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**IGMA<sup>®</sup>**  
INSULATING GLASS MANUFACTURERS ALLIANCE

TECHNICAL PUBLICATIONS





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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 established as a not-for-profit organization in the state of Illinois on October 2, 2000 as a result of a merger between the Insulating Glass Manufacturers Association of Canada (IGMAC) and the Sealed Insulating Glass Manufacturers Association (SIGMA). Member firms of both associations voted overwhelmingly in favour of the merger with the objective of combining both organizations' strengths and making more efficient use of available resources. The merger positions IGMA to effectively represent the interests of firms involved in the manufacture, sale and distribution of insulating glass units and their components throughout North America.

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FS 548103

## DESIGN & FABRICATION

### Preventing Insulating Glass Failures

This manual provides insulating glass manufacturers with best practice recommendations and guidelines to use for testing, fabrication, packaging, shipment and glazing of insulating glass units to assist in achieving long term performance and to minimize seal failure using existing technology for edge seal design along with selection of sealants, desiccants, spacers, gases, glass and other components used for the manufacture of insulating glass.

TM-4100-03 (member) \$75 USD  
TM-4100-03 (non-member) \$150 USD

### Insulating Glass Manufacturing Quality Procedures

This manual provides a framework for an insulating glass manufacturer to use as the basis for a specific program geared to the unique requirements of each facility. The manual provides an outline and examples for in-plant quality control and is directed toward those areas in the manufacturing area to be measured and controlled.

TM-4000-02(07) (member) \$125 USD  
TM-4000-02(07) (non-member) \$250 USD

### Quality Management System for the Fabrication of Insulating Glass Units to the ISO 9001:2008 Standard

This document only provides the framework and is a template for the Quality Manual of a complete Quality Management System. It is designed to follow the ISO 9001:2008 format. The text provided, though somewhat specific to IG production, is generic in nature and must be tailored to support your company's structure, procedures and operations.

TM-4500-16 (member) \$125 USD  
TM-4500-16 (non-member) \$250 USD

### Design Considerations for Multiple-Cavity Insulating Glass Units

These guidelines are intended to identify design considerations to be taken into account when designing multiple-cavity IGUs and are application for the evaluation of the manufacturing process as well as addressing the quality requirements of the sealed space of a multiple-cavity IGU.

TM-1300-13 (member) \$75 USD  
TM-1300-13 (non-member) \$150 USD

### Guidelines to Reduce Instances of Thermal Stress

This publication provides guidelines relating to thermal stress considerations for window glass products used in residential and commercial building envelope projects. Its purpose is to give the user specific guidelines and design assistance toward avoiding glass problems that arise from breakage caused by thermal stress conditions.

TM-1500-14 (member) \$75 USD  
TM-1500-14 (non-member) \$150 USD

### Guidelines for the Testing of Moisture Vapor Transmission Rate (MVTR) and the Presentation of the Results

This bulletin provides standardized test method, sample configuration and units for reporting purposes.

TB-2701-95 (member) \$15 USD  
TB-2701-95 (non-member) \$30 USD

### IGMA / GANA Guidelines for Use of Capillary / Breather Tubes

These guidelines discusses various attributes of capillary and breather tubes including advantages and disadvantages, workmanship and manufacturing considerations, storage and handling and glazing.

TB-1601-95 (14) (member) \$15 USD  
TB-1601-95 (14) (non-member) \$30 USD

### Guidelines for Sloped Glazing

Current sloped glazing design practices require careful consideration of insulating glass unit construction to ensure long-term performance. These guidelines address types of loading, code requirements, glass design, insulating glass sealant design and glazing system design.

TB-3001-01 (member) \$15 USD  
TB-3001-01 (non-member) \$30 USD

### Guidelines for Insulating Glass Dimensional Tolerances

The dimensions and tolerances contained within this document are for insulating glass units as manufactured. Glazing cavity size, allowable edge seal pressure, setting block type, allowable minimum edge seal system and sightline design requirements should all be considered when designing an insulating glass unit glazing system.

TB-1200-83(16) (member) \$15 USD  
TB-1200-83(16) (non-member) \$30 USD



### Insulating Glass Manufacturing Guidelines: Important Considerations

These guidelines provide a checklist to be considered for selection and compatibility of glass, desiccant, framework, sealant(s), gas filling, quality control, packaging & shipping of finished products, capillary / breather tubes and glazing.

Download available from the IGMA website

### Vacuum Insulating Glass

This technical bulletin is intended to assist insulating glass manufacturers and window manufacturers in the evaluation of vacuum insulating glazing technologies.

TB-2600-15 (member) \$15 USD  
TB-2600-15 (non-member) \$30 USD

### Technical Manual for Acoustical Glass Design

This manual provides design considerations for the elimination of interfering or distracting sound for various noise criteria classifications.

TM-6000-01 (member) \$50 USD  
TM-6000-01 (non-member) \$100 USD

### Preventing Glass Breakage During IG Design, Manufacture, Transport, Installation and Use

This report addresses causes of glass breakage by reducing damage to edges, corners, and surfaces. This document covers IG design for applied loads, fabrications, storage & transport, installation and usage.

TR-3401-96 (member) \$15 USD  
TR-3401-96 (non-member) \$30 USD

## VOLUNTARY TEST METHODS FOR COMPONENTS

### Recommended Voluntary In-Plant Test Methods and Performance Criteria of Desiccants for Sealed Insulating Glass Units

This manual includes voluntary test methods and criteria performance for the particle size dimension method, residual moisture content by heat of adsorption method, and loss of ignition or total volatile content.

TM-2100-78(81) (member) \$18 USD  
TM-2100-78(81) (non-member) \$36 USD

### Test Methods of Insulating Glass Sealants

This manual covers types of sealants, application test methods for sealant type, tables of test conditions to standardize temperature, mixing and volume conditions and specific tests.

TM-2400-76(90) (member) \$60 USD  
TM-2400-76(90) (non-member) \$120 USD

### Voluntary Test Methods & Voluntary Performance Quality Assurance Criteria for Two Component Polysulfide Sealants Used in Manufacturing Sealed Insulating Glass Units

This manual includes information of test specimens, recommended voluntary test and performance quality assurance criteria with typical values based on laboratory test results, and various test methods.

TM-2301-85 (member) \$25 USD  
TM-2301-85 (non-member) \$50 USD

## Sealant manufacturers Minimum Sealant Dimensions and Placement Survey

This technical bulletin includes a chart of dual seal, hot melt extruded, single seal and Intercept™ spacers for silicone, hot melt, polysulfide, polyurethane and curing hot melt. This document includes depth of primary & secondary sealant, beneath spacer, total silteline, shoulder, thickness and thickness before press.

TB-1201-89(05) (member)	\$15 USD
TB-1201-89(05) (non-member)	\$30 USD

## POST FABRICATION & INSTALLATION

### North American Glazing Guidelines for Sealed Insulating Glass Units for Commercial & Residential Use

These advisory guidelines address the importance of good glazing practices and are intended for use by those who design, specify, manufacture and install insulating glass units. These guidelines address glass types, framing, clearances, setting blocks, spacer shims, glazing materials, glazing systems, receiving, storage & handling, glass protection & cleaning for both commercial and residential applications for double and triple-glazed units.

TM-3000-90(16) (member)	\$75 USD
TM-3000-90(16) (non-member)	\$150 USD



### Recommandations pour l'installation en Amérique du Nord de vitrages isolants scellés dans les constructions commerciales et résidentielles.

IGMA rappelle aux rédacteurs de devis et aux installateurs l'importance des bonnes techniques afin d'assurer la longévité optimale du vitrage isolant, et de réduire l'incidence des bris d'étanchéité.

TM-3000-90(07)F (member)	\$75 USD
TM-3000-90(07)F (non-member)	\$150 USD



### Voluntary Guidelines for the Identification of Visual Obstructions in the Airspace of Insulating Glass Units

These guidelines may assist in the determination of unintended visual obstructions in the insulating glass unit airspace.

TM-3100-09 (member)	\$75 USD
Tm-3100-09 (non-member)	\$150 USD

## TECHNICAL REPORTS & BULLETINS – OTHER

### 25 Year Field Correlation Study Report (1980 – 2005)

Jointly sponsored by the Department of Housing and Urban Development and the Sealed Insulating Glass Manufacturer Association (now IGMA), the study field evaluated ASTM E774 Standard – certified insulating glass units. This study includes two phases. The initial study started in 1980 and Phases 2, started in 1990 incorporating newer technologies.

TR-4000-08 (member)	\$250 USD
TR-4000-08 (non-member)	\$500 USD

## TECHNICAL REPORTS & BULLETINS – OTHER

### Language of Sealed Insulating Glass Units

This report includes all the current terminology used in the insulating glass industry today.

TR-1400-13 (member)	\$10 USD
TR-1400-13 (non-member)	\$20 USD

### Open Capillary Tube Survey, Final Survey

The surveys objective was to determine the extent and nature of open capillary tube usage in the manufacturer of insulating glass. Final results included size of tubes used in diameter and length, reasons for use, desiccant type used and number of sides filled, installation practices, position and direction, and rate and cause of failure with use.

TB-1600-90 (member)	\$10 USD
TB-1600-90 (non-member)	\$20 USD

## SIGMA-GRAMS

All SIGMA-GRAMS are available at [www.igmaonline.org/technical](http://www.igmaonline.org/technical) as a free download.

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