**SECTION 085688**

**INTERIOR INSULATING WINDOWS**

This section includes editing notes to assist the user in editing the section to suit project requirements. These notes are included as hidden text, and can be revealed or hidden by the following method in Microsoft Word:

 Display the FILE tab on the ribbon, click OPTIONS, then DISPLAY. Select or deselect HIDDEN TEXT.

This guide specification section has been prepared by Indow, Inc. for use in the preparation of a project specification section covering Indow Thermal Window Inserts.

The following requirements apply to all Indow window inserts:

Maximum window opening: 6 x 8 feet or 5 x 10 feet (Standard Grade). Refer to product data sheet for current maximum sizes. A mullion kit available through Indow may be used to increase size limitations, or contact Indow to determine if custom sizing is available.

Window opening must have an unobstructed, flat surface, perpendicular to window pane, with minimum depth of 5/8 inch running entire perimeter of window. If 5/8 inch depth is not available, contact Indow for specific remedy.

Skylights: Maximum 8 square feet.

The following should be noted in using this specification:

Hypertext links to specific websites are included after manufacturer names and names of organizations whose standards are referenced within the text, to assist in product selection and further research. Hypertext links are contained in parenthesis and shown in blue, e.g.:

<http://www.spexplus.net>[(www.astm.com](http://www.astm.com) )

Optional text requiring a selection by the user is enclosed within brackets, e.g.: "Section [090000.] [\_\_\_\_\_.]"

Items requiring user input are enclosed within brackets, e.g.: "Section [\_\_\_\_\_ - \_\_\_\_\_\_\_\_]."

Optional paragraphs are separated by an "OR" statement, e.g.:

\*\*\*\* OR \*\*\*\*

Sustainable requirements are included for projects requiring LEED certification, and are included as green text. For additional information on LEED, visit the U.S. Green Building Council website at [www.usgbc.org](http://www.usgbc.org).

For assistance on the use of the products in this section, contact Indow by calling 503-284-2260, by email at nancy@indowwindows.com, or visit their website at [www.indowwindows.com](http://www.indowwindows.com).

1. **GENERAL**
	1. SUMMARY

Edit the following to suit project requirements.

* + 1. Section Includes:
			1. Acrylic window inserts for interior of [wood] [metal] [plastic] windows.
		2. Related Sections:
			1. Division 01: Administrative, procedural, and temporary work requirements.
	1. REFERENCES
		1. ASTM International (ASTM) [(www.astm.org](http://www.astm.org)):
			1. E283-04 (2012) - Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen.
			2. C1199-14 - Standard Test Method for Measuring the Steady-State Thermal Transmittance of Fenestration Systems Using Hot Box Methods.
			3. E966-18 - Standard Guide for Field Measurements of Airborne Sound Insulation of Building Facades and Facade Elements.
		2. American Society of Refrigeration, and Air-Conditioning Engineers (ASHRAE) [(www.ashrae.org](http://www.ashrae.org)) 55 - Thermal Environmental Conditions for Human Occupancy.
	2. SYSTEM DESCRIPTION
		1. Performance Requirements:
			1. Air leakage: Maximum 0.024 CFM, tested to ASTME283.
			2. U-value: Maximum 0.53, tested to ASTM C1199.
			3. Noise level reduction: Minimum improvement of 10 dBA, tested to ASTM E966.
			4. Comply with ASHRAE 55 requirements.
	3. SUBMITTALS

Limiting submittals to only those actually required helps to minimize liability arising from the review of submittals. Minimize submittals on smaller, less complex projects.

* + 1. Submittals for Review:
			1. Shop Drawings: Indicate insert locations and sizes.
			2. Product Data: Window insert manufacturer's descriptive data, specifications, test data, and recommended installation procedures.
			3. Samples: Minimum 6 x 6 inch window insert samples.
		2. Quality Control Submittals:
			1. Test reports: Certified test reports prepared by an independent testing laboratory confirming compliance with specified performance criteria.
			2. Certification: Letter from window insert manufacturer stating that technicians have completed factory certified training and are familiar with manufacturer’s installation requirements.

Include the following for submission of sustainable design submittals.

* + 1. Sustainable Design Submittals: Refer to Division 01.
		2. Closeout Submittals:
			1. Maintenance Data: Include materials and procedures for cleaning and stain removal, including list of detrimental materials.
	1. QUALITY ASSURANCE
		1. Supplier Qualifications: Approved by window insert manufacturer.

The following paragraph specifies a minimum level of experience required of the parties performing the work of this section. Retain if required, and edit to suit project requirements.

* + 1. Installer Qualifications:
			1. Technicians:
				1. Certified by window insert manufacturer.
				2. Familiar with window insert requirements and installation methods.
				3. Have proper equipment available to perform measurement and installation on timely basis.

Include the following for a full size mockup for review of construction and coordination of work of several sections.

* + 1. Mockup:
			1. Size: [One full-size window.] [\_\_\_\_.]
			2. Locate [where directed.] [\_\_\_\_.]
			3. Approved mockup may remain as part of the Work.

Include the following for a pre-installation conference attended by the parties performing the work of this section.

* + 1. Pre-Installation Conference:
			1. Convene at site [2] [\_\_] weeks prior to beginning work of this Section.
			2. Attendance: [Owner] [Architect] [Contractor] [Construction Manager] and window insert installer.
			3. Review and discuss:
				1. Scheduling.
				2. Storage areas.
				3. Coordination with other trades.
				4. Window insert manufacturer’s installation procedures.
				5. Protection after installation.
	1. DELIVERY, STORAGE AND HANDLING
		1. Deliver window inserts in manufacturer’s original packaging with labels indicating brand name and directions for storage.
		2. Store window inserts not in use in storage sleeves approved by manufacturer.
		3. Store window inserts either flat on floor with largest on bottom, maximum three high, or vertically.
	2. SITE CONDITIONS
		1. Prior to ordering window inserts:
			1. Obtain minimum of six measurements of each opening.
			2. Measure openings using manufacturer approved laser measuring device.
			3. Measure special shapes using manufacturer-supplied instructions.
	3. WARRANTIES

Include the following for residential projects.

* + 1. Furnish manufacturer’s limited lifetime warranty providing coverage against deterioration and discoloration of acrylic sheet for duration of original Owner’s occupancy.

\*\*\*\* OR \*\*\*\*

Include the following for commercial projects.

* + 1. Furnish manufacturer’s 10 year warranty providing coverage against deterioration and discoloration of acrylic sheet.
1. **PRODUCTS**
	1. MANUFACTURERS
		1. Acceptable Manufacturer: Indow, Inc.,

 Orlin Raynolds 503-284-2260, orlin@indowwindows.com - [www.indowwindows.com](http://www.indowwindows.com).

Edit the following to indicate whether or not substitutions will be permitted for the products in this section.

* + 1. Substitutions: [Under provisions of Division 01.] [Not permitted.]
	1. MATERIALS
		1. Glazing:

Include the following if glazing manufactured in the US is required.

* + - 1. Acrylic sheeting (Poly Methyl Methacrylate).
			2. Thickness: 0.118” to 0.220”, sized to window insert conditions.

Edit the following to suit project requirements. Note that there is no visual difference between Standard, Museum, Acoustic, and Commercial Grade acrylic.

Include the following for Acoustic Grade (AG) window inserts, available in Commercial Grades.

* + - 1. Grade: Acoustic Grade (AG); reduce noise through operable single-pane windows by 18.9 dBa.

Include the following for Sleep Grade (SP) window inserts for light sleepers, night-shift workers, newborns, and home theater audiophiles.

* + - 1. Grade: Sleep Panels (SP); block light coming through window and provide acoustic dampening and thermal insulation.

Include the following for Commercial Grade (CG) window inserts to provide additional protection against scratching (moving and frequent cleaning).

* + - 1. Grade: Commercial Grade (CG); provide extra abrasion resistant coating.

Include the following for Museum Grade (MG) to protect furniture, carpets, and artwork.

* + - 1. Grade: Museum Grade (MG); filter 98 percent of ultraviolet rays from sunlight coming through windows.

Include the following for Privacy Grade (PG) for diffusing light transmission while blocking details and defined shadows.

* + - 1. Grade: Privacy Grade (PG); translucent white acrylic, diffuse light transmission while blocking details and defined shadows.

Include the following for Shade Grade (SG) to reduce heat and ultraviolet rays coming through window while maintaining a high level of visible light and clarity.

* + - 1. Grade: Shade Grade (SG); reduce Solar Heat Gain Coefficient through opening to 0.49, 57.5 percent visible light transmittance.
		1. Compression Tubing:
			1. Friction-fit silicone tubing, free from polyvinylchloride, Fit with rigid ABS carrier.
			2. Color: [To be selected from manufacturer’s standards.] [Custom color to be selected.] [\_\_\_\_.]
1. **EXECUTION**
	1. EXAMINATION
		1. Verify that openings comply with manufacturer’s requirements.
		2. Verify and blinds or other window coverings that could cause interference are removed.
		3. Ensure that 5/8 inch continuous unobstructed space exists perpendicular to window pane without protrusions extending beyond plane of where window insert will be seated.
		4. Notify manufacturer if window bows by more than 1/16 inch along any linear side.
	2. PREPARATION
		1. Just prior to installation, clean window glazing, window insert glazing, and surfaces on which window inserts will seat of loose and foreign matter.
	3. INSTALLATION

* + 1. Install window inserts in accordance with manufacturer’s instructions [and approved Shop Drawings].

Include the following if required.

* + 1. Install blowout strap brackets.

* + 1. Test fit window inserts prior to removing protective film.
		2. Remove protective film.
		3. Press window insert into place.
	1. DEMONSTRATION
		1. Instruct Owner on proper care, maintenance, and cleaning of window inserts.
	2. PROTECTION
		1. Protect installed window inserts from damage due to subsequent construction operations.
		2. Leave protective film in place on interior facing surfaces until just prior to final cleaning.

**AUTHORIZED DEALER**

* **Sales – Measurements – Coordination of Orders & Logistics - Final Inspection**

Curt Nuenighoff

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Henrico, VA 23233

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Direct: 540-239-9235

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[www.commonwealthwindowinserts.com](http://www.commonwealthwindowinserts.com/)

Authorized Indow Dealer

**Installation** conducted by trained licensed contractor. Dealer can coordinate.

END OF SECTION