA MA	LF LF	PIB/PS PIB/S1	IC IC	 Yes

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Tianjin CSG Architectural Glass Co., Ltd.	2276	BC4/LC	U/C2	AA	LF	HM/S2		Yes
Fuyuan Road Wuqing Development Area Tianjin, China, China 86-022-82173288 CSG IGCC®/IGMA® 2012	2336	BC4/LC	U/C2	AA	LF	PIB/PS		Yes
Tianjin SYP Engineering Glass Ltd	2525	BC4/GSJ	U/C2	AA	LF	PIB/S2		
1# Huatai Road	2526	BC4/GSJ	U/C2	AA	LF	PIB/PS		
Hi-tech Industrial Park, Beichen	3026	BC4/GSJ	U/C2	SS	LF	PIB/S2		
Tianjin, 300409 China	3227	BC4/GSJ	U/C2	PHSS	LF	PS/S2		
86-22-86880204	3256	BC4/GSJ	U/C2	SS	LF	PIB/PS		
SYP 03 IGCC®/IGMA® 2012	3257	BC4/GSJ	U/C2	PHSS	LF	PB/PS		
	3271	BC4/GSJ	U/C3	PHSS	LF	PB/S2		Yes
	3272	BC4/GSJ	U/C3	SS	LF	PIB/S2		Yes
	3304	BC4/GSJ	U/C2	AA	LF	PIB/S2		
Tower Glass Products Corp. 95 Horton Avenue Lynbrook, NY 11563 516-887-3300 Tower Glass Products IGCC®/IGMA® 1470 2012	1470	MC4/PLK/IC	U/C1	AA	LF	PIB/S1	IC	
TRACO (Three Rivers Alum)	2022	BC4/SJ/IC	U/C3	MA	LF	PIB/S2	IC	Yes
71 Progress Ave.	2997	BC4/IC	U/C1	TP	IB	S2	IC	Yes
Cranberry Ind. Pk.	3255	BC4/SJ/IC	U/C1/U	MA/MA	LF/LF	PIB/S2	IC	Yes
Cranberry Township, PA 16066-3596 724-776-7000 TRACO IGCC®/IGMA® 2012								
Tri-Star Glass	2095	BC4/GSJ/IC	U/C2	MA	LF	PIB/PS	IC	
1120 West Main Pkway	2627	BC4/GSJ/IC	U/C	MA	LF	PIB/S2	IC	
Catoosa, OK 74146 74015-2333 918-392-9678 Tri-Star IGCC®/IGMA® 2012								
Triview Glass Industries	3310	MC4/PLK	U/C2	MA	LF	PB/S2		
711 South Stimson Avenue	3311	MC4/PLK	U/C2	PHSS	LF	PB/S2		
Ontario, CA 91745	3312	MC4/PLK	U/C	AA	LF	PB/S2		
626-703-6519								
Trulite Glass and Aluminum Solutions	2089	BC4/GSJ/IC	U/C2	MA	LF	PIB/S2	IC	Yes
5550 Westfield Drive, SW	2254	MC4/GSK/IC	U/C2	AA	LF	PIB/PS	IC	
Atlanta, GA 30336	2686	BC4/GSJ	U/C3	TBAA	LF	PIB/S2		
404-346-7900 TGI ATL IGCC®/IGMA® 2012								

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Trulite Glass and Aluminum Solutions	1990	MC4/PLK/CT/IC	U/C2	AA	LF	PIB/S1	IC	
11950 E. 33rd Ave.	1991	MC4/PLK/CT/IC	U/C2	AA	LF	PIB/PS	IC	
Aurora, CO 80010								
303-340-4290								
ARA W31 IGCC®/IGMA® 2012								
Trulite Glass and Aluminum Solutions	1591	BC4/GSJ/IC	U/C2	AA	LF	PIB/S2	IC	
750 Cardinal Drive								
Bridgeport, NJ 08014								
800-237-5148								
BPT W07 IGCC®/IGMA® 2012								
Trulite Glass and Aluminum Solutions	2038	BC4/PLJ	U/C1	TBAA	LF	PIB/S2		
100 Business Center Drive	2260	BC4/GSJ/IC	U/C1	MA	MS	PIB/S2	IC	Yes
Cheswick, PA 15024								
800-232-9050								
Perma-Pane IGCC®/IGMA® 2012								
Trulite Glass and Aluminum Solutions	1976	MC4/GSK/IC	U/C2	AA	LF	PIB/PS	IC	
19430 East San Jose St.	1977	MC4/GSK	U/C2	AA	LF	PIB/S2		
City of Industry, CA 91730								
909-594-0235								
COI W29 IGCC®/IGMA® 2012								
Trulite Glass and Aluminum Solutions	2635	BC4/TSJ	U/C2	AA	MS	PIB/PS		
297 Ascot Parkway								
Cuyahoga Falls, OH 44223								
330-923-3726								
CUF W24 IGCC®/IGMA® 2012								
Trulite Glass and Aluminum Solutions	2261	MC4/PLK/IC	U/C2	MA	LF	PIB/S2	IC	
300 Dunn Street	3430	MC4/PLK/IC	U/C2	MA	LF	PIB/S2	IC	
Detroit, MI 48170								
800-752-3522								
Perma-Pane IGCC®/IGMA® 2012								
Trulite Glass and Aluminum Solutions	1749	BC4/GSJ	U/C2	AA	LF	PIB/S2		
4400 Cambridge Road	1750	BC4/GSJ	U/C2	AA	LF	PIB/PS		
Fort Worth, TX 76155								
800-571-4832								
DAL W35 IGCC®/IGMA® 2012								
Trulite Glass and Aluminum Solutions	2075	BC4/GSJ/IC	U/C2	AA	LF	PIB/S2	IC	
3333 Holly Hall								
Houston, TX 77021								
713-747-5430								
Vitro Houston IGCC®/IGMA® 2012								

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Trulite Glass and Aluminum Solutions 7701 W. New York St. Indianapolis, IN 46214 800-876-0646 IND W14 IGCC®/IGMA® 2012	2002	MC4/PLK/IC	U/C2	AA	LF	PIB/S2	IC	
Trulite Glass and Aluminum Solutions 1513 North A St. Las Vegas, NV 89106 702-385-3095 Vitro Las Vegas IGCC®/IGMA® 2012	2368	MC4/PLK/CT/IC	U/C2	AA	LF	PIB/S2	IC	
Trulite Glass and Aluminum Solutions 5700 South Moreland Road New Berlin, WI 53155 800-242-2071 NBR W23 IGCC®/IGMA® 2012	3147	MC4/PLK/IC	U/C2	AA	LF	PIB/S2	IC	Yes
Trulite Glass and Aluminum Solutions 3320-B Maggie Blvd. Orlando, FL 32811 800-367-7211 ORL W04 IGCC®/IGMA® 2012	1821 1908	BC4/GSJ/IC BC4/GSJ/IC	U/C2 U/C2	AA AA	LF LF	PIB/MPS PIB/S2	IC IC	
Trulite Glass and Aluminum Solutions 1825 S. 43rd Avenue Phoenix, AZ 85009 800-854-8022 PHX W30 IGCC®/IGMA® 2012	1597 1598	MC4/PLK/IC MC4/PLK/IC	U/C2 U/C2	AA AA	LF LF	PIB/S2 PIB/PS	IC IC	
Trulite Glass and Aluminum Solutions 1655 South Awl Circle Salt Lake City, UT 84104 801-656-1660 SLC W34 IGCC®/IGMA® 2012	2329 2332	MC4/PLK/IC MC4/PLK/IC	U/C2 U/C2	AA AA	LF LF	PIB/PS PIB/S2	IC IC	
Trulite Glass and Aluminum Solutions 4363 S. 86th East Avenue Tulsa, OK 74145 918-665-6655 TUL W41 IGCC®/IGMA® 2012	1960	BC4/ALJ	U/C2	AA	LF	MPS/PS		
Trulite Glass and Aluminum Solutions 285 Northbrook Drive Youngsville, NC 27596 919-435-3050 YGV W20 IGCC®/IGMA® 2012	1647	MC4/PLK/IC	U/C2	AA	LF	PIB/S2	IC	

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Trulite Industries	2032	BC4/PLJ/IC	U/C2/U	AA/AA	LF/LF	PIB/S2	IC	Yes
20 Royal Group Crescent	2295	BC4/GSJ	U/C2/U	SS/SS	LF/LF	PIB/S2		Yes
Vaughan, ON L4H 1X9 Canada								
905-670-7040								
Trulite IGCC®/IGMA® 2012								
TSY-Fong Glass Co., Ltd	3170	MC4/PLK	U/C2	AA	LF	PIB/S2		Yes
No 83-1 Jiasing Road								
Wanluan Township								
Pintung County 923, Taiwan China								
886-8-7895-002								
IGCC ® CBA '04								
Twin Pane Insulated Glass Co., Inc.	1528	MC4/PLK/IC	U/C1	AA	LF	PIB/S1	IC	
86 E. Horseblock Rd.	2426	BC4/PLJ/IC	U/C1	FS	IB	HM	IC	
PO Box 279								
Yaphank, NY 11980								
631-924-1060								
TP IGCC®/IGMA® 2012								
United Plate Glass	2462	MC4/PLK/IC	U/C2	MA	LF	PIB/PUR	IC	
1104 Lincoln County Parkway								
Lincolnton, NC 28092								
828-970-6110								
UPG 01 IGCC®/IGMA® 2012								
United Plate Glass Co., Inc.	1513	BC4/GSJ/IC	U/C1/U	MA/MA	LF/LF	PIB/PUR	IC	Yes
108 Grundman Drive	2271	BC3/MC1/MT/IC	U/C2	FS	IB	PIB/PUR	IC	Yes
Butler, PA 16001								
800-772-7783								
UPG 02 IGCC®/IGMA® 2012								
VELUX-America, Inc.	2035	BC4/PLJ	U/C2	SS	LF	PIB/S1		Yes
PO Box 5001								
Greenwood, SC 29648-5001								
864-941-4828								
VELUX IGCC®/IGMA® 2012								
Vetroseal Glass Specialties Inc.	2984	BC3/MC1/MT/IC	U/C3/U	FS/FS	IB/IB	HM	IC	Yes
901 Rowntree Dairy Road	2994	BC3/MC1/MT	U/C3/U	FS/FS	FS/FS	HM		
Woodbridge, ON L4L 5W9 Canada								
905-850-9171								
Vetroseal IGCC®/IGMA® 2012								
Vidrios Marte SA de CV	2288	BC4/GSJ/MT	U/C2	MA	LF	PIB/PS		Yes
Tlatilco 138 col.	2289	MC4/PLK	U/C2	AA	LF	PIB/S2		Yes
Mexico City, Azcapotzalco CP,	2339	BC4/GSJ/MT	U/C2	TBSS	LF	PIB/PS		Yes
02860 Mexico								
52 55 3098 7046								
Vidrios MX IGCC®/IGMA® 2012								

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Vinyl Window Designs Ltd.	2248	BC3/MC1/MT/IC	U/C3	FS	IB	HM	IC	Yes
300 Chrislea Rd.	2521	BC4/IC	U/C3/U	SS/SS	MX/MX	RHM	IC	Yes
Woodbridge, ON L4L 8A8 Canada								
905-850-3222								
Vinyl Window Designs IGCC®/IGMA® 2012								
Vinylume Products	1928	BC3/MC1/IC	U/C2	FS	IB	HM	IC	Yes
3745 Hendricks Road								
Austintown, OH 44515								
330-799-2000								
VL IGCC®/IGMA® 2012								
Viracon Inc.	1462	MC4/ALK	U/C3/U	MA/MA	LF/LF	PIB/S2		Yes
800 Park Drive	1911	MC4/ALK/CT	U/C3/U	SS/SS	LF/LF	PIB/S2		Yes
PO Box 990	980	MC4/ALK/CT	U/C2	AA/AA	LF/LF	PIB/S2		Yes
Owatonna, MN 55060								
507-451-9555								
Viracon IGCC®/IGMA® Owatonna, MN 2012								
Viracon Inc.	2363	BC4/GSJ/CT	U/C3/U	MA/MA	LF/LF	PIB/S2		Yes
1586 East Venture Drive	2364	BC4/SJ/CT	U/C3/U	AA	LF	PIB/S2		Yes
St. George, UT 84790	2552	BC4/SJ/CT	U/C3/U	SS/SS	LF/LF	PIB/S2		Yes
435-652-6400								
Viracon IGCC®/IGMA® St. George, UT 2012								
Viracon Inc.	1529	BC4/GSJ/AP	U/C3	MA	LF	PIB/S2		Yes
8373 Zell Miller Parkway	1530	BC4/GSJ/AP	U/C3	AA	LF	PIB/S2		Yes
Statesboro, GA 30458	2909	BC4/GSJ	U/C2/U	SS/SS	LF/LF	PIB/S2		
912-871-3500								
Viracon IGCC®/IGMA® Statesboro, GA 2012								
W. A. Wilson Inc.	1697	MC4/PLK/IC	U/C3	AA	LF	PIB/S1	IC	
6 Inds. Pk. Dr.	2815	MC4/PLK/IC	U/C3	AA	LF	PIB/PUR	IC	Yes
PO Box 6712	2912	MC3/MC1/MT/IC	U/C3	FS	IB	PU	IC	Yes
Wheeling, WV 26003								
304-232-2200								
Starlite IGCC®/IGMA® 2012								
Weather Shield Mfg. Inc.	2507	BC3/MC1/CT/IC	U/C2	BPS	IB	BPS	IC	Yes
1201 Adams Avenue E.								
PO Box 432								
Ladysmith, WI 54848								
715-748-2100 x2676								
WS L IGCC®/IGMA® 2012								
Weather Shield Mfg. Inc.	2488	BC3/MC1/CT/IC	U/C2	BPS	IB	BPS	IC	Yes
One Weathershield Plaza	2503	BC3/MC1/CT/MT/IC	U/C2	FS	IB/IB	HM	IC	Yes
PO Box 309	2985	BC3/MC1/MT/IC	U/C2/U	FS/FS	IB/IB	RHM	IC	Yes
Medford, WI 54451								
715-748-2100								
WS M IGCC®/IGMA® '12								

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Weather Shield Mfg. Inc. 829 North 8th Street400 Legacy Lane Park Falls, WI 54552 715-748-2100 x2676 WS P IGCC®/IGMA® 2012	2502	BC3/MC1/MT/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® 2012	2383 2384 2385 2590 3048	MC4/PLK/IC MC4/PLK/IC MC4/PLK/IC MC4/PLK/IC MC4/PLK/IC	U/C2 U/C2 U/C2 U/C2 U/C2	AA AA SS AA PHSS	LF LF LF LF LF	PIB/PUR PU PIB/PUR PIB/S1 PIB/PUR	IC IC IC IC IC	Yes Yes
Westeck Windows Mfg. Inc. 8104 Evans Road Chilliwack, BC V2R 5R8 Canada 604-792-6700 Westeck IGCC®/IGMA® 2012	2041	BC4/MT	U/C2	FS	IB	HM		Yes
Western Reflections, Changshu ZhongXin Building Materials Meili Town Changshu City, Jiangsu Province 215500 China 616-748-5401 XYG IGCC®/IGMA® 2012	27761 27781 27811	MC4/PLK/IC BC3/MC1/IC BC3/MC1/IC	U/C U/C U/C	AA BSS BSS	LF MX MX	PIB/PS BSS BSS/PS	IC IC IC	
Western Reflections, Vaughan 215 E. Roosevelt Avenue Zeeland, MI 49464 616-772-9111 ODL Vaughan IGCC®/IGMA® 2012	29481 29501 30611	MC4/PLK/IC MC4/PLK MC4/PLK	U/C3 U/C1/U U/C3	AA AA/AA AA	LF LF MS	PIB/RHM PIB/RHM PIB/RHM	IC	
Western Reflections, Vidrio Decorativo Occidental S. A. de C.V. Poniente 4 Entre Borte 7 y Gral Pedro Hinojosa Ciudad Industrial H. Matamoros Tamps, Mexico 868-812-9152 VDO IGCC®/IGMA® 2012	26371 30831 30891 30901 31161 31181 33091	BC3/MC1/MT/IC MC4/PLK/IC BC3/MC1/MT/IC BC3/SS/IC BC3/SS/IC BC3/MC1/MT/IC MC4/PLK/IC	U/C1 U/C2 U/C2 U/C2 U/C1/U U/C2 U/C2	BCS AA BCS TS TS/TS FS AA	IB LF IB MX MX/MX IB LF	BCS PIB/PUR BCS RHM RHM RHM PUR	IC IC IC IC IC IC IC	
Western Reflections, Zeeland 215 E. Roosevelt Avenue Zeeland, MI 49464 616-772-9111 ODL Zeeland IGCC®/IGMA® 2012	18921 30521 30531	BC3/MC1/MT BC3/SS/IC MC4/PLK/IC	U/C2 U/C2 U/C2	BCS TS AA	IB MX LF	BCS RHM PUR	IC IC IC	

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Western States Corp 180 Main Avenue Sacramento, CA 93725 916-388-5885 Western States Glass IGCC®/IGMA® 2012	2625	MC4/PLK/IC	U/C2	AA	LF	PIB/PS	IC	
White Aluminium PO Box 30665 Abu Dhabi, United Arab Emirates 97-150-6429735 White Aluminum IGCC®/IGMA® 2012	2335	BC4/ALJ	U/C2	AA	LF	HM/S2		
Wholesale Glass Dist. 4287 Delp Street Memphis, TN 38118 901-332-2200 Wholesale Glass IGCC®/IGMA® 2012	2279	BC4/SJ	U/C2	MA	LF	PIB/S2		
	2280	BC4/SJ	U/C2	MA	LF	PIB/PS		
Window City Industries 5690 Steeles Avenue West Vaughan, ON L4L 9T4 Canada 905-265-9975 Window City IGCC®/IGMA® 2012	2610	BC3/MC1/MT/IC	U/C3	FS	IB	HM	IC	
Windsor Windows 2210 Stafford St. Ext. Monroe, NC 28110 704-283-7459 Windsor Windows NC IGCC®/IGMA® 2012	2349	BC3/MC1/MT/IC	U/C2	FS	IB	HM	IC	Yes
Windsor Windows 900 South 19th Street West Des Moines, IA 50265 515-223-6660 Windsor Windows IA IGCC®/IGMA® 2012	2285	BC3/MC1/MT/IC	U/C2	FS	IB	HM	IC	Yes
Wojan Window & Door Corporation 217 Stover Road Charlevoix, MI 49720 231-547-2931 IGCC @ CBA '04	3133	MC4/PLK/IC	U/C2	AA	LF	PUR	IC	Yes
	3134	MC4/PLK/AP/IC	U/C2	AA	LF	PIB/PUR	IC	Yes
	3135	MC4/PLK/IC	U/C2	PHSS	LF	PIB/PUR	IC	
Xinyi Group (Glass) Co., Ltd. Xinyi Glass Industrial Zone Humen Town, Dongguan Guangdong, 52935 China 604-273-0813 XYG IGCC®/IGMA® 2012	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	PHSS	LF	PIB/S2		Yes
	2353	BC4/ALJ	U/C2	AA	LF	PIB/S2		Yes

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YinJian DongGuan Glass Engineering Co., Ltd.	3265	BC3/MC1	U/C2	AA	LF	PB/S2		
Hilltop at Cuntou Village Hu Men Town Dongguan, Guangdong 523928 China (1376) 327-9690	3266	BC3/MC1	U/C	AA	LF	PB/PS		
YKK AP America	2455	BC4/BCS/IC	U/C2	BCS	IB	BCS	IC	Yes
270 Riverside Parkway Suite A Austell, GA 30168-7884 678-838-6077 YKK-AP IGCC®/IGMA® 2012	3368	BC4/BCS/IC	U/C2	BCS	BCS	BCS	IC	Yes
Zhejiang Zhongli Energy Efficient Glass Mfg. Co., Ltd	3066	BC4/GSJ	U/C3	AA	LF	PIB/PS		Yes
Weiba Road Linjiang Industrial Zone, Xiaoshan District Handzhou City, Zhejiang Province 311228 China 86-571-82128899 Zhejiang Zhongli IGCC®/IGMA® 2012	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	Boardman, OH
AGC Flat Glass	Jacksonville, FL
AGC Flat Glass	Marietta, GA
AGC Flat Glass	Richmond, VA
AGC Flat Glass	San Antonio, TX
AGC Flat Glass	Salt Lake City, UT
Allan Windows	Concord, ON
All Weather Windows	Edmonton, ON
Alside Window Co	Cuyahoga Falls, OH
Alside Window Co	Cedar Rapids, IA
ALUMCO	Dubai, UAE
Belgium Aluminum and Glass	Al Ain, UAE
Berkowitz, JE	Pedricktown, NJ
Cascade LBL Windows	Tualatin, OR
Cascade Windows	Salt Lake City, UT
Cascade Windows	Spokane, WA
Central Valley Screen & Supply	Sacramento, CA
Century Glasscenter	Manila
Changshu ZhongCheng Building	Changshu City, China
Curved Glass	Derby, CT
EFCO	Monett, MO
Emirates Glass	Dubai, UAE
Fenplast	Candiac, QC
Foshan Super Glass	Guangdong, China
General Glass	Portland, OR
Glaz-Tech Industries, Inc.	Tucson, AZ
Guardian Fabrication	Galax, VA
Guardian Fabrication	Webster, MA
Guardian Fabrication	Carenton, MI
Guardian Fabrication	Prarie du Sac, WI
Harvey Industries, Inc.	Londonderry, NH
Industries Cover	St. Apollinaire, QC
Industries Cover	St. Agapit, QC
Industries Cover	Shippagen, NB
Jinzhou Fortune Glass	Liaoning, China
Kwang Te Glass	Longtan Township, Taiwan
LG Hausys	Hanmin, Korea
LG Hausys	Daejin, Korea
Madison Windows	Ontario, CA
Mannix Exterior Wall Systems	Brentwood, NY
Monda Window & Door	Chicago, IL
Nashville Tempered Glass	Hendersonville, TN
National Glass Industry	Ras Al Khaimah, UAE
Ningbo Jianghua Glass	Jiangbei District, China
Northern Building Products	Teterboro, NJ
ODL, Inc.	Zeeland, MI
ODL, Changshu ZhongXin	Changshu City, China
OKALUX	Germany
Oldcastle BuildingEnvelope	Langley, BC

Oldcastle BuildingEnvelope	Denver, CO
Pella Corporation	Murray, KY
PPG Ind.	Carlisle, PA
Prelco MTL Inc.	Montreal, QC
Qinhuangdao Shucheng Energy Saving Tech	Qinhuangdao, China
Retro Teck Windows	Burnaby, BC
Saudi American Glass	Riyadh, KSA
SEMCO	PhuYen Province
Serious Energy	Butler, CO
Shanghai Kinghua IG Blinds	Shanghai, China
Shanghai SYP Engineering	Shanghai, China
Sierra Pacific	Red Bluff, CA
Silverline Windows	North Brunswick, NJ
Soladigm	Olive Branch, MS
Southwall Insulating Glass, LLC	Chicago, IL
Taiwan Glass Corp	Taiwan
Thermafix	St. Nazaire, QC
Thermos Laval	Laval, QC
Thompson IG	Fenton, MI
Tianjin CSG Architectural	Tianjin, China
TRACO	Cranberry Township, PA
Trulite Glass and Aluminum Solutions	Bridgeport, NJ
Trulite Glass and Aluminum Solutions	Tulsa, OK
Verre Select Inc.	Terrebonne, QC
Vetrotech Saint Gobain	Switzerland
Vidrios Marte SA de CV	Quertaro, Mexico
West Coast Insulated	Cerritos, CA
Window City Industries	Vaughan, ON
Wujiang CSG Huadong	Wujiang City, China
Zamil Glass Industries	Kingdom of Saudi Arabia
Zhong Shan Grandglass	Zhongshan City, China

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.

PROCEDURAL GUIDE

(IGCC® Document II-10)

INSULATING GLASS CERTIFICATION COUNCIL AND INSULATING GLASS MANUFACTURERS ALLIANCE IGCC®/IGMA® CERTIFICATION PROGRAM FOR SEALED INSULATING GLASS

1.0 FOREWORD (Modified 2/03)

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**

2.0 GENERAL INFORMATION (Modified 8/09)

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:

- 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 (Modified 1/12)

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 15th 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.

4.0 COMPLIANCE SAFEGUARDS (Modified 8/09)

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 of payment of fees.

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.

5.0 COSTS (Modified 8/09)

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.

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.

6.0 DOCUMENTS AND AGREEMENTS (Modified 8/09)

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.

7.0 PROGRAM RESPONSIBILITY (Modified 8/09)

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

- 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 (Modified 8/10)

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® '12

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.

For Example:

<p>NFRC 123 - N - 456</p> <p>-----</p> <p>ABC Windows - Dallas IGCC®/IGMA® 2010</p>

9.0 ADVERTISING GUIDELINES (Modified 8/09)

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.

- 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
Fax: 315-646-2297
E-mail: staff@amscert.com

10.0 QUALITY ASSURANCE PROGRAM (Modified 8/09)

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 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 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 which establishes requirements for the following:

- 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) (Modified 8/10)

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.

Licensees 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:

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.

ID #	Title	Initial Publish Date	Approval Date
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

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 (MS) to bent-uncut corners (BC), using the same IGCC®/IGMA® number utilizing joiners or corner keys of plastic, aluminum, stainless, or galvanized steel. (Adopted 10/18 /89, 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. (Adopted 11/23/09, 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. (Adopted 2/19/85, 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. (Adopted 8/29/84, 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 - (Added Guideline – 8/14/85, Revised 10/28/09)

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:

- 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. (Adopted 8/14/85) Unit installation/sealing instruction must be supplied to the lab. (Revised 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. (Adopted 8/14/85) Unit installation/sealing instructions must be supplied to the lab. (Revised 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 Multiple Air Spaces

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 Desiccant in 1/2-inch Air-Space Test Units

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

A sealed insulating glass unit that has been structurally modified, i.e. hole or holes for gas filling, shall be tested regularly for certification assembled with standard production procedures including these modifications. At the option of the manufacturer, the units may be tested with gas or air in the inter-space. Non-gas-filled units shall be considered equivalent providing construction is identical except for the omission of the gas filling hole/holes. To accommodate this modification a nominal 1/2 inch \pm 1/16 inch gas or air space maybe tested under this guideline. (Modified 7/31/01)

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. (Adopted 5/14/08, 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 sealing instructions must be supplied to the laboratory.

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 (Modified 8/23/07)

No more than 4 additional test units shall be labeled by the auditor for testing (12 units required for double pane and 14 units required for multiple air space.) When gas content testing (GCIA), ship the additional auditor “labeled” units to the testing laboratory.

G.9 Specimens - Production

When a licensee is producing only unlabeled units at the time of a plant audit, the licensee will be requested by the IGCC®/IGMA® inspector to label at least one unit in accordance with Guideline G.7 to permit completion of the audit. (The label may be hand scribed or crayon marked on the inside surface.)

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.

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 Appeals (Modified 3/1/11)

In cases where a routine test fails to comply with the specifications:

- 1) Upon notification of failure of routine test samples to reach the certified level, the licensee will be officially notified by certified mail, return receipt requested. 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 regularly scheduled 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.

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

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

**INSULATING GLASS CERTIFICATION COUNCIL, INC. ("IGCC" ®)
CERTIFICATION PROGRAM FOR SEALED INSULATING GLASS UNITS
STANDARD LICENSE AGREEMENT (as revised effective 3/15/06, and constituting the successor
effective agreement, pursuant to the terms herein, for all preceding fully-executed IGCC®
Certification Program standard license agreements)**

This Agreement, made this _____ day of _____, 20____, by and between INSULATING GLASS CERTIFICATION COUNCIL, INC., an Illinois not-for-profit tax-exempt corporation having its administrative office at P.O. Box 730, Sackets Harbor, NY 13685 hereinafter called "LICENSOR" and _____ having its principal office at _____ hereinafter called "LICENSEE", hereby provides as follows:

WITNESSETH:

1.WHEREAS, Licensor is sponsoring a Certification Program for Insulating Glass Units, which will provide for (1) the validation of a manufacturers certification of such products by means of independent laboratory testing 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 above clause (1) refers; and
2.WHEREAS, The responsibilities of IGCC®, the IGCC® Administrator and the independent laboratories are limited to the tasks set forth in this Certification Program; they do not endorse, warrant, or guarantee products validated or certified thereunder; and
3.WHEREAS, Licensor is willing to accept participation in said Certification Program by all manufacturers of Insulating Glass Units under the terms set forth herein; and
4. WHEREAS, Licensor is the uncontestable sole owner of the mark and label "IGCC"®; the aforesaid mark/label, and/or other mark(s)/label(s) cross-licensed to Licensor, is/are hereby licensed by Licensor to Licensee and said label(s)/mark(s) shall be permitted to appear on Licensee's registered Certification Program labels which are permitted by Licensor to be affixed to the Insulating Glass Units complying with the pertinent requirements of the Certification Program; and
5.WHEREAS, the Licensor shall contract for the complete administration of the Program and the Administrator shall contract for services with the independent laboratories which meet the ethical, financial, and business experience standards of the American Council of Independent Laboratories or National Society of Professional Engineers for performance of tests and other administrative duties as are herein provided; and
6.WHEREAS, the Licensor shall appoint a "Certification Committee" comprised of representatives of IGCC® Certification Program Participant manufacturer licensees, including the Public Interest members of the IGCC® Board of Governors, and Participant Suppliers and Test Laboratories, and other Participant organizations and persons (including public interest representatives of said organizations), acting as a liaison between Licensor, Licensees and interested parties: meetings of this committee shall be called by the Chairman of the Certification Committee at least once each year; and

7. WHEREAS, the procedural guide, to be developed in accordance with paragraph B.4 shall be adhered to both by the Licensor and the Licensee; and

8.WHEREAS, the Administrator shall conduct all aspects of the program in accordance with the highest nationally recognized standards for conduct of such a program including HUD standards for accreditation of the Program and the Administrator as set forth in HUD's "Use of Materials Bulletin No. 82" ("HUD Building Product Standards and Certification Program for Sealed Insulating Glass Units"), which requires an accredited Program to include a quality assurance provision such that all participating manufacturers shall have quality assurance programs covering the production of the units to which Whereas Clause No. 1 above refers; and

9. WHEREAS, Licensee is willing to participate in and support said Program under the terms and conditions set forth in the 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 IGCC® Engineering or Quality Dept. Contact, where noted herein.

A.2) Shall allow the Administrator's representative, without prior notice, free access at any time during regular business hours, to Licensee's place of manufacture of 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 inspection purposes hereunder may be due cause for removal of its entire product listing from the Certification Directory and the withdrawal of its rights to affix Certification Labels thereto. Acceptable reasons for not permitting entrance for inspections 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 Administrator or his representative shall be allowed to pick up samples from the field for inspection or testing. It is understood that periodic tests each year will be made on each model to be certified and that said tests will be made at the laboratory selected by the Administrator or Licensee from the approved list. Results of each test shall be

promptly mailed to the IGCC® Administrator. IGCC® 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 with the Administrator. The Administrator will contract for testing with approved testing laboratories. Expenses for packaging, shipping, and purchasing of glass for testing will also be borne by the Licensee. These costs will be handled directly between the Administrator and each Licensee.

A.3) Shall affix to each of its certified products the permanent Certification Label, number and class assigned by the Licensor:

- a) Only at the time and place of manufacture; and
- b) Only to 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 Labels in any manner other than affixing to Licensee's certified production.

A.5) Shall not affix hereafter the IGCC® or other registered mark, or Participant's Certification 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 IGCC® Certification Committee.

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 inspection 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 Administrator'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 Administrator.

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 validated, or from which validation of certification claim has been withheld or withdrawn or any other statement or term which might be interpreted as compliance with this program.

A.10) In connection with the advertising of model systems which the Licensor has approved and granted a certification number or label, the Licensee must use the following concepts as guidelines: Licensor (IGCC®) sponsors the Certification Program. Licensee (Manufacturer) certifies that the product is the same as the model which has been tested. Administrator validates the test results through Inspections according to the Licensor's guidelines.

A.11) Shall abide by the decision of the Administrator as to the compliance or non-compliance of Licensee's products with the requirements of the IGCC® Certification Program, determined in accordance with the requirements of the specification testing of such products. It is understood that the Administrator shall be the sole judge of compliance or non-compliance with the Specifications applicable to the IGCC® 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 IGCC® Certification Committee for ruling.

A.12) Agrees that notice regarding the status of any of its certified products shall be carried in the Certification Directory.

A.13) Shall pay the participation fees shown in the Schedule of Fees, which is an APPENDIX hereof, upon signing of this Agreement and at each annual renewal thereof. It is understood, that this Schedule of Fees may be changed from time to time by the Licensor.

A.14) Agrees that the Administrator 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 each piece of its certified product in accordance with the marking requirements of the applicable standards and, in addition, include a symbol identifying the plant in which the product was made to comply with the standard for the purpose of identification under this Certification Program.

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 Licensor's Certification Directory.

A.17) Shall regularly mail to the Administrator, 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.

A.18) Shall abide by and comply with all procedural details which the Administrator 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 by the Board of Governors for appointment to the Certification Committee.

LICENSOR:

B.1) Shall prepare and publish at least twice each year, with such interim supplements as may be desirable, a Certification Directory containing a listing of the Certified Insulating Glass Products which have been found by test to be in compliance with each required specification for each Licensee then in good standing with Licensor. This directory shall include the Licensee's assigned certification number, name, location and product certification status.

B.2) Shall promptly mail 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 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 of the Certification Program.

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 Certification Directory.

B.6) Shall not list in or remove from the Certification Directory any product or Licensee except on due notification from the Administrator to do so, except as provided in Paragraph A.7 above or because Licensee fails to pay applicable fees as provided in A.13 above.

B.7) Shall enter into a contract with an independent agency, whereby this independent agency will act as Administrator of the Certification Program for and on behalf of Licensor, to provide and authorize all sampling and testing, review and approve test data, perform periodic evaluations or other duties and functions herein provided for.

B.8) Shall conduct the Program in accordance with HUD standards or HUD accreditation of the Program as set forth in HUD's "Use of Materials Bulletin No. 82" ("HUD Building Product Standards and Certification Program for Sealed Insulating Glass Units").

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 complaints of non-compliance 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-compliance, 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.

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 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 for causes set forth in this Agreement and in accordance with procedures set forth in the Agreement and the IGCC® Certification Program Procedural Guidelines.

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

- a) Not affix the registered quality Certification Labels to any product which Licensee shall thereafter manufacture; and
- b) Make no further reference to, or use of, Licensor's Certification Program or registered Certification 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 this Agreement, and any arbitration pursuant to this Agreement, shall be governed by the laws of the State of Illinois, in which Licensor is incorporated. The parties agree that all disputes relating to the interpretation of, or otherwise 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) 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 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 attorneys 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 Label governed by this Agreement on any unqualified product, or the use of any such 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 Label in contravention of this Agreement is discovered, after a due process hearing review by the Certification Committee, the Licensor 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 of liquidated damages of five thousand dollars (\$5,000); c) Legal action preventing the Licensee from having the applicable 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 Certification 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 Certification Directory, supplement thereto, or elsewhere, Licensee agrees not to hold Licensor liable in any way for any damage caused by such incorrect listing or reference, unless such damage was the result of an intentional tort, willful act or gross negligence by Licensor.

C.11) Licensee shall indemnify and hold Licensor 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 by reason of this Agreement and services performed hereunder, and shall name the Licensor, as its interest may appear, as an additionally insured party on any products liability insurance policy owned by the Licensee which affects those products of the Licensee certified under this Agreement; and proof of such coverage shall be sent by the Licensee to the Licensor within fifteen (15) days from the date of Certification or the date such coverage is secured, whichever first occurs.

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C.12) Neither 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 both Licensee and Licensor. By mutual agreement of Licensor and Licensee, THIS AGREEMENT supersedes and replaces the predecessor IGCC ® Standard License Agreement, in the form

executed between Licensor and Licensee, if Licensor 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.

LICENSEE: Company _____

Street Address _____

City, State and Zip _____

Telephone Number _____ Fax Number _____

Signed By _____ Title _____
(Corporate Officer or Authorized Representative)

Date _____

Signed By _____ Title _____
(Primary IGCC® Engineering or Quality Dept. Contact)

Date _____

LICENSOR: INSULATING GLASS CERTIFICATION COUNCIL, INC. (IGCC®)

By _____ Title _____

Date _____

Insulating Glass Certification Council
P.O. Box 730, 100 West Main Street
Sackets Harbor, NY 13685
Telephone: (315) 646-2234 Fax: (315) 646-2297

*A COPY SIGNED BY LICENSOR WILL BE RETURNED TO LICENSEE.

March 2006 Revision

**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.

- | | |
|--|--|
| <p>35 Architectural Testing Inc.
2524 East Jensen Avenue
Fresno, CA 93706
Attn: Leaton Kirk
lkirk@archtest.com
Attn: Ricardo Cortes
rcortes@archtest.com
Phone: 559.233.8705</p> <p>20 Architectural Testing Inc.
22155 68 Avenue South
Kent, WA 98032
Attn: Jeff Dideon
jdideon@archtest.com
Phone: 253.395.5656</p> <p>25 Architectural Testing Inc.
2865 Market Loop, Suite B
Southlake, TX 76092
Attn: John Waskow
jwaskow@archtest.com
Attn: Holli Dawsey
hdawsey@archtest.com
Phone: 817.410.7202</p> <p>40 Architectural Testing Inc.
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</p> <p>30 Architectural Testing Inc.
130 Derry Court
York, PA 17402-9405
Attn: Scott Swaltek
sswaltek@archtest.com
Attn: Christian Lapadat
clapadat@archtest.com
Phone: 717.764.7700</p> <p>60 CAN-BEST
38 Regan Road, Unit 4
Brampton, ON L7A 1C6 CANADA
Attn: Elie Alkhoury
elie@can-best.com
Phone: 905.840.2014</p> | <p>55 China National Safety Glass Testing
Guanzhuang Dongli
Chaoyang District
Beijing, PR CHINA 100024
Attn: Xin Yong Shi
rockyshi@263.net
Phone: 86.10.51167390</p> <p>50 Exova
2395 Speakman Drive
Mississauga, ON L5K 1B3 CANADA
Attn: David Bailey, Ext. 307
david.bailey@exova.com
Phone: 905.822.4111
Fax: 905.822.1446</p> <p>75 Fenestration Testing Laboratory
8148 NW 74th Avenue
Medley, FL 33166
Attn: Jose Sanchez
jose@fenlab.com
Phone: 305.885.3328</p> <p>70 National Certified Testing Labs (QTI)
3310 Hill Avenue
Everett, WA 98201
Attn: Jeff Douglas
jeff@nctlinc.com
Phone: 425.259.6799</p> <p>65 National Certified Testing Labs (NCTL)
Five Leigh Drive
York, PA 17402
Attn: Dan Zeiders
dzeiders@nctlinc.com
Phone: 717.846.1200</p> <p>80 Shanghai Institute of Quality Inspection
and Technical Research (SQI)
No. 900, Jiangyue Road
Minhang District, Shanghai CHINA 201114
Attn: Ms. Longmei Wang
walm74@163.com
Phone: +86.21.54336371</p> |
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