



Glass Performance Days 2023
June 13-16, 2023, Tampere Finland

Conference Program Highlights

Workshops June 13-14
Exhibition & Step Change June 14-16
Conference Sessions June 15-16

GPD.FI
#GPD2023

GPD 2023 Accepted workshops so far



- 1. Water-filled glass (WFG) façades: Construction aspects, structural and energy performance**
Matyas Gutai, Water-filled Glass Ltd
- 2. Glass surface temperature vs. interlayer temperatures in glass lamination process,**
Kalle Kaijanen, Glaston Finland Oy
- 3. All-glass structure - cantilevered viewing platform,**
Christoph Bauchinger, se-austria GmbH & Co. KG
- 4. Float Glass processing: Optimizing Cutting and Grinding,**
Michael Emonds, Chemetall & Josep Sais, VITROSEP
- 5. Float Glass processing: storage, transport, washing, corrosion protection**
Michael Emonds, Chemetall/BASF & Reinhold Senft, Grafotec Spray Systems GmbH
- 6. The Holistic Approach to the Recovery of Materials**
Graeme DeBrincat, Arup
- 7. Thermal stress analysis of IGU windows and façade glazing**
Gregor Schwind, Technical University of Darmstadt, Institute of Structural Mechanics and Design, Glass Competence Center
- 8. Sending glazing to North America? A standards overview.**
Urmilla Jokhu-Sowell - NGA, National Glass Association
Julia Schimmelpenninck - Eastman Chemical Company
A. William Lingnell - Lingnell Consulting Services, LLC.
Dr. Stephen Morse - Texas Tech University
- 9. Reduction of grinding process cost under consideration of perfect edge quality and highest process stability**
Robert Kraus, Glaston Corporation

Laminated Glass	Research and Development	Research and Development	Structural Glass Applications
Review of Security Glazing Standards and Testing Vaughn Schauss, Kuraray	Towards practically stronger glass - recent advances and outlook Stefan Karlsson, RISE Research Institutes of Sweden	Appearance, properties and prevalence of small glass inclusions Timon Peters, Technische Universität Darmstadt,	Pattern profile induced stress concentration in patterned glass Marco Zaccaria, AGC Glass Europe
Contribution of the interlayer films to the safety properties of the laminated safety glass at different temperature conditions Steffen Bornemann, Foliwerk Wolfen GmbH	Pre-stressing Glass by Elastic Deformation: A New Twist on Reducing Deflection Austin Bensed, Enclos,	Numerical simulation of impact on glass panes and the fracture energy equilibrium Stefan Reich, Anhalt University of Applied Sciences, Dessau, Germany	Finite element analysis of a glass structure in a superyacht superstructure Danie Wium, Ghent University
Play Safe With Stiff Interlayers Louis Moreau, MOGLEX Corp	Investigation of the joining area of additive manufactured glass structures on float glass Philipp Amir Chhadeh, Technical University Darmstadt,	Thermal loads on Vacuum Insulated Glazing (VIG)-Hybrids - Experimental and numerical Investigation Franz Paschke, TU Darmstadt-	Wide span glass roofs: Design - Structural analysis - Errors Barbara Dr. Siebert, Dr. Siebert and Partner Consulting Engineers PartGmbH
Quantification of the linear viscoelastic behavior of multi-layer interlayers Miriam Schuster, TU Darmstadt	Effects of wind loads on the mechanical performance of vacuum glazing and its influence on the VIG design parameters Isabell Schulz, TU Darmstadt	Innovative FEM for the thermal analysis of architectural glazing exposed to solar radiation. Proposal for a simplified engineering approach Gianni Royer-Carfagni, University of Parma	Laminated Glass vs. Laminated Safety Glass - influence of coatings, PV or fire resistance Geralt Siebert, University of the Bundeswehr
Natural weathering study of the resistance of various glass types against UV-induced color fading Stefan Reich, Anhalt University of Applied Sciences	Evaluation of the suitability of UV-curing acrylate adhesives in structural glass applications by DMTA Dominik Offereins, University of the Bundeswehr	Energy Embodiment and Carbon Footprint of the process of thermally toughening glass Cenk Kocer, University of Sydney	Structural Performance of Glass to Iron-based Shape Memory Alloy Adhesive Shear Joints Considering the Effect of Temperature Zhikang Deng, ETH Zurich,
Glass Timber Panel - A new hygiene material for health care and hospitality Sagar Vanapalli, Anhalt University of Applied Sciences, Dessau, Germany	A guide to assessing the fire resistance of load-bearing laminated safety glass Maximilian Möckel, TU Dresden, Institute of Building Construction	Analytical solution and exact effective thickness for multi-layered laminated glass beams of arbitrary composition. Application to cantilevered balustrades Gianni Royer-Carfagni, University of Parma	Potential of thin glass-polycarbonate composite panels Sebastián Andrés López, Universität Siegen, Siegen, Germany
Determination of relationship between chemical properties of different interlayers and mechanical resistance in laminated glass structures exposed to different loads Milica Baric, Universität Bundeswehr	Numerical Modelling of UV-curing acrylate adhesives Alexander Pauli, University of the Bundeswehr	Numerical heat transfer model for predicting temperature gradients and fracture in glass panes Evelien Symoens, Ghent University,	Safety concept for the assessment of different failure scenarios on load-bearing glass structures Nathalie Nießer, Universität der Bundeswehr,
Predicting interlayer and glass temperatures in automated glass lamination process Mikko Rantala, Glaston	Glass Bottle Columns - Experiments and Design Concepts for Reuse Hoessein Alkisaie, Christian Louter, Delft University of Technology	Adaptive Passive Cooling Cellulose-based Films for Smart Windows Aayush Jaiswal, VTT Technical Research Centre of Finland	The BAM approach for the calculation of double and triple Insulating Glass Units Laura Galuppi, University of Parma
Large area atmospheric plasma surface processing of PVB and Ionoplast interlayers for performance improvement of laminated glass Richard Krumpolec, Masaryk University, Brno, Czech Republic	Assessment of different concepts for pre-stressing glass beams with iron-based shape memory alloy elements Vlad-Alexandru Silvestru, Institute of Structural Engineering, ETH Zurich	Effective Thickness - Informed Use in Laminated Glass Analysis Adam Nizich, Eckersley O'Callaghan, New York, USA	A Proposed Method for Predicting the Load Resistance of a Particular Type of Ceramic Enamel Glass Michael Brackin, Beason Brackin & Associates,
Fractional viscoelastic modeling of polymeric interlayers in laminated glass. Comparisons with Prony series approach Lorenzo Santi, University of Parma, Parma, Italy	Characterization of polymeric interlayer materials in the laminated state using fibre optic sensors Christian Hammer, Thorsten Weimar, Universität Siegen		Experimental investigation of bolted glass connections subjected to in-plane compressive load Mirko Pejatovic, University of Ghent
	The reuse of post-consumer flat glass: a study of its environmental benefits, quality and mechanical properties Angelica Rota, Politecnico of Bari, Bari, Italy in partnership with AGC Glass Europe, Charleroi, Belgium		

Facade Engineering	Facade Engineering	Architectural Challenges & Solutions	Tempering / Pre-processing
Glass Façade of L'Oréal Headquarters Arnau Bover, Bellapart, Les Preses	Glass fins: Benefits of Three-Sided Adhesion Valerie Hayez, DOW	Dome-shaped gridshell over monumental courtyard Iris Rombouts, Koos Fritzsche, Octatube, Delft	Lasers vs. lasers: a comprehensive review over various laser-based glass processing technologies and their applications Erik Raita, Hypermemo Oy,
Tiffany and Puma flagship stores. Design, logistics and installation of oversized pre-fabricated glazed facade elements in central Manhattan Andreas Hafner, seele GmbH,	SOUND LAB AI Tool - Machine learning for sound insulation value predictions Ingo Stelzer, Michael Kraus, Kuraray Europe GmbH	Combining bird protection with functional glass coatings in laminated safety glass Wim Stevels, Alex Caestecker, Eastman	Automated white haze detection in the tempering process Riku Färm, Peter Pfannenstill, Glaston + Soft Solution
Grand Hall, Montreal. Design, engineering and installation of an all glass roof structure Peter Eckardt, seele GmbH,	New Glass Screen System with slender tempered glass stiffeners Shoji Maebashi, Total Co., Ltd, Chino, Japan	Benefits of using borosilicate glass in architectural applications Juliane Brandt-Slowik, Helmut Kugelman, Schott AG	Breakage probability of nickel sulphide inclusions in heat strengthened glass Francis Serruys, Saint-Gobai
Advanced engineering methods unlock higher permitted stresses for structural glazing designs Valerie Hayez, DOW	Resource-optimised pavilion glazing through the interplay of structure and façade Jona Vetterli, Dr. Luechinger+Meyer Bauingenieure AG, Zürich	Bringing an Icon Into the Future: Willis Tower Stephen Katz, Gensler,	Probabilistic assessment of tempered glass failure based on high fidelity process and in-service modelling techniques Asier Iglesias, Mondragon Unibertsitatea,
Non-linear Integrated Design and Analysis for Complex Glass Façade Structures in Hong Kong Huang Huiyi, Dominic Yu, Alpha Consulting	Double Skin Structural Glass Miguel Ángel Núñez Díaz, ENAR	The history of development of the glass pane size of historical glass and glass structures from 1880 to 1970 Franziska Rehde, Technische Universität Dresden	Investigation of cooling systems in a glass grinding process Adrian Lareida, IWF ETH, Zürich
'Reimagine' thrill with structural glass: Levitation Timo Bühlmeier, Josef Gartner GmbH,	Subjective assessment of façade defects: critical review of current methods and opportunities Alessandra Luna Navarro, TU Delft	High Transparency RETRO-fitted - New Lobby Glass Enclosures beyond the Cutting Edge Dirk Schulte, Roschmann Group,	Partial processing and method imports from other industries Jukka Vuoristo, Volframi Oy Ltd
USE OF CAST GLASS IN BUILDINGS Gennady Vasilchenko-Malishev, Bath, Bath, United Kingdom		Glass in buildings - Renovation, Rehabilitation or Restoration? Peter Lenk, Arup, London	How to change the tempering process control from settings to specifications Antti Aronen, Glaston
New model for performance of silicone bonded facades during seismic events Valerie Hayez, DOW		Playground at height - designing and building the Skyslide in Dubai Agnes Koltay, Koltay Facades,	Precision laser cutting of glass - Elimination of water, slurry, time, energy, with higher utilization of glass material
NEERO-Façade - A new concept of façade design with lightweight thin glass-plastic-composite panels Julian Hänig, TU Dresden,		Broken glass ceiling around Fearless Girl Sophie Penner, Enclos,	Investigation of Breaking Stresses on Cut-Edge Quality Adrian Lareida, IWF ETH, Zürich
N-AM Design to Manufacture of Complex Building Envelopes Single-layer Envelopes, Standard Profile Systems, and 3D-printed Metal Nodes Alamir Mohsen, Lithium Designers GmbH		Patterned Architectural Coatings for Large Area Glass Façades and Potential Applications Marcus Frank, Bühler Leybold Optics GmbH, Alzenau, Germany	
An inconvenient analysis: SG Unitised Systems behaviour Vladimir Marinov, Define Engineers Ltd,		25m x 2.55m Cantilevered structural glass canopy Mateo Marcos, ENAR Architectural Envelopes SLP	

Glass and sustainability in buildings	Glass and sustainability in buildings	Coatings Technology and Applications	Product & Process Case Studies
Transparent Solar Facades for Building Energy Generation and Smart Features Miles Barr, Ubiquitous Energy,	SunSmart - Thermochromic Smart Window for Optimized Solar Heat Management: From Lab to Pilot-Scale Production and Test Buildings Daniel Mann, TNO, Eindhoven	Selective alloying of thin silver films: a strategy for next generation energy-saving windows Kostas Sarakinos, MIMSI Materials AB	Edge strength of annealed float glass: Identification and optimisation of cutting process parameters Matthias Seel, Institute of Structural Mechanics and Design Glass Competence Center
Closing the loop on glass recycling Graham Coult, Eckersley O'Callaghan,	Water-filled glass (WFG) as a Heat Displacement System for saving energy in buildings Matyas Gutai, Fazel Ganji Kheybari, Water-filled Glass Ltd	Quality Control for Conductive Coatings in Architecture, Automotive, Smart and Solar Glass Applications Across the Value Chain Marcus Klein, SURAGUS	Heat Soaked Glass - Requirements, Implications, and Case Studies in the US Vicente Montes-Amoros, Curtain Wall Design & Consulting, Inc.
Human Centric Design - The Need to Re-Evaluate Modern Solar Control and Low-E Coated Glass Benjamin Beer, Werner Sobek,	From WASTE via RECYCLE to REUSE: First valid steps on the pathway to better re-utilization of glass elements Markus Schoisswohl, Hegla New Technology GmbH & Co KG	Multilayer Optical Films for Glazing Applications Raghu Padiyath, 3M Company, Maplewood,	Investigations on defective glass components to identify critical manufacturing conditions Martin Krappitz, Fraunhofer Institute for Mechanics of Materials IWM,
High-transparency clear window-integrated PV and agrivoltaics Victor Rosenberg, John Downes, Jamie Lyford, Clearvue Technologies, Perth	Developing a more sustainable glass recycling system Steve Whettingsteel, Krysteline Technologies Ltd,	What are Protective Coatings for glass and what role do they play? Adrian Ray, National Glass Association	Laser cutting technology for automotive and architectural glass products Anton Krumm, Corning Laser Technologies GmbH
STRATO@: structural and carbon-free interlayers shake up the safety-glass industry Marco Bresciani, Satinal s.p.a.	In situ detection of product age and argon concentration as measure of the re-use potential of insulation glass in buildings Elke Van Nieuwenhuijzen, Amsterdam University of Applied Sciences	Roll-to-roll deposition of thermochromic coatings on flexible glass Matthias Fahland, Fraunhofer FEP,	Fast and effective large-area cleaning and activation of float glass with improved micro-uniformity by atmospheric plasma surface processing Richard Krumpolec, Masaryk University, Brno, Czech Republic
Glass Marking - Material Passport with Quality Control functionality Graham Coult, Eckersley O'Callaghan	Sustainable growth by optimized production organization Klaus Mühlhans, A+W Software GmbH	Transparent sunlight-activated antifogging metamaterials Iwan Hächler, ETH, Zürich, Switzerland	Increased production yields during glass cutting and in downstream processes by selecting cutting wheels with proper surface finish and microstructure Thorsten Böllinghaus, Bohle AG,
ColorQuant - customized, bright colored solar modules with 95% efficiency enabling a colorful, sustainable future Sebastian Barth, Holger Geisler, Merck KGaA,	The holistic approach to the recovery of glazing materials Graeme DeBrincat, Florence Wu, Ove Arup & Partners Limited		
Silicones - an important enabler of sustainable design Valerie Hayez, DOW	Façade futures: Unplanned obsolescence and the looming threat posed by the facade to future building performance Stephen Selkowitz, Lawrence Berkeley National Laboratory		
Sustainable products in float glass (with special focus on ECHA microplastics guideline - Annex XV) Michael Emonds, BASF/Chemetal,	Dynamic Glass - What is needed? Romaric Massard, eLstar-Dynamics, Eindhoven, Netherlands		
How a holistic approach enables the production of Low-Carbon float glass, with an embodied CO2 footprint reduced by 40%? Hugues Lefevre, AGC Glass Europe,			
The Performance of Glass as Cladding Material in Long-Span Biome Structures Eoin Casserly, VOLUTA, Sligo,			

Business case studies	Automotive and Display Units	IGU & Window Technology	Industry Trends
<p>Temper Scanner 5D: the new complete metrology scanner after furnace exit and its capabilities for furnace optimization and quality control Rainer Feuster, Viprotron GmbH,</p>	<p>Main benefits from convection preheating in Automotive WS/ SR production Antti Aronen, Glaston Finland</p>	<p>Thermoplastic spacer (TPS®) - process requirements for optimal application Uwe Risle, Gennadi Schadrin, Glaston Germany, Neuhausen, Germany</p>	<p>Safe Façade Design and Construction in Hong Kong - Statutory Requirement & Implementation Dominic Yu, Alpha Consulting Limited,</p>
<p>Insights to emissivity changes during tempering processes and its potential for utilization Marcus Klein, SURAGUS</p>	<p>Benefits of low weight and durable borosilicate glasses in transportation Hubert Wieseke, SCHOTT Technical Glass Solutions GmbH</p>	<p>Improving Sustainable Performance in Architectural Glass Design using Intelligent Sealants and Adhesives Christian Scherer, H.B. Fuller Kömmerling</p>	<p>Flat glass recycling in Europe and the US: state of play and challenges for enhanced circularity Bertrand Cazes, Urmilla Jokhu Sowell, Glass for Europe + NGA</p>
<p>Correct temperature measurement during tempering process of different types of coated glass Ingo Stahlkopf, Optris GmbH,</p>	<p>Processing strategies for future automotive glazing and displays Matthias Loppacher, Glaston, Bützberg,</p>	<p>An enhanced model of thermo-mechanical loading on a Vacuum Insulated Glazing Antti Aronen, Glaston Finland Oy, University of Sydney</p>	<p>New carbon pricing system and new carbon border tax at EU level: what impacts for the glass and glazing sector Iva Ganev, Glass for Europe,</p>
<p>Retrofitting of additional functions in the building cover through the use of mobile laser technology Thomas Rainer, HEGLA boraident GmbH & Co. KG</p>	<p>Application of ultrathin glass in cars - A feasibility study Dr. Wilma Dewald, Volkswagen AG,</p>	<p>The Extent of Condensation: How much does Condensation Resistance (CR) Rating actually tell us? Helen Sanders, Alexandra Blakeslee, Technoform North America, Twinsburg, USA</p>	<p>North American Glass and Glazing Market Trends Urmilla Sowell, NGA</p>
<p>Optical Distortion in tempered glass - a claim or a feature and how to visualize it Michael Elstner, AGC Glass Europe, Eclat Digital,</p>			<p>Complex Geometry</p>
<p>Mobile digitizing at ease Klaus Mühlhans, Kai Vogel, A+W and Viprotron</p>			<p>Optimizing methodologies for cold bending of glass Valerie hayez, DOW</p>
<p>OPC 40301: Standardization of machine interfaces for flat glass processing Markus Schoisswohl, Klaus Mühlhans, HEGLA New Technology GmbH & Co + A+W</p>			<p>Curved Glass: Modernizing Form and Function in Convex and Concave Applications Javier Sanchez-Gil, Cristacurva, Houston, USA</p>
<p>Sustainable and digital - on the way to a circular economy for glass and facades - creating a REAL digital twin Andreas Bittis, Saint-Gobain Glass</p>			<p>Cold bend thin glass - Analytical approach for parametric determination of bending stresses in coldbending processes of thin glass Daniel Pfarr, TU Dresden,</p>
<p>Making glass flatness a standard Juan Pablo Martinez, Tecno-glass,</p>			<p>Lusail Plaza Towers: Achieving the World's Largest Cold Bent Façade with Computation and 3-Dimensional Framing Keyan Rahimzadeh, Front, Inc., London</p>
			<p>Methodology of multicriterial optimization of different models of geometrically complex glass facade Tatjana Kosić, University of Belgrade</p>

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