

NGA GLASS CONFERENCE™

ISLE OF PALMS | CHARLESTON

FEBRUARY 5-8, 2024



Meeting Book

NGA Core Purpose

NGA is the authority and resource for its members and the industry to grow successful businesses and to champion the benefits of glazing and glass building products.

NGA Vision Statement

We envision a future in which glass is the material of choice to enhance spaces where people live, play, learn, work and heal.

NGA Goals

Advocate: Be a strong advocate to promote and defend the glass industry.

Educate: Drive excellence, safety and results through education and training.

Workforce Development: Advance the industry as a viable, thriving and exciting career path.

Promote: Elevate the image of glass as a safe, healthy, sustainable and inspiring building product.



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MAKE YOUR VOICE HEARD!

NGA will host NGA members, Congressional members and agency officials from DOE & EPA together in our nation’s capital at **NGA Glass & Glazing Advocacy Days** on May 14-15.

Discussions will focus on legislative opportunities surrounding Energy Efficiency/Sustainability, Bird-Friendly Glazing, School Security and Workforce Development.

**Save your seat >
pre-register today!**

(Open the camera app on your phone and point at the QR code to open the registration web page.)



By registering, participating, attending, or speaking at the NGA Glass Conference, I agree that neither I nor my company/employer will transmit information or materials received at the NGA Glass Conference to other companies for their commercial use or to other associations with competing interests to NGA.

THANK YOU TO OUR SPONSORS



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Conference Program Sponsor



Laminating Workshop Sponsor



9th Annual Fun Run Sponsors

Schedule of Events

Monday, February 5, 2024

		Location
12:00 pm – 5:00 pm	Optional Golf Scramble [separate registration required]	Harbor Course
3:00 pm – 6:00 pm	Registration Open	Osprey Foyer 1-4
5:30 pm – 7:00 pm	Welcome Reception	Osprey Outdoor Terrace

Tuesday, February 6, 2024

7:30 am – 6:00 pm	Registration Open	Osprey Foyer 1-4
8:00 am – 9:15 am	Breakfast & Presentation <i>Welcome to NGA Glass Conference + Key Industry Metrics</i>	Indigo Rooftop
9:30 am – 10:00 am	Orientation	Osprey Ballroom 1-4
10:00 am – 12:00 pm	NGA Advocacy Committee <i>Presentation: U.S. Department of Energy Collaboration and Update</i>	Osprey Ballroom 1-4
12:00 pm – 1:00 pm	Lunch & Presentation <i>Glass & Glazing Codes & Standards Update</i>	Indigo Rooftop
1:15 pm – 3:15 pm	NGA Fabricating Committee <i>Fabricator Education Installing Committee Energy Protective Glazing</i>	Osprey Ballroom 1-4
3:30 pm – 4:30 pm	Panel Discussion: Spandrel Glass	Osprey Ballroom 1-4
4:30 pm – 5:30 pm	NGA Forming Committee	Osprey Ballroom 1-4
5:30 pm – 7:00 pm	New Professionals Social For all conference participants- <i>Sponsored by Tristar Glass</i>	Osprey Ballroom & Foyer

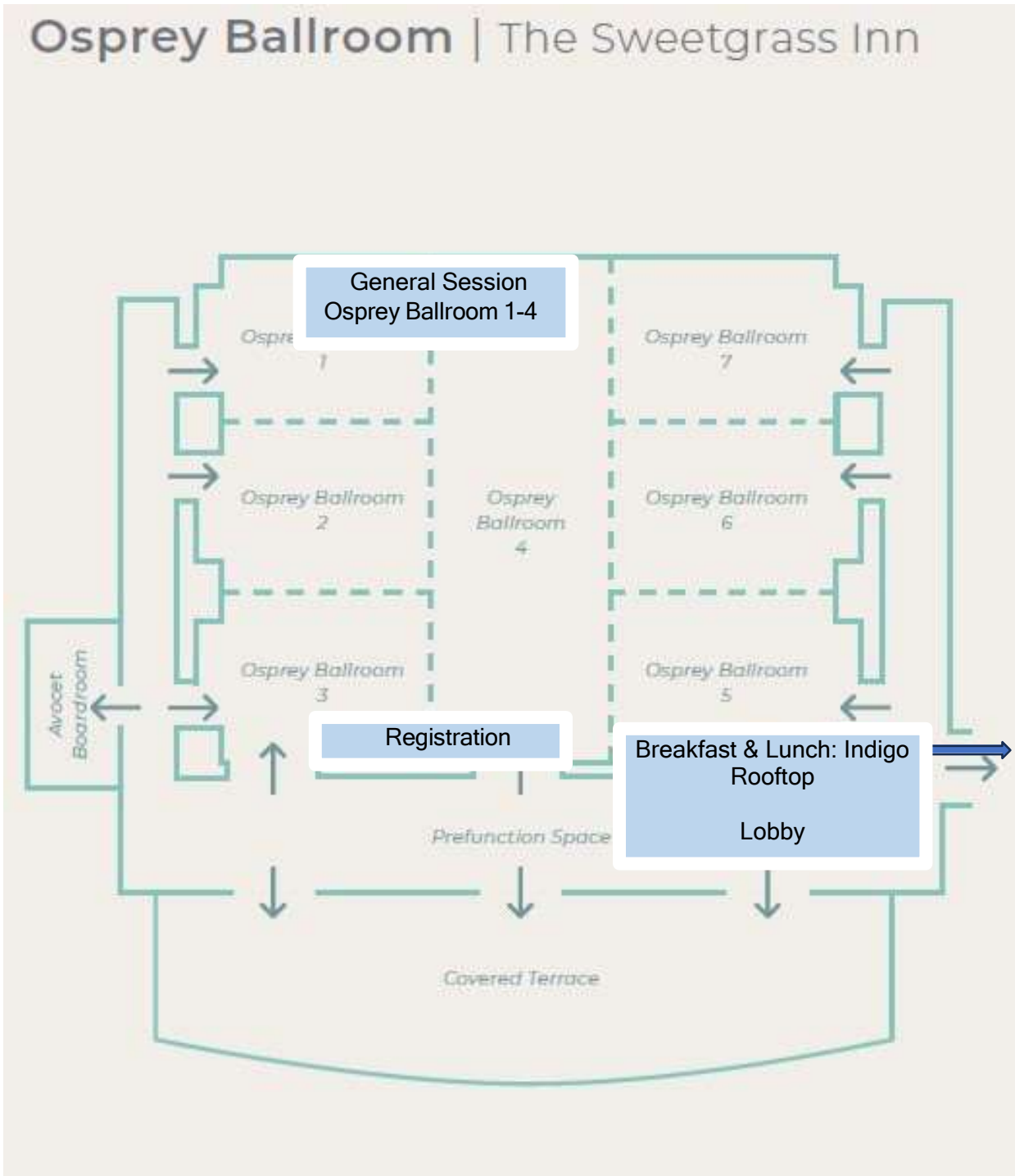
Wednesday, February 7, 2024

7:00 am – 8:00 am	Optional 9th Annual Fun Run/Walk <i>Sponsored by Brin Glass, Infinite Recycled Technologies, Kuraray, Mappi, Quanex, Tristar and Vitrum</i>	Sweetgrass Inn Lobby
8:00 am – 4:00 pm	Registration Open	Osprey Foyer 1-4
8:30 am – 9:30 am	Networking Breakfast	Indigo Rooftop
9:30 am – 10:45 am	NGA Fabricating Committee, continued <i>Insulating Tempering Decorative Mirror</i>	Osprey Ballroom 1-4
11:15 am – 12:00 pm	Presentation: The Last Single Glazed Building? -Retrofitting Our Building Stock with High Performance Windows by Steve Selkowitz - <i>Sponsored by Pilkington NSG</i>	Osprey Ballroom 1-4
12:00 pm – 1:00 pm	Networking Lunch	Indigo Rooftop
1:15 pm – 2:15 pm	Interactive Session <i>Advocating for the Glass & Glazing Industry</i>	Osprey Ballroom 1-4
2:30 pm – 4:00 pm	Presentations: 3 Hot Glass Topics	Osprey Ballroom 1-4
6:00 pm – 8:00 pm	Volunteer Celebration Dinner	Indigo Rooftop

Thursday, February 8, 2024

8:00 am – 4:00 pm	Registration Open	Osprey Foyer 1-4
8:30 am – 9:30 am	Networking Breakfast	Indigo Rooftop
9:30 am – 10:30 am	Industry Collaboration Updates <i>ANSI SGCC IGCC FGIA NFRC IWCA</i>	Osprey Ballroom 1-4
11:00 am – 12:15 am	NGA Fabricating Committee <i>Sustainability Fire-Rated Laminating</i>	Osprey Ballroom 1-4
12:15 pm – 1:00 pm	Networking Lunch	Indigo Rooftop
1:00 pm – 4:00 pm	Laminating Workshop <i>Past, Present and Future of Laminated Glass Qualification (separate registration required)- Sponsored by Saflex from Eastman</i>	Osprey Ballroom 1-4

NGA Glass Conference | Wild Dunes Resort | Isle of Palm



AGC INTERPANE Architectural Glass GmbH
Steve Dean

Agnora Inc.
Gin Benner
Adam Mitchell

Argotec
Tom Niziolek

Brin Glass Company*
Bill Sullivan
Kathy Sullivan”

C.R. Laurence Company, Inc./ U.S. Aluminum
Roman Jimenez

Cardinal Glass
Michelle Phan
DJ Weil

CoolTemper USA
Michael Shelton

Dillmeier Glass Co.
David Dillmeier
Jerry Goolsby

Dow
Stanley Yee

Eastman | Saflex*
Julia Schimmelpenningh+
Jeff Skaza

Emmegi USA, Inc.
Patrick Buskill

Gardner Glass Products, Inc.
Lucas Brooks
Victoria Brooks”

GGI
Gus Trupiano

Glass Coatings and Concepts LLC*
Matthew Hanna
Tim McGee
Cindy McGee”
Randy Reynolds+

Glass for Europe
Adrien Carton
Bertrand Cazes+

Goldray Glass
Prince Ruchogeza
Michael Saroka

Guardian Glass
David Evans
Mark Fender
Jon Griggs+
Hal Savakus
Nina Savakus”

Helima Helvetion International
Anthony McCall

ICD High Performance Coatings
Jeff Nicholson+
December Nicholson”
Austin Seely

Infinite Recycled Technologies*
Patrick Elmore
Jeremiah Watson

Intertek
Travis Hoover

Kawneer Co., Inc.
Chris Schultz

Kuraray America, Inc. *
Vaughn Schauss

Larson Engineering, Inc.
Rachel Schulz
Kelvin Veloso

Lingnell Consulting Services
Bill Lingnell+

LiteSentry-SoftSolution-Strainoptics
Nate Huffman+
Jim Weiler

Mappi America, Inc. *
Nancy Mammaro

Michigan Tech University
Stephen Morse+

Oldcastle BuildingEnvelope
Melissa Sotkowski
Rick Wright+
Malinda Wright”

Pilkington North America, Inc. *
Kayla Natividad
Ashli Natividad”

Resource Recovery LLC
Austin Beaupré

Roschmann Steel & Glass Constructions

Denise McMahon
Dirk Schulte

SAFTI FIRST

Tim Nass
Diana San Diego

Salem Fabrication Technologies Group Inc

Ashley Price
Natalie Price"
Dan Reinhart

Schilling Inc.

Douglas Schilling

Sekisui S-LEC America, LLC.

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Susan Harvath"

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Andrea La Greca
Bradford Carpenter+

Stephen Selkowitz Consultants

Stephen Selkowitz+

Technical Glass Products (Allegion)

Devin Bowman

Technoform Glass Insulation

Helen Sanders

The Charles Pankow Foundation

Stuart Harrison
Barb Harrison"

Thompson Innovative Glass, LLC

Tom Donovan

Tremco

John Mayfield

Tristar Glass, Inc. *

Tim Kelley
Robert Carlson

Trulite Glass and Aluminum Solutions

Jeff Haberer

U.S. Department of Energy

Marc LaFrance
Sam Petty+

Vibrantz Technologies

Gady Ginzburg+
Robert Korlewitz
Peg Korlewitz"

Viracon

Peter Kuhlman
Aaron Thompson
Charles Wencil
Thomas Wojtowicz
Nick Yule

Vitro Architectural Glass

Paul Bush
Roanne Bush"
Michael Hammond
Candy Hammond"
Steven Marino
Jeanne Marino"

Vitrum Industries Ltd. *

Tara Brummet

Walker Glass Co., Ltd.

Marc Deschamps

West Michigan Glass Coatings

Christine Scheipe

CONSULTANTS

Birch Point Consulting

Tom Culp

Roetzel & Andress

Nick Resetar

Thom Zarembo

Deb Sagan"

K&L Gates

Laurie Purpuro+

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Amy Becker+

SGCC/IGCC/ AMS

Kristin Best+

Terry Schaefer

International Window Cleaning Association (IWCA)

Jack Evans, Jr.+

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Glass Magazine

Katy Devlin+

USGlass Magazine

Ellen Rogers

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+ Speakers
" Spouse/Partner

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Aaron Thompson
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Bobby Chestnut
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Kayla Natividad
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Steven Marino
Vice Chair
Vitro Architectural
Glass



Matt Kamper
Chair
Woodbridge Glass



Joey Aragon
Vice Chair
Aragon
Construction

NGA Installing Committee

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Dave Evans
Guardian Glass
Mirror Technical Liaison



Kremena Doytcheva
Vetrotech Saint Gobain
Fire-Rated Glazing Technical Liaison



Jeff Haberer
Trulite Glass & Aluminum Solutions
Insulating Technical Liaison



Helen Sanders
Technoform
Energy Technical Liaison



Michael Saroka
Goldray Glass
Decorative Technical Liaison



Vaughn Schauss
Kuraray America
Protective Glazing Technical Liaison



Julia Schimmelpenningh
Eastman Chemical Co.
Laminating Technical Liaison



Rick Wright
Oldcastle BuildingEnvelope
Tempering Technical Liaison

NGA Staff & Consultants in Attendance



Jenni Chase
Vice President,
Workforce
Development



Tom Culp
Codes
Consultant



Katy Devlin
Content Director
Glass Magazine
Editor-in-Chief



Nicole Harris
President &
CEO



Michele Nosko
Vice President,
Association
Operations



Nick Resetar
Codes
Consultant



Wendy Rochelle
Meeting Planner



Georgia Scalfano
Advocacy &
Technical Services
Sustainability
Manager



Urmilla Sowell
Vice President,
Advocacy &
Technical Services



Karen Wegert
Associate Director,
Advocacy & Technical
Services



Thom Zaremba
Codes
Consultant



ARTICLE XV
ANTI-TRUST COMPLIANCE

SECTION 1. POLICY

It is the undeviating policy of the Association to comply strictly with the letter and spirit of all federal, state and applicable international trade regulations and antitrust laws. Any activities of the Association or Association-related actions of its staff, members, officers, directors or chapter officials which violate these regulations and laws are detrimental to the interests of the Association and are unequivocally contrary to Association policy.

SECTION 2. IMPLEMENTATION

Implementation of the antitrust compliance policy of the Association shall include, but shall not be limited to, the following:

2.1 Association membership, directors and committee/alliance/division meetings shall be conducted pursuant to agendas distributed in advance to attendees; discussions shall be limited to agenda items; there shall be no substantive discussions of Association matters other than at membership, directors and committee/alliance/division meetings; minutes shall be distributed to attendees promptly.

2.2 All Association activities or discussions shall be avoided which might be construed as tending to: (1) raise, lower, or stabilize prices; (2) regulate production; (3) allocate markets; (4) encourage boycotts; (5) foster unfair trade practices; (6) assist monopolization; or in any way violate federal, state or applicable international trade regulations and antitrust laws.

2.3 No individual other than the Chair of the Board and Chief Executive Officer--whether staff, member, officer, director or committee/alliance/division official--is authorized to communicate on behalf of the Association to any person or firm outside the Association except with the explicit, unequivocal approval of the Chair of the Board or President. No such individual may bind or commit the Association to any offer, contract, policy, program, position or decision without that approval. And no such individual may hold out himself or herself, or willingly appear to do so, as representing the Association without that approval.

2.4 NGA legal counsel shall attend all NGA Board and membership meetings, either in person or via teleconference. Attendance of counsel at other meetings shall be at the discretion of the NGA Chair of the Board.

2.5 Association staff, members, officers, directors or committee/alliance/division officials who participate in conduct which the Board of Directors, by a two-thirds (2/3) majority vote, determines to be contrary to the Association anti-trust compliance policy shall be subject to disciplinary measures up to, and including, termination.



NATIONAL GLASS ASSOCIATION

CONFLICTS OF INTEREST POLICY

This Conflicts of Interest Policy applies to all National Glass Association (NGA) staff, members, officers, directors, chapter officials, and all members of a committee, division or task force of NGA as designated by the Board of Directors (“interested persons”).

As an interested person, I recognize that I owe duties of care and loyalty to NGA. One aspect of fulfilling those duties is to avoid conflicts of interest in which my allegiance might be split between my position with NGA and some other personal, professional, or volunteer position or responsibility. To help avoid conflicts, I will disclose other situations or areas in which it might even appear that I have interests conflicting with those of NGA. I invite any further review by the NGA of any aspects of these situations or areas which might be considered appropriate.

Using the NGA Conflicts of Interest Disclosure Form provided by NGA staff, I will disclose potential conflicts to the Chair of the Board (or in the case of the Chair, to the Treasurer) and/or to the members of any committees, divisions or task forces of NGA as designated by the Board annually and as they arise. For each interest disclosed, the Chair (or Treasurer) will determine whether to: (a) take no action; (b) assure full disclosure to the Board of Directors and/or the relevant committee, division, or task force; (c) ask for recusal from participation in related discussions or decisions; or (d) ask for voluntary resignation from the Board, or, potentially, removal in accordance with NGA’s removal procedures or voluntary resignation from the relevant committee, division or task force. NGA’s CEO will also monitor proposed and ongoing transactions for potential conflicts of interest.

Disclosure of interests:

Personal, professional, or volunteer positions or responsibilities, including those of mine and/or my family members, that might give rise to conflicts (examples include serving in a position of leadership for another association in the glass or residential window and door industry, or performing work for the NGA or another association in the glass or residential window and door industry).

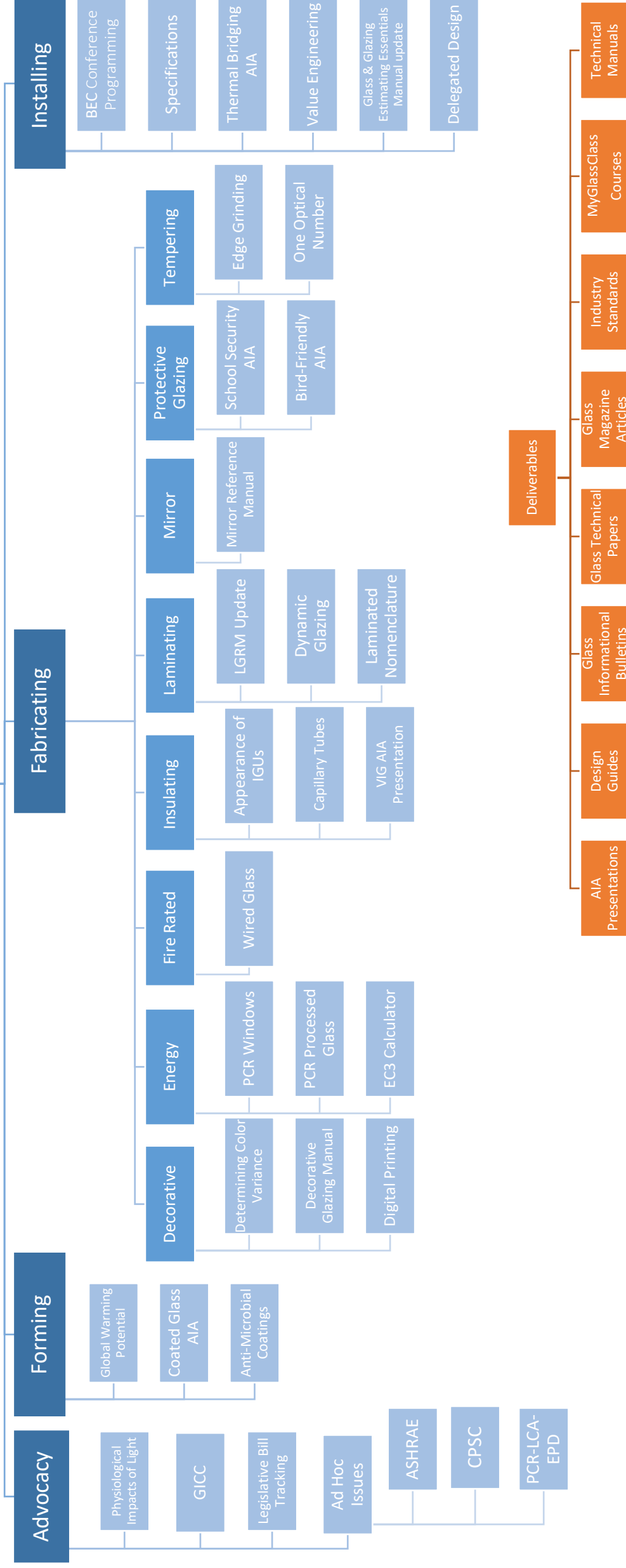
National Glass Association Board of Directors

LEGEND

● Committee

● Committee Liaisons

● Task Groups



Manuals, Guides and Books

All About Glass and Metal: A Guide for Architects & Specifiers
An Owner's Guide to Exit & Succession Planning
Bob Maltby's Glass Book
Commercial Fenestration Systems Manual
Engineering Standards Manual
Frameless Shower Enclosure Design and Installation Manual
Glass and Glazing Estimating Essentials
Glazing Manual
Glossary of Architectural Glass and Glazing
Guide to Architectural Glass
Guide to the Glass and Glazing Requirements of the Model Building Codes
Heavy Glass Door Design Manual
Laminated Glazing Reference Manual
Project Manager's Reference Manual
Protective Glazing Manual
Sealant Manual

Design Guides

DG01-21 Best Practices for Bird-Friendly Glazing Design
DG02-21 Frameless Shower Enclosures Design
DG03-22 Thermal Bridging Considerations at Interface Conditions

Glass Technical Papers

FB01-00 (2023) Proper Procedures for Cleaning Architectural Glass Products
FB02-02 (2023) Heat-Treated Glass Surfaces Are Different
FB03-03 (2023) Construction Site Protection and Maintenance of Architectural Glass
FB04-03 (2021) Design Considerations for Laminated Glazing Applications
FB05-04 (2023) Emergency Egress Through Laminated Glazing Materials
FB06-05 (2019) Proper Procedures for Cleaning Flat Glass Mirrors
FB07-05 (2019) Point Supported Glazing
FB09-06 (2023) Suggested Procedures for Dealing with Broken Glass
FB10-06 (2023) Skylights and Sloped Glazing are Not Walking Surfaces
FB11-06 (2022) Marking and Labeling of Architectural Glass
FB12-07 (2023) Blast Resistant Glazing
FB13-07 (2018) The Importance of Fabrication Prior to Heat-Treatment
FB14-07 (2020) Glass Floors and Stairs
FB15-07 (2022) Describing Architectural Glass Constructions
FB16-07 (2022) Bullet Resistant Glazing
FB17-08 (2019) Glossary of Terms for Color and Appearance
FB18-08 (2023) Methods of Measuring Optical Distortion
FB19-08 (2020) Guidelines for Handling and Cleaning Decorative Glass
FB20-08 (2022) Iridescence Patterns in Heat-Treated Architectural Glass
FB21-09 (2021) Installation Techniques Designed to Prolong the Life of Flat Glass Mirrors
FB22-09 (2019) Proper Procedures for Fabrication of Flat Glass Mirrors
FB23-09 (2019) Approximate Weight of Interlayer used in Laminated Architectural Flat Glass
FB24-09 (2019) Hurricane Product Substitution
FB25-09 (2024) Performance Criteria for Glazing Subjected to Seismic Events
FB26-10 (2022) Detention Facility Glazing
FB27-11 (2015) Guidelines for the Appearance of IGU Edges in Commercial Applications
FB28-11 (2022) Assessing the Compatibility of Glazing Materials and Components
FB30-11 (2019) Proper Procedures for Receiving, Storage & Transportation of Flat Glass Mirrors
FB31-11 (2017) LEED White Paper - Mirror
FB32-11 (2018) Dynamic Glazing for High Performance Buildings
FB33-11 (2023) Glass Use in Guardrails
FB34-12 (2023) Screening Out UV Radiation with Laminated Glass
FB35-12 (2020) Bird-Friendly Glass Design Strategies

FB36-12 (2019)	Coastal Glazing and the Turtle Codes
FB37-12 (2019)	Laminated Glass Use in Furniture
FB38-14 (2021)	The Recyclability and Reusability of Glass Products
FB39-14 (2019)	Glass Properties Pertaining to Photovoltaic Applications
FB40-14 (2021)	Recyclability of Architectural Glass Products
FB41-14 (2019)	Design Consideration for Use of Sealants/Adhesives with Coated Glass
FB42-14 (2019)	Decorative Glass Strength Properties
FB43-14 (2020)	Security Glazing
FB44-14 (2019)	Assessing the Durability of Decorative Glass
FB45-14 (2019)	Recommended Applications for Heat-Treated Architectural Glass
FB46-15 (2022)	Assessment of the Weatherability & Durability of Decorative Glass
FB47-15 (2021)	Considerations when Installing Interior-Mounted Back-Painted Glass
FB48-15 (2020)	Effects of Moisture, Solvents and Other Substances on Laminated Glazing Edges
FB49-17 (2022)	Performance Improvements of IGUs
FB50-17 (2022)	Building Energy Performance
FB51-17 (2022)	Building Envelope Commissioning
FB52-17 (2022)	Guidelines for the Production of Heat-Treated Architectural Flat Glass
FB53-17 (2024)	Benefits of Decorative Glass in Daylighting Applications
FB54-17 (2022)	Guidelines and Best Practices on how to Manage Color Variance of Decorative Glazing
FB55-17	LEED White Paper - Decorative
FB56-18 (2024)	Heat Soak Testing of Tempered Glass For Architectural Glass Applications
FB57-18	One Optical Number Does Not Fit All
FB58-18 (2023)	Understanding Reflective Distortion in Mirror Installations
FB59-18	Heat-treated Laminated Glass Exposed Edges
FB60-18 (2023)	Understanding Reflected Solar Energy of Glazing Systems in Buildings
FB61-19	Tornado Resistant Glazing
FB62-19	Mitigating Thermal Stress Breakage in Heat-Treated Spandrel Glass
FB63-19	Products for Energy Applications
FB65-20	Glass for Personal Protective Barriers
FB66-20	Introduction to Vacuum Insulating Glazing
FB67-20	Guidelines on How to View Decorative Glazing Products in Interior and Exterior Applications
FB68-20	Guidelines for Measuring Color of Decorative Glazing Materials in the Field
FB70-20	Best Practices for Installed Painted Decorative Glass
FB71-21	School Security Glazing
FB72-21	Introduction to Hybrid VIG Fabrication
FB73-22	Types of Decorative Glass
FB74-22	Alignment in US Energy Conservation Codes ASHRAE 90.1 and IECC
FB75-23	Compatibility Testing of Insulating Glass PIB Primary Sealant with Respect to Glazing Materials
FB76-23	Fire-Rated Glazing 101
FM01-08 (2020)	Approximate Weight of Architectural Flat Glass
FM02-07 (2017)	Flat Glass Industry Standards
FM02-09 (2020)	Protecting Glass Against Weld Splatter
FM03-10 (2023)	LEED® Recycled Content for Glass
FM04-12(2019)	Daylighting
FM05-12(2023)	Physical and Mechanical Properties
FM06-20	General EPD Education
FM07-21	Flat Glass Environmental Transparency Documents
IN01-06 (2020)	The Top 10 Items Commonly Missing from Fenestration System Shop Drawings
IN02-09 (2022)	Bid Considerations for Contract Glazing Proposals
IN03-12 (2023)	Key Elements of Fenestration System Shop Drawings
IN04-14 (2020)	Safety Guidelines for Deglazing Structural Silicone
IN05-17 (2022)	Overview of Building Information Modeling (BIM) for Glass and Glazing Systems
TB1601-95(14)	Guidelines for Capillary Tubes
TB1250-19	PIB Primary Sealant

TASK GROUP ACTIVITIES SUMMARY

ADVOCACY COMMITTEE

One-Pagers

- Bird-Friendly Glazing in Building Construction
- High-Performance Glazing Promotes Building Resiliency
- School Security: Windows Respond First
- Window Recyclability: Circular Economy
- Registered Apprenticeship Programs

Legislative Bill Progress

- September 25, 2023: Response to RFI for Creating a List of Eligible Decarbonizing Building
- May 1, 2023: Response to DOE request for information regarding Challenges and Opportunities of Increasing Materials Circularity.
- April 25, 2023: Comment to DOE on Technical Assistance for Latest and Zero Building Energy Code Adoption
- Feb. 9, 2023: Comment to GSA Inflation Reduction Act Low Embodied Carbon Material Standards

FORMING COMMITTEE

At ballot/Going to ballot in March

- AIA Presentation: The Value-Added Performance of Coated Glass
- Daylighting GTP

Ongoing task group work

- Anti-Microbial Coatings for Architectural Glass

INSTALLING COMMITTEE

At ballot/Going to ballot in March

- Thermal Bridging AIA Presentation

Ongoing task group work

- Glass and Glazing Estimating Essentials Manual update
- Deltek Specifications
- Value Engineering
- Delegated Design vs. Design Build vs. Design Assist

FABRICATING COMMITTEE

At ballot/Going to ballot in March

Decorative

- Design Consideration for Use of Sealants/Adhesives with Coated Glass
- Decorative Glass Strength Properties
- Assessing the Durability of Decorative Glass

Energy

- Glass Properties Pertaining to Photovoltaic Applications
- Products for Energy Applications

Insulating

- Considerations for the Appearance of Insulating Glass Unit Edge at the Time of Fabrication
- Guidelines for Use of Capillary Tubes

Mirror

- Proper Procedures for Cleaning Flat Glass Mirrors
- Proper Procedures for Receiving, Storage and Transportation of Flat Glass Mirrors
- Proper Procedures for Fabrication of Flat Glass Mirrors

Protective Glazing

- AIA Presentation: Key Strategies of Bird-Friendly Glazing
- Coastal Glazing and the Turtle Codes

Tempering

- Recommended Applications for Heat-Treated Architectural Glass
- Mitigating Thermal Stress Breakage in Heat-Treated Spandrel Glass

Laminating

- Hurricane Product Substitution
- Tornado Resistant Glazing

Ongoing task group work

Decorative

- Decorative Glazing Manual
- Determining an Industry Acceptable Color Variance for Decorative Glass
- Introduction to Digital Printing

Energy

- PCR for Windows: joint with FGIA/WDMA
- PCR for Processed Glass
- Sustainability and Recyclability of Architectural Glass

Fire-Rated Glazing

- Wired Glass in Fire-Rated and Safety Glazing Applications

Insulating

- VIG AIA Presentation

Laminating

- Laminated Glazing Reference Manual update
- Laminated Nomenclature
- Dynamic Glazing

Mirror

- Mirror Reference Manual

Protective Glazing

- AIA Presentation: Bird-Friendly
- AIA Presentation: School Security
- Anti-Microbial Coatings

Tempering

- Evaluating Post-Finishing for Heat-Treated Glass Edges
- One Optical Number Does Not Fit All

Members interested in joining any task group, please email ajohnson@glass.org

Chair: Paul Bush

Vitro Architectural Glass / pbush@vitro.com

NGA Antitrust Policy

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Committee Mission Statement

The NGA Advocacy Committee advocates on behalf of the glass and glazing industry to:

- Support the Glazing Industry Code Committee
- Educate stakeholders and consumers on the benefits of glass in the built environment
- Promote and protect the interests of the glass and glazing industry.

Agenda Items

1. Call to Order - *Chair Paul Bush, Vitro Architectural Glass*
2. Review of Anti-Trust Statement and Conflict of Interest Policies
3. Appointment of Recording Secretary – *Georgia Scalfano/Amber Johnson, NGA*
4. Minutes of the Previous Meeting- July 25, 2023
5. Presentation – U.S. Department of Energy (DOE) Collaboration and Update
6. Old Business
 - a. 2024 NGA Glass & Glazing Advocacy Days event
 - i. Initiatives for 2024 event – updating one-pagers with specific “asks” for legislators
 1. [Bird-Friendly Glazing in Building Construction](#)
 2. [High-Performance Glazing Promotes Building Resiliency](#)
 3. [School Security: Windows Respond First](#)
 4. [Registered Apprenticeship Programs](#)
 - ii. How to Advocate on Capitol Hill- *Laurie Purpuro, K&L Gates*
 - b. [Window Recyclability: Circular Economy](#)
7. New Business
 - a. Librarian search terms and results- *Nick Resetar, Roetzel & Andress, NGA Code Consultant*
8. Adjournment

Next Events:

[BEC Conference](#) | Mar 3-5, 2024 | Nashville, TN

[Glass Processing Automation Days \(GPAD\)](#) | Mar 5-6, 2024 | Nashville, TN

NGA Advocacy Days | May 14-15, 2024 | Washington, DC

[NGA Glass Conference: Milwaukee](#) | Aug 6-8, 2024 | Milwaukee, WI

[GlassBuild America](#) | Sept 30- Oct 2, 2024 | Dallas, TX



Chair: Paul Bush

Vitro Architectural Glass / pbush@vitro.com

NGA Antitrust Policy

It is the undeviating policy of the Association to comply strictly with the letter and spirit of all federal, state and applicable international trade regulations and antitrust laws. Any activities of the Association or Association-related actions of its staff, members, officers, directors or chapter officials which violate these regulations and laws are detrimental to the interests of the Association and are unequivocally contrary to Association policy. *Please refer to NGA Bylaws for SECTION 2. IMPLEMENTATION of the antitrust compliance policy of the Association.*

Committee Mission Statement

The NGA Advocacy Committee advocates on behalf of the glass and glazing industry to:

- Support the Glazing Industry Code Committee
- Educate stakeholders and consumers on the benefits of glass in the built environment
- Promote and protect the interests of the glass and glazing industry.

Agenda Items

1. Call to Order - Chair Paul Bush, Vitro Architectural Glass
2. Review of Anti-Trust Statement and Conflict of Interest Policies
3. Appointment of Recording Secretary – Georgia Scalfano/Amber Johnson, NGA
4. Minutes of the Previous Meeting
 - a. Motion to Approve: Kayla, Seconded: Bill, approved unanimously
5. Old Business
 - a. Recap of 2023 NGA Glass & Glazing Advocacy Days event
 - i. Continuing Legislator & Speaker Outreach after the event
 - ii. National Association of Manufacturers (NAM) Regulatory Oversight Coalition virtual meetings
 - b. Open follow-up issues
 - i. Rep. Morgan Griffith [R-VA] re-introduced the Federal Bird Safe Buildings Act ([H.R. 3781](#))
 1. For one-pagers, add a map with a dot in each state with a member company to visualize the scope of the glass and glazing industry
 - ii. Rep. Dr. Michael Burgess [R-TX] energy efficiency summit
 - iii. Recyclability, Circular economy
 1. Still a significant amount of money given by IRA to fund recycling projects, so we need to start thinking about how we want to see that happen
 - iv. School Safety Legislation, Luke and Alex School Safety Act ([LASSA](#)) – Nick Resetar, Roetzel & Andress
 1. NGA has sent a letter to the AG, dept. of homeland security, and DOE asking to be part of the process of establishing these best practices
 2. Discussing sending a follow-up letter to stay on their radar so that when action is taken, we are considered to be consulted with
 - c. Ad hoc strike force team – Urmilla Sowell, NGA
 - i. Group of volunteers that gather when we need a quick turnaround on an advocacy topic.
 - ii. May 1, 2023: [Response to DOE request for information regarding Challenges and Opportunities of Increasing Materials Circularity.](#)
 - iii. April 25, 2023: [Comment to DOE on Technical Assistance for Latest and Zero Building Energy Code Adoption](#)
 - iii. Feb. 9, 2023: [Comment to GSA Inflation Reduction Act Low Embodied Carbon Material Standards](#)
 - d. Update on GICC Response on School Security in IBC – Thom Zaremba, Roetzel & Andress
 - i. Working on a building code proposal that addresses school security, working on what that language will be – School Security panel to start that discussion
6. New Business
 - a. High Occupancy Building Security one-pager – Karen Wegert, NGA
 - b. Planning for 2024 Glass & Glazing Advocacy Days

Chair: Aaron Thompson, Viracon
 athompson@viracon.com

Vice Chair: Bobby Chestnut, McGrory Glass
 bchestnut@mcgrory.com

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Agenda Items

1. Call to Order - *Chair Aaron Thompson, Viracon*
2. Review of [Anti-Trust Statement](#) and [Conflict of Interest](#) Policies
3. Appointment of Recording Secretary – *Georgia Scalfano/Amber Johnson, NGA*
4. Minutes of the Previous Meeting – July 25-27, 2023
5. Committee Business – *Aaron Thompson, Viracon*
 - a. Updated Structure of NGA Fabricating Committee Liaisons – *Karen Wegert, NGA*
 - b. Spanish translation of GTPs related to cleaning installed glass- *Georgia Scalfano, NGA*
 - i. [Proper Procedures for Cleaning Architectural Glass Products](#)
 - ii. [Heat-Treated Glass Surfaces are Different](#)
 - iii. [Construction Site Protection and Maintenance of Architectural Glass](#)
 1. Postcards also available for How to Clean Architectural Glass and Construction Site Protection
 - c. Ballot Participation
 - i. Vote early, vote on all ballots
 - d. ANSI impactor discussion – *Michelle Phan, Cardinal*
 - e. NGA Initiatives
 - i. MyGlassFab™- *Jenni Chase, NGA*
 - ii. Glass Processing Automation Days (GPAD)- *Rob Carlson, TriStar Glass*

Installing Committee Update – *Matt Kamper, Woodbridge Glass - Chair and Joey Aragon, Aragon Construction, Vice-Chair*

- a. Specifications, updating Masterspec in collaboration with Deltek
- b. Value Engineering task group – *Rob Carlson, Tristar Glass- Task Group Chair*
 - i. How to overcome challenges in implementing high-performance glazing products
- c. Delegated Design vs Design Build vs Design Assist- *Matt Kamper, Woodbridge Glass – Task Group Chair*
 - i. What does a design build contract entail? Produce a benchmark paper.
- d. Glass & Glazing Estimating Essentials Manual update- *Chuck Knickerbocker, TGP – Task Group Chair*
- e. New and Updated Technical Resources
 - i. *New!* [Frameless Shower Enclosures Design and Installation Manual](#)
 - ii. *Updated!* [Key Elements of Fenestration System Shop Drawings](#) GTP
 - iii. *New!* Thermal Bridging AIA Presentation – *Stanley Yee, Dow – Task Group Chair – at ballot*

Energy - *Helen Sanders, Technoform*

- a. EPA Grant Funding- *Tom Culp, NGA Energy Code Consultant, Birch Point Consulting*
- b. Embodied Carbon in Construction Calculator (EC3 Calculator)- *Georgia Scalfano, NGA*
- c. Product Category Rules (PCR) and Environmental Product Declarations (EPD) [updates](#)
 - i. Flat Glass PCR
 - ii. Flat Glass EPD
 - iii. Processed Glass PCR
 - iv. Fenestration PCR
- d. New and Updated Technical Resources

- i. *New!* [Benefits of Daylighting in Building Design](#) AIA Presentation
- e. 2024 Systematic Reviews (5-year updates) – *will go to ballot*
 - i. Products for Energy Applications
 - ii. Glass Properties Pertaining to Photovoltaic Applications
- f. New Business

Protective Glazing – Vaughn Schauss, Kuraray

- a. School Security Glazing
 - i. School Security ICC Building Code Proposals – *Thom Zaremba, Roetzel & Andress*
 - ii. [School Security GTP](#)- reviewing ballot comments
 - iii. [School Security AIA presentation](#) update* - *Julie Schimmelpenningh, Eastman Chemical Company- Task Group Chair*
 - iv. School Security Design Guide
- b. Bird-Friendly Glazing– *Marc Deschamps, Walker Glass- Task Group Chair*
 - i. Bird Friendly AIA presentation – at ballot
 - ii. Standardizing NGA Guide to promote uniform implementation
- c. New and Updated Technical Resources
 - i. *Updated!* [Performance Criteria for Glazing Subjected to Seismic Events](#)
 - ii. *Updated!* [Blast Resistant Glazing](#)
 - iii. *Updated!* [Screening Out Ultraviolet Radiation with Laminated Glass](#)
 - iv. *Updated!* [Proper Procedures for Cleaning Architectural Glass Products](#) (protective glazing added)
- d. 2024 Systematic Reviews (5-year updates) – *will go to ballot*
 - i. Coastal Glazing and the Turtle Codes
- e. New Business

Adjourn until Wednesday, February 7 at 9:30 am

Wednesday, February 7, 2024

Networking Breakfast | 8:30-9:30 am | Indigo Rooftop

Fabricating Committee Meeting | 9:30 am – 10:45 am | Osprey Ballroom 1-4

1. Call to Order - *Chair Aaron Thompson, Viracon*
2. Committee Business, continued

Insulating - Jeff Haberer, Trulite

- a. ASTM Update
- b. Condensation- *Kayla Natividad, NSG | Pilkington*
- c. Task Group updates
 - i. Guidelines for Use of Capillary Tubes (with FGIA) – *at ballot*
 - ii. Guidelines for the Appearance of IGU Edges – *at ballot*
 - iii. VIG AIA presentation – initial call to be scheduled
- d. New and Updated Technical Resources
 - i. *New!* [Compatibility Testing of Insulating Glass PIB Primary Sealant with Respect to Glazing Materials](#) (joint with FGIA)
 - ii. *Updated!* [Understanding Reflected Solar Energy of Glazing Systems in Buildings](#)
- e. New Business
 - i. Argon Retention

Tempering - Rick Wright, Oldcastle BuildingEnvelope

- a. ASTM C14 Update; C1048, C1369 – *Rick Wright, Oldcastle BuildingEnvelope*
- b. Task Group Updates

- i. [One Optical Number Does Not Fit All](#) GTP – *Chuck Wencil, Viracon*
- c. Evaluating Post-Finishing for Heat-Treated Glass Edges – *Bill Lingnell*
- d. New and Updated Technical Resources
 - i. *Updated!* [Construction Site Protection and Maintenance of Architectural Glass](#)
 - ii. *Updated!* [Methods of Measuring Optical Distortion in Heat-Treated Flat Architectural Glass](#)
 - iii. *Updated!* [Heat-Treated Glass Surfaces are Different](#)
 - iv. *Updated!* [Heat Soak Testing of Tempered Glass for Architectural Glass Applications](#)
- e. 2024 Systematic Reviews (5-year updates) – *will go to ballot*
 - i. Recommended Applications for Heat-Treated Architectural Glass
 - ii. Mitigating Thermal Stress Breakage in Heat-Treated Spandrel Glass
- f. Other Business

Decorative – Mike Saroka, Goldray Glass

- a. Task Group Updates
 - i. Decorative Glazing Manual
 - ii. Determining an Industry Acceptable Color Variance GTP – task group to review ballot comments
 - iii. Introduction to Digital Print GTP – *Task Group Chair Gin Benner, Agnora*
- b. New and Updated Technical Resources
 - i. *Updated!* [Benefits of Decorative Glass in Daylighting Applications](#)
- c. 2024 Systematic Reviews (5-year updates)- *will go to ballot*
 - i. Assessing the Durability of Decorative Glass
 - ii. Assessment of Decorative Glass Strength Properties
- d. Other Business

Mirror – Dave Evans, Guardian Glass

- a. ASTM C1503 update
- b. Task Group Updates
 - i. Mirror Reference Manual – hold for systematic review of relevant GTPs
- c. New and Updated Technical Resources
 - i. *Updated!* [Understanding Reflective Distortion in Mirror Installations](#)
- d. 2024 Systematic Reviews (5-year updates)
 - i. Proper Procedures for Cleaning Flat Glass Mirrors
 - ii. Proper Procedures for Fabrication of Flat Glass Mirrors
 - iii. Proper Procedures for Receiving, Storage and Transportation of Flat Glass Mirrors
 - iv. LEED White Paper: Mirror
- e. Other Business

Adjourn until Thursday, February 8 at 11:00 am

Thursday, February 8, 2024

Networking Breakfast | 8:30-9:30 am | Indigo Rooftop
Industry Collaboration Update | 9:30-10:30 am | Osprey Ballroom 1-4

Fabricating Committee Meeting | 11:00 am – 12:15 pm | Osprey Ballroom 1-4

1. Call to Order - *Chair Aaron Thompson, Viracon*
2. Committee Business, continued

Recycling/Sustainability –

- a. Task Group Update- *Georgia Scalfano, NGA*
- b. Presentation- Glass for Europe Update – *Bertrand Cazes, Glass for Europe*

Fire-Rated Glazing – Kremena Doytcheva, Vetrotech Saint-Gobain

- a. Update on Building Code Proposals - Thom Zaremba, Roetzel & Andress, NGA Fire and Structural Code Consultant
- b. Task Group Updates
 - i. Wired Glass in Fire-Rated Safety Glazing Applications GTP – task group reviewing
- c. New and Updated Technical Resources
 - i. *New!* [Fire-Rated Glazing 101](#)
- d. Other Business

Laminating – Julia Schimmelpenninck, Eastman

- a. Updated nomenclature for laminated glass
- b. ASTM C1172 Review – Standard Specification for Laminated Architectural Flat Glass
- c. Task Group Updates
 - i. Laminated Glazing Reference Manual update
 - ii. Dynamic Glazing for High Performance Buildings – *at ballot*
- d. New and Updated Technical Resources
 - i. *Updated!* [Suggested Procedures for Dealing with Broken Glass](#)
 - ii. *Updated!* [Glass Use in Guardrails](#)
 - iii. *Updated!* [Emergency Egress through Laminated Glazing Materials](#)
- e. 2024 Systematic Reviews (5-year updates)- *will go to ballot*
 - i. Point Supported Glazing
 - ii. Hurricane Product Substitution
 - iii. Laminated Glass Use in Furniture
 - iv. Tornado Resistant Glazing
 - v. Approximate Weight of Interlayer Used in Laminated Architectural Flat Glass
 - vi. Design Considerations for Use of Sealants/Adhesives with Coated Glass
- f. New Business

3. NGA Fabricating Committee New Business

4. Next Events: [BEC Conference](#) | Mar 3-5, 2024 | Nashville, TN
[Glass Processing Automation Days \(GPAD\)](#) | Mar 5-6, 2024 | Nashville, TN
NGA Glass & Glazing Advocacy Days | May 14-15, 2024 | Washington, D.C.
NGA Glass Conference: Milwaukee | Aug 6–8, 2024 | Milwaukee, WI
GlassBuild America | Sept 30-Oct 2, 2024 | Dallas, TX

5. Adjournment



July 25, 2023 | 9:30 am – 11:45 am

July 26, 2023 | 9:30 am – 11:45 am

July 27, 2023 | 9:30 am – 12:00 pm

1:45 pm – 4:00 pm

Room: Chambers 2-3

Chair: Aaron Thompson, Viracon
athompson@viracon.com

Vice Chair: Bobby Chestnut, McGrory Glass
bchestnut@mcgrory.com

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Agenda Items

1. Call to Order - *Chair Aaron Thompson, Viracon*
 2. Attendee Introductions
 3. Review of [Anti-Trust Statement](#) and [Conflict of Interest](#) Policies
 4. Appointment of Recording Secretary – *Georgia Scalfano/Amber Johnson, NGA*
 5. [Minutes of the Previous Meeting](#)
 - a. Motion to approve: Julie; Seconded by Kayla; approved unanimously
 6. Committee Business – *Aaron Thompson, Viracon*
 - a. Spanish translation of GTPs related to cleaning installed glass
 - i. *Proper Procedures for Cleaning Architectural Glass Products*
 - ii. *Heat-Treated Glass Surfaces are Different*
 - iii. *Construction Site Protection and Maintenance of Architectural Glass*
 1. Postcards also available for How to Clean Architectural Glass and Construction Site Protection
 - b. Ballot Participation
 - i. Vote early, vote on all ballots
 - c. ANSI impactor discussion – *Michelle Phan, Cardinal*
 - i. Develop new or alternative impactor test apparatus to include impactor, frame, sub-frame and related test equipment. Address lead shot concerns and potential improvements/upgrades. Intent is to have new impactor that does not disqualify any existing qualified types
 - ii. Options: 1) modified version of current impactor; 2) modified version of ASTM F3561 impactor; 3) other
 1. Call for feedback, due ASAP
 - d. NGA Initiatives
 - i. Committee structure and resources- *Karen Wegert, NGA*
 - ii. MyGlassFab™- *Jenni Chase, NGA*
 1. New offering that provides consistent, accessible, skills training for glass fabrication production personnel. Educational courses + hands-on activities. Launching this fall at GBA, but opportunity given to those that want to test out the mobile version early and provide feedback
 - iii. Resources for architects- *Sara Neiswanger, NGA*
 1. AIA presentations, on-demand library, glass/glazing academy, blueprint for collaboration. Contact Sara to become a presenter.
- Installing Committee Update – *Matt Kamper, Woodbridge Glass - Chair and Joey Aragon, Aragon Construction, Vice-Chair*
- a. Specifications, updating Masterspec in collaboration with Deltek
 - i. [Security Glazing](#) – *edits complete, call for peer review*
 - ii. [Mirror](#) – *edits complete, call for peer review*
 - iii. [Decorative](#) – *edits complete, call for peer review*
 1. Volunteers: Melissa

- b. [Frameless Shower Enclosures Design and Installation Manual](#) – *Karen Wegert, NGA*
 - i. New resource now available for purchase
- c. Value Engineering task group
 - i. How to overcome challenges in implementing new high-performance glazing products
 - 1. Call for chair - Rob Carlson; TG volunteers: Kayla, Julie, Stanley, Melissa, Jose Rodriguez (TGP), Vaughn
- d. [Thermal Bridging AIA Presentation*](#) – *Stanley Yee, Dow*
 - i. Last met at BEC and will schedule another call soon to continue task group work
- e. [Fabrication, Erection and Glazing Hours Manual](#) update – *call for volunteers*
 - i. Document has been sent out for review. Schedule a task group call to discuss if this resource is still relevant and needed. If so, what needs updated, how to go about it, etc.
- f. BEC Conference Preview – *Sara Neiswanger, NGA*
 - i. March 2024 in Nashville; volunteers for BEC planning group: Stanley
- g. New task group- Delegated Design vs Design Build vs Design Assist
 - i. What does a design build contract entail? Put together a group of all stakeholders. Produce a benchmark paper.
 - 1. Matt Kamper to chair – create PCF; volunteers: Bill Sullivan, Stanley, Melissa, Matt Hines

Energy - Helen Sanders, Technoform

- a. Embodied Carbon in Construction Calculator (EC3 Calculator) – *Georgia Scalfano, NGA*
 - i. Overview of the EC3 Calculator tool by Building Transparency. Demonstration on how to search for products and EPDs. Assembly builders are being tested by working group. Task group is creating a one-pager to cover descriptions of processed glass categories. Contact Georgia to get involved.
- b. Product Category Rules (PCR) and Environmental Product Declarations (EPD) [updates](#) – *Urmilla Sowell, NGA*
 - i. Flat Glass PCR valid through Sept. 30, 2025
 - ii. Flat Glass EPD – NGA Forming Committee published industry average in Dec. 2019, valid through Dec. 20, 2024
 - iii. Processed Glass PCR: download from UL website for free; expires Dec. 6, 2023; comments closed April 2023 – Urmilla is in contact with UL and may need volunteers to participate.
 - iv. Windows PCR: established Sept. 2015; public comment period open now until Aug. 21, 2023
 - v. Volunteers: Melissa
- c. [Daylighting AIA Presentation*](#) - passed ballot
 - i. Passed ballot and will be available soon; contact Sara to be a presenter
- d. Thermal Comfort AIA Presentation – call for volunteers
 - i. New presentation will discuss benefits of thermal comfort
- e. Other Business

Laminating – Julia Schimmelpenninck, Eastman

- a. [Use of Glass in Guardrails](#) (formerly Use of Laminated Glass in Glass Railing Systems) GTP update
 - i. Updates made to include IBC 2021 information; will be published soon
- b. [Laminated Glazing Reference Manual update](#)
 - i. Task group meeting has had 2 meetings and chapters have been assigned for updates.
 - 1. Volunteers: Rick Locke for Dynamic Glass portion
- c. 2023 Systematic Reviews (5-year updates)
 - i. [Heat-Treated Laminated Glass Exposed Edges](#) GTP
 - 1. On hold for ASTM update
 - ii. [Dynamic Glazing for High Performance Buildings](#) – group to meet in August
 - 1. Volunteers: Tom Niziolek, Rob, Aaron, Matt Kamper
 - iii. [Emergency Egress for Laminated Glazing Materials](#) – group to meet in August
 - 1. Volunteers: Rob, Aaron, Matt Kamper, Melissa
- d. Other Business
 - i. ASTM C1172 Review – Standard Specification for Laminated Architectural Flat Glass
 - 1. Next Steps: quality perception of US glass, next meeting 9/6/23

Adjourn until Wednesday, July 26 at 9:30 am

Wednesday, July 26, 2023

Breakfast & Presentation: Industry Collaboration Updates | 8:00-9:00 am | Chambers 1

Fabricating Committee Meeting | 9:30 am – 11:45 am | Chambers 2-3

1. Call to Order - *Chair Aaron Thompson, Viracon*
2. Committee Business, continued
 - Fire-Rated Glazing – Kremena Doytcheva, Vetrotech Saint-Gobain*
 - a. [Fire-Rated Glazing 101](#) GTP, at final ballot – *Diana SanDiego, SAFTI FIRST*
 - i. No disapprovals, will be published in August
 - b. Other Business- NGA Members Only Codes and Standards Help Center wired glass FAQs
 - i. Wired Glass in Fire-Rated and Safety Glazing Applications GTP
 1. Use FAQs as a starting point. Karen to draft PCF for group. Will appoint chair during first TG meeting.
 - a. Volunteers: Diana San Diego, Tim?, Devin, Jim Gulnick, pull task group from FR Glazing 101 GTP.
 - Protective Glazing – Vaughn Schauss, Kuraray*
 - a. Bird-Friendly Glazing
 - i. Presentation: Bird-Friendly Legislation – *Nick Resetar, Roetzel & Andress*
 - ii. [Bird Friendly AIA presentation](#) update* - *Marc Deschamps, Walker Glass*
 1. Group has been meeting since January. Reviewing draft; likely to add project examples/case studies to presentation
 - b. School Security Glazing
 - i. Panel Discussion: School Security Applications: Laminated Glazing and Applied Films – *Darrell Smith, International Window Film Association (IWFA); Thom Zaremba, Roetzel & Andress; Julie Schimmelpenninck, Eastman Chemical Company*
 1. Call for volunteers for one-pager and design guide: Stanley, Matt Kamper, Hugo (Hugo's Glass), Jeff Haberer
 - ii. School Security Code Proposals – *Thom Zaremba, Roetzel & Andress*
 - iii. [School Security AIA presentation](#) update* - *Julie Schimmelpenninck, Eastman Chemical Company*
 - c. [Proper Procedures for Cleaning Architectural Glass Products](#) GTP – add protective glazing, at ballot – *Vaughn Schauss, Kuraray*
 - i. At ballot; confirm the document talks about polycarbonates
 - d. 2023 Systematic Reviews (5-year updates)
 - i. [Performance Criteria for Glazing Subjected to Seismic Events](#) GTP
 1. At peer review to look over standards associated with GTP, will create task group if necessary
 - e. Other Business
 - i. Update school security documents
 1. Volunteers: Julie, Vaughn

Adjourn until Thursday, July 27 at 9:30 am

Thursday, July 27, 2023

Fabricating Committee Meeting | 9:30 am – 12:00 pm | Chambers 2-3

1. Call to Order - *Chair Aaron Thompson, Viracon*
2. Committee Business, continued
 - Insulating - Jeff Haberer, Trulite*
 - a. [Compatibility Testing... Related to the Performance of PIB in IGUs \(with FGIA\)](#) – *Jeff Haberer, Trulite*
 - i. Published; comment on front page photo: doesn't look like all three lites are supported
 - b. [Guidelines for Use of Capillary Tubes... \(with FGIA\)](#) – *Aaron Thompson, Viracon*
 - i. At ballot
 - c. [Guidelines for the Appearance of IGU Edges](#) update – *Aaron Thompson, Viracon*
 - i. At ballot, task group will review comments received
 - d. 2023 Systematic Reviews (5-year updates) – *Jeff Haberer, Trulite*

- i. [Understanding Reflected Solar Energy of Glazing Systems in Buildings](#) GTP_ reviewing ballot comments
 - 1. Comments have been resolved, going to final ballot in August
- e. Next Steps of VIG – *Kayla Natividad, NSG*
 - i. Create AIA presentation to expand on VIG (available performance improvements, touch on acoustic performance, condensation resistance)
 - ii. Kayla to create PCF; Volunteers: Melissa, Marino, Aaron, Shelby Froehling, Charlie Boyer, DJ
- f. [VIG Summit report](#)- *Karen Wegert, NGA*
- g. Presentation: Thin Triples, DOE Initiatives- *Robert Hart, DOE Labs*
 - i. Looking at thin triples as one of many technologies to reach high performance goals
 - ii. From codes perspective, windows are behind (based on code minimums – responsible for nearly 50% of heat lost through building envelope)
 - iii. Pathway to Zero Energy Windows document (DOE)
 - iv. Outside of DOE, advancement of codes is happening – IECC, EnergyStar v.7, etc.
 - v. Structural research – expansion of ASTM E1300 to 0.5mm
 - vi. Stakeholder technical advisory group
 - 1. Roadblocks to utilizing thin-glass in high volume production? (safe handling, compatibility with existing equipment, glass properties, IGU pressure equalization/GBG/size limits, inexperience, safety/bldg. code applicability, material price point)
 - 2. Highest priority research to utilize thin-glass in safety glazing?
 - a. Characteristics with Z97.1 characterize assemblies/IGUs
 - b. Alternatives to heat tempering (laminates, safety films, chemical tempering)
 - 3. Initial ideas
 - a. Task = understand how thin glass performs in standardized safety glazing breakage testing
 - b. Outcome = develop technical data required to support adoption of thin glass technologies
 - c. FY23 = define scope, methodology, and research outputs of most use to industry
 - d. FY24 = measure representative glass and glazing samples per ANSI Z97.1

h. Other Business

Mirror – Dave Evans, Guardian Glass

- a. [Mirror Reference Manual](#)
 - i. Being drafted
- b. Other Business
 - i. ASTM C1503 update
 - 1. Proposed change in “7.1 Test Methods”
 - 2. Timeline of Mirror Standards proposed to add to reference manual
 - ii. NGA Members Only Codes & Standards Help Center – new mirror FAQ section – *Karen Wegert, NGA*

Adjourn for lunch until 1:45 pm

Fabricating Committee Meeting | 1:45 pm – 4:00 pm | Chambers 2-3

- 1. Call to Order - *Chair Aaron Thompson, Viracon*
- 2. Committee Business, continued
 - Tempering - Rick Wright, Oldcastle BuildingEnvelope*
 - a. ASTM C14 Update – *Rick Wright, OldcastleBE*
 - i. Existing Standards: C1048, C1172, C1279, C1349, C1503, C162 (being updated with new/rewording of definitions)
 - ii. New Standards
 - a) Test Method for Bird Tunnel Testing of Transparent Glazing Materials in Perpendicular “Fly-Through” Configuration
 - b) Standard for Center-Punch Fragmentation of Fully Tempered Glass
 - b. [Best Practices for Heat Soaking](#) GTP update - *Karen Wegert, NGA*
 - i. Went to ballot, one disapproval about adding statistics. Task group has decided against adding stats to the GTP so as not to provide misleading numbers. Disapproval is voted non-germane.
 - c. Evaluating Post-Finishing for Heat-Treated Glass Edges – *Bill Lingnell*
 - i. Request for samples

- d. Ceramic Enamel update – *Tim McGee, GCC*
 - i. ASTM E1300 update. Approved revisions will be published by ASTM in second half of 2023.
 - a) Adding statement directing users to consult manufacturers concerning ceramic frits and glass strength. No revisions to the body of E1300 occur that affect current load calculations.
- e. 2023 Systematic Reviews (5-year updates) – *Rick Wright, Oldcastle BuildingEnvelope*
 - i. [The Importance of Fabrication Prior to Heat-Treatment](#) GTP
 - a) On hold for ASTM C1048 update
 - ii. [One Optical Number Does Not Fit All](#) GTP
 - a) Received disapproval at ballot, waiting for feedback/possible solution from commenter
 - iii. [Heat-Treated Glass Surfaces are Different](#) GTP
 - a) At final ballot
- f. Other Business

Decorative – Mike Saroka, Goldray Glass

- a. Decorative Glazing Manual – target publication 2024
 - i. Final sections assigned, document almost complete
- b. [Benefits of Decorative Glass in Daylighting Applications](#) GTP, at ballot
 - i. Ballot comments received, task group to review
- c. [Determining an Industry Acceptable Color Variance](#) GTP, task group to review ballot comments
 - i. Ballot comments received, task group to review
- d. [LEED White Paper – Decorative](#) update
 - i. At peer review; being updated with new LEED standards. Will go back out for ballot once addressed
- e. [Digital Printing GTP](#) update
 - i. New group creating an introduction to digital print. Being drafted.
 - 1. Volunteers: Bobby Chestnut
- f. Other Business
 - i. Daylighting/Biophilia GTP – call for volunteers
 - 1. Need to finish before completing Decorative Glazing Manual
 - a. Volunteers: Jerry Heider, Marc, Mike, Matt Hanna

3. New Business

- a. Quality – North America vs Europe
 - i. What factors contribute to the perception that glass in Europe is “higher quality”?
 - ii. Perhaps because our standards are mainly consensus-based, they allow for more “imperfections” (ASTM, ANSI)
 - 1. However, when a design professional wants the best of the best in a project, they will specify for example ½ or ¼ of an ASTM standard. The design standards are inclusive, but can be specified to tighter tolerances.
 - iii. Importance of educating architects/get involved early so that they are aware of what fabricators can and cannot do
 - iv. Expectations may be skewed – looking for high-end products, but not specifying those tolerances. Can’t just change the minimums to meet high-end expectations

4. Adjournment



FORMING COMMITTEE AGENDA

Feb. 6, 2024 | 4:30 pm – 5:30 pm

Room: Osprey Ballroom 1-4

Chair: Kayla Natividad, Pilkington | NSG

kayla.natividad@nsg.com

Vice Chair: Steve Marino, Vitro

smarino@vitro.com

NGA Antitrust Policy

It is the undeviating policy of the Association to comply strictly with the letter and spirit of all federal, state and applicable international trade regulations and antitrust laws. Any activities of the Association or Association-related actions of its staff, members, officers, directors or chapter officials which violate these regulations and laws are detrimental to the interests of the Association and are unequivocally contrary to Association policy. *Please refer to NGA Bylaws for SECTION 2. IMPLEMENTATION of the antitrust compliance policy of the Association.*

Agenda Items

1. Call to Order – *Chair Kayla Natividad, Pilkington | NSG*
2. Review of Anti-Trust Statement and Conflict of Interest Policies
3. Appointment of Recording Secretary – *Georgia Scalfano & Amber Johnson, NGA*
4. Minutes of the Previous Meeting – July 25, 2023
5. Meeting Business
 - a. State [Buy Clean](#) initiatives- *Georgia Scalfano, NGA*
 - i. Buy Clean map to be distributed to committee members
 - ii. Potential of granting access to the Buy Clean spreadsheet to members only
 - iii. New member benefit could also be offering guidance on language
 - b. Task Group Updates
 - i. Coated Glass AIA presentation – *Steve Marino, Vitro – Task Group Chair* - at final ballot
 - ii. [Anti-Microbial Coatings for Architectural Glass](#) GTP
 - iii. Definitions
 - iv. Physiological Impacts task group update- *Karen Wegert, NGA*
 - c. New and Updated Technical Resources
 - i. *Updated!* [LEED® Recycled Content for Glass](#)
 - ii. *Updated!* [Physical and Mechanical Properties of Typical Soda Lime Float Glass](#)
 - iii. *Updated!* Flat Glass Industry Standards
 - d. 2024 Systematic Reviews (5-year updates)
 - i. Daylighting GTP
 - e. GSA IRA Update – *Tom Culp, Birch Point Consulting, NGA Energy Codes Consultant*
 - f. ASTM C1036 Update – *Urmilla Sowell, NGA*
6. New Business

Next Events:

[BEC Conference](#) | Mar 3-5, 2024 | Nashville, TN
[Glass Processing Automation Days \(GPAD\)](#) | Mar 5-6, 2024 | Nashville, TN
NGA Advocacy Days | May 14-15, 2024 | Washington, DC
[NGA Glass Conference: Milwaukee](#) | Aug 6-8, 2024 | Milwaukee, WI
[GlassBuild America | September 2024](#) | Dallas, TX

7. Adjournment



Chair: Kayla Natividad, Pilkington | NSG

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Agenda Items

1. Call to Order – *Chair Kayla Natividad, Pilkington | NSG*
2. Review of [Anti-Trust Statement](#) and [Conflict of Interest](#) Policies
3. Appointment of Recording Secretary
4. [Minutes of the Previous Meeting](#)
 - a. Motion to approve: Steve Marino, Seconded: Jon Griggs; approved unanimously
5. Old Business
 - a. Flat Glass Global Warming Potential update – *Urmilla Sowell, NGA*
 - i. Buy Clean California Act
 1. NGA resources: GWP one-pager, June 2021 TT presentation, FAQs on website
 2. Addition: float or rolled glass that is clear or tinted either installed or as a part of a window assembly. Interpretation: now every window assembly requires an attached flat glass EPD. (only applies to state of CA's public works buildings)
 - ii. Buy Clean Colorado
 1. New GWP limit for flat glass set Jan. 1 2024
 2. 1510kg CO2 eq, only about 5% above industry average
 - b. [Coated Glass AIA presentation](#)* update – *Steve Marino, Vitro Architectural*
 - i. In progress, aiming to be done by year-end
 - c. 2023 Systematic Reviews (5-year updates) – *Kayla Natividad, Pilkington | NSG*
 - i. [Physical and Mechanical Properties of Typical Soda Lime Float Glass](#) GTP
 1. No changes made, republished
 - ii. [LEED Recycled Content White Paper](#) update
 1. Updated to reference LEED 4.2.1. Going to final ballot in August
6. New Business
 - a. Sustainability and Recycling of Architectural Glass task group update – *Kyle Sword, Pilkington | NSG*
 - i. Main focus is finding tools to give members/architects to increase rates of recycling
 - ii. 2 papers currently available from NGA on recycling – goal to produce 2 new papers: 1) math/science behind why we recycle and 2) resources you should use
 - iii. Incorporate case studies after papers are written
 - b. New GTP [Anti-Microbial Coatings for Architectural Glass](#) – *Karen Wegert, NGA*
 - i. Content came from a Thirsty Thursday presentation. GTP will be sent to Fabricating ballot in August.
7. Presentation- Industry Metrics – *Katy Devlin, NGA*
 - a. 10 metrics you should be watching
8. Adjournment

*NGA is an approved AIA Provider and, thanks to the involvement of its volunteer members, has nine (9) approved presentations as part of its resource library. Members may use these presentations as a resource when reaching out to architects and other interested parties. An individual must simply become an approved presenter of these presentations of their choice and the materials to conduct a presentation from start to finish will be provided to you. Upon completion of a presentation, simply return the sign-in sheet to sara@glass.org. Credit will be recorded with AIA and certificates will be provided, if requested. [Click here](#) to download the AIA speaker agreement.

The following is a list of activities, resources, events and other products and services produced by the National Glass Association and available to our members. Contact NGA at 703.442.4890, ext. 127 or membership@glass.org for more information.

Advocacy & Representation

NGA represents and advocates for the industry’s interests at these bodies, collaborating whenever possible with other trade groups. NGA’s Technical & Advocacy Director is Urmilla Sowell, usowell@glass.org. [LEARN MORE](#)

- ASTM
- ASHRAE
- ANSI Z97
- ICC
- IGCC
- GICC
- NGBS
- NIBS
- NFPA
- NFRC
- SGCC
- ISO

Technical & Business Resources

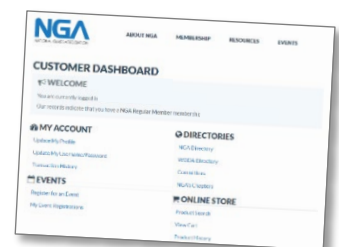
- Over 90 Glass Technical Papers & Glass Information Bulletins – *available at no cost!* [BROWSE TITLES](#)
- Technical manuals written by industry experts – *NGA members save up to 50%* [BROWSE TITLES](#)
 - Frameless Shower Enclosure Design & Installation Manual
 - NGA’s GANA Glazing Manual (IYOG edition)
 - Glossary of Architectural Glass & Glazing
 - Commercial Fenestration Systems Manual
 - Guide to Glass & Glazing Requirements of the Model Building Code, 6th edition
 - Engineering Standards Manual
 - Laminated Glazing Reference Manual
 - Heavy Glass Door Design Guide
 - Project Manager’s Reference Manual
 - Glass and Glazing Estimating Essentials
 - Guide to Architectural Glass
 - Protective Glazing Manual
 - GANA Sealant Manual
 - And more!
- Design Guides fulfill a targeted need for more in-depth guidance and recommendations related to design & installation best practices for the glazing & glass products industry – *NGA members save up to 50%* [BROWSE TITLES](#)
- Thirsty Thursday Webinars each month – *at no cost* [ACCESS THE ARCHIVES](#)
- Test Methods [BROWSE TITLES](#)
 - Standard Test Method for Ball Drop Impact of Laminated Architectural Flat Glass (ASTM F3007 – 2019)
 - Standard Specification for Ball Drop Impact Resistance of Laminated Architectural Flat Glass (ASTM F3006 – 2020)
 - Standard Test Method for Center-Punch Fragmentation of Fully Tempered Flat Glass
 - Standard Test Method for Laminated Glass Edges when in Contact with Sealants and Glazing Tapes
- Business help and industry guides – *NGA members save up to 50%*
 - An Owner’s Guide to Exit Planning & Succession [BROWSE](#)
 - Glass and Metals (Complete Series): A Guide for Architects and Specifiers [BROWSE](#)
 - Guide to Decorative Glass [BROWSE](#)
- Market Intelligence – *Researched by industry experts* [TAKE AN IN-DEPTH LOOK](#)
 - WorldofGlassMap.com
 - Annual ranking reports: Top 50 Glaziers, Top Glass Fabricators, Top Metal Companies

Members-Only Resources **EXCLUSIVE!**

On-demand webinars, the Codes & Standards Help Center, safety bulletins, resources from the American Subcontractors Association (ASA) and more – *Exclusive access through NGA membership* [START HERE](#) [login required]

How to Access the NGA Store via the online NGA Customer Dashboard

- Visit glass.org and click on MY DASHBOARD in the upper right corner.
- You will be prompted to log in with the credentials provided to you by NGA. If you need assistance, contact Josh Lowe at 703/442-4890, ext. 127 OR jlowe@glass.org.
- You can now explore the online NGA Store and more!



NEW! MyGlassFAB – NGA's new online training tool for fabricators

MyGlassFAB offers core training for production personnel to learn about job responsibilities, safety, products, and fabrication techniques. [MORE INFO](#)

MyGlassClass.com – NGA members save 50% on all courses [SEE THE COURSE CATALOG](#)

¡Los cursos ahora están disponibles en español en MyGlassClass.com!

MyGlassClass.com provides world-class training, conveniently available online, to teach learners basic job skills and knowledge that will complement the on-the-job training their employers provide. Learning areas include:

- Intro to Glass and Glazing
- Safety
- Glass & Metal Fabrication
- System Fabrication, Assembly & Installation
- Codes & Estimating
- OSHA

NGA Glazier Apprentice Curriculum

Through MyGlassClass.com, NGA offers Glazier Apprentice Curriculum for organizations and companies that want to establish a glazier apprenticeship program approved by the U.S. Department of Labor (DOL). Students who complete the curriculum will earn a jointly endorsed NGA/NCCER credential indicating a journeyman-level minimum competency. [MORE INFO](#)

Upcoming Educational Conferences & Events – discounted NGA member pricing [VISIT GLASS.ORG FOR UPDATES](#)

Building Envelope Contractors (BEC) Conference
Mar. 3 - 5, 2024 | Omni Nashville Hotel, Nashville

GPAD | Glass Processing Automation Days
Mar. 5 - 6, 2024 | Omni Nashville Hotel, Nashville

NGA's Glass & Glazing Advocacy Days
May 14 - 15, 2024 | Washington, DC

NGA Glass Conference: Milwaukee
Aug. 6 - 8, 2024 | The Trade, Milwaukee

GlassBuild America: The Glass, Window & Door Expo
Sept. 30 - Oct. 2, 2024 | Dallas

NGA Glass Conference: Carlsbad
Feb. 3 - 6, 2025 | The Westin Resort - Carlsbad, CA

Magazines & Newsletters – Keeping members and the industry informed [VISIT GLASS MAGAZINE ONLINE](#); [VISIT WINDOW+DOOR ONLINE](#)

- Glass Magazine, the glass and glazing authority – print, digital, and weekly news
- Window + Door, the information source for the fenestration industry - in print, digital, and weekly news
- NGA member newsletter monthly and NGA member Advocacy & Technical newsletter monthly

Member Recognition – Make an Impact [SEE ALL MEMBER BENEFITS](#)

- Use of NGA member logo for your website, emails, letterhead, etc. as the symbol of your company's commitment to industry best practices, safety and ethics.
- Member decal and certificate to designate your NGA member status.
- Online NGA [member directory](#)

JOIN ONLINE AT
www.glass.org



New locations for GlassBuild America in 2024 and 2025!

September 30 – October 2, 2024 | **Dallas, Texas**

November 4 – 6, 2025 | **Orlando, Florida**

Quick Reference Sheet

Associations and Organizations

- AGMT – Architectural Glass and Metal Technician
- AIA – American Institute of Architects
- ANSI Z97 Committee – American National Standards Institute
- ASCE – American Society of Civil Engineers
- ASHRAE – American Society of Heating, Refrigerating, and Air-Conditioning Engineers
- ASTM International – American Society of Testing and Materials
- BEC Conference – Building Envelope Contractors Conference
- BOMA – Building Owners and Managers Association
- CSI – Construction Specification Institute
- CPSC – Consumer Product Safety Commission
- EWC/ASE – Efficient Windows Collaborative/Alliance to Save Energy
- FGIA – Fenestration & Glazing Industry Alliance
- GANA – Glass Association of North America (*legacyassociation*)
- GICC – Glazing Industry Code Committee (within NGA)
- GISC – Glazing Industry Secretariat Committee (of ANSI Z97)
- GIMAV - Association of Italian manufacturers/suppliers of machinery, equipment and special products for glass processing
- GPAD – Glass Processing and Automation Days
- GSA – General Services Administration
- glasstec
- GPD – Glass Performance Days
- IGCC – Insulating Glass Certification Council
- ICC – International Code Council
- ISO – International Standards Organization
- ITA – Italian Trade Agency
- IWCA – International Window Cleaners Association
- IYOG – International Year of Glass
- NACC - North American Contractor Certification
- NFPA – National Fire Protection Association
- NFRC – National Fenestration Ratings Council
- NGA – National Glass Association
- NIBS – National Institute of Building Sciences
- PGC – Protective Glazing Committee
- SGCC – Safety Glazing Certification Council
- UL – Underwriters Laboratory
- WDMA – Window and Door Manufacturers Association

Other Abbreviations and Jargon

- AT – Advocacy & Technical activities
- FB – Fabricating Committee
- CFSM – Commercial Fenestration Systems Manual
- EC3 – Embodied Carbon Calculator
- EPD – Environmental Product Declarations
- ESM – Engineering Standards Manual
- FM – Forming Committee
- FT – Fully Tempered
- GIB – Glass Informational Bulletin
- GTP – Glass Technical Paper
- HPD – Health Product Declaration
- HT – Heat-Treated
- IGU – Insulating Glass Unit
- LCA – Life Cycle Analysis
- LGRM – Laminated Glazing Reference Manual
- MGC – MyGlassClass.com
- PCF – Project Creation Form
- PCR – Product Category Rules
- RF – Radio Frequency
- SME - Subject Matter Expert
- VIG – Vacuum Insulating Glazing

NGA Committee Meetings

- **Anyone can participate in discussions.**
- NGA voting members can make a motion and vote.
- Each company has one vote; not necessarily the same individual in all situations.

NGA Websites:

- glass.org
- glassmagazine.com
- myglassclass.com
- glassbuild.com
- windowanddoor.com

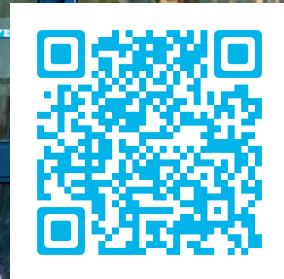
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