



Oldcastle BuildingEnvelope™

Engineering your creativity™

architectural
glass



“Only SunGlass® gave me the look we wanted with the performance we needed.”

—Wayne Dunkelberger, AIA, Baker Barrios



“ Oldcastle BuildingEnvelope™ SunGlass® was the perfect fit for what has been called ‘The Greenest Building in Downtown Orlando.’ We are proud of how our LEED® design contributes to the Orlando landscape. ”

—Wayne Dunkelberger
Baker Barrios Architects

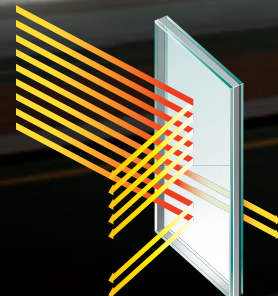
CHALLENGE

Consistent with the commitment of the Orlando Utilities Commission to be environmentally responsible, the vision for this 9-story facility was to meet the Gold-level requirements for LEED® certification, using 28% less energy and 40% less water than a traditional structure.

SOLUTION

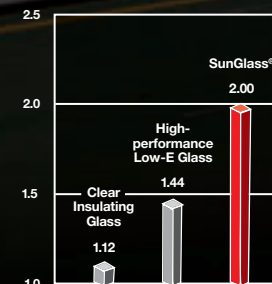
Solar heat gain was minimized with Oldcastle BuildingEnvelope™ SunGlass®, which reduces interior heat gain yet has high visible light transmittance and decreases the need for light fixtures around the perimeter offices. This architectural glass also reinforced the layered concept of the facades.

ORLANDO UTILITIES COMMISSION
ORLANDO, FL



SUNGLASS®

SunGlass® was the perfect fit for the Orlando Utilities project as it provides architects with a fresh, neutral color, non-reflective glass product that delivers unmatched form and function for today’s most challenging designs.



ENERGY SAVINGS

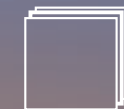
The Light to Solar Gain (LSG) value of SunGlass® far outperforms high-performance solar control Low-E glass. The higher the LSG value, the better the glass performs at transmitting daylight and reducing heat gain from the sun.

why specify us?

1

LIMITLESS PRODUCT RANGE

We offer the most comprehensive collection of architectural glass in North America. And all of our architectural glass seamlessly integrates with our curtain wall, windows and entrance doors.



ENERGY EFFICIENT

Exclusives such as SunGlass® can dramatically reduce energy costs and HVAC equipment expense.



DECORATIVE

i-Glass™ decorative glass allows designers to create truly one-of-a-kind looks.



STRUCTURAL

Our exclusives include Stackwall®, Finwall™ and Vision Vue® structural glass systems.



LAMINATED SAFETY

We offer glazing products for blast, forced-entry, bullet, hurricane, even seismic-resistant applications.

2



ORDER TRACKING

e-Track™, our online order tracking system, puts you in control of where and when your glass will arrive at their destination.

3



TESTING

Oldcastle BuildingEnvelope™ continually invests in technologies that make your job easier and buildings better.

From shower doors, to storefronts, to skyscrapers and everything in between.



Track Your Order Online Anytime

Oldcastle BuildingEnvelope™ is committed to investing in technologies that make your job and doing business with us easier. e-Track™ is our exclusive online tracking software that allows you to know exactly where your glass is, from the moment you place the order.

We Are Wherever You or Your Projects Are

We have the largest national footprint of any glass company in North America. The benefit? We can supply what you need where and when you need it.



Whether you need one piece of replacement glass in 24 hours or 100,000 square feet of solar control glass for a monumental project, only Oldcastle BuildingEnvelope™ is uniquely structured to handle both seamlessly. Our strategically located plants allow us to satisfy not only your everyday architectural glass needs, but places us in the unique position to also successfully service large monumental projects throughout North America. And our dozens of local manufacturing plants handle smaller scale projects on a daily basis. The benefit? You will never hear from us that your project is caught behind someone's skyscraper. We have some of the best engineering minds in the industry for you to rely on, as well as experienced and knowledgeable local representation to help you with your daily



RBC Centre, Toronto, ON
Architect: Kohn Pedersen Fox Associates, PC and Bregman Hamann Architectural Glass by Oldcastle BuildingEnvelope™



The Best Online Resource in the Industry

The industry's best online resource according to *Glass Magazine*, our website is packed with all of the information you need to select, track, specify, even calculate LEED® points for our products.



needs. Add to that, a client list on monumental glass projects that reads like a who's who in architecture. From Vinoly, Foster, Kohn Pedersen Fox to Skidmore Owings and Merrill, HOK and many others, our glass graces some of the most highly regarded architecture. What's more, we offer the most comprehensive collection of glazing products available anywhere. From high-performance products such as our exclusive ArmorProtect® series of security glazing and StormGlass® hurricane-resistant glazing to highly visual design products such as Stackwall®, the industry standard for structural glass wall systems and new i-Glass™ decorative glass for one-of-a-kind custom effects. So whether your next project is one story or 100, we have the glass products you want, when and where you need them.

Hundreds of the Best Project and Technical Assistance Personnel

From your local sales and support people to some of the most experienced engineers and project managers—the industry's best people are here to help you.



Innovations in Glass

chances are we are at the forefront. With innovations such as SunGlass® offering unprecedented solar performance and our new i-Glass™ decorative glass where you can imprint any image you can imagine on glass for a truly unique look.

Peace-of-Mind Dealing With Global Powerhouse

We are a part of one of the world's top five international building products companies, and we are the largest in North America. So you can be sure we'll be around if and when you have a problem.



Omni Hotel
Fort Worth

Location: Fort Worth, TX
 Architect: HOK
 Product: Insulating Glass: PPG Vistacool Azuria™ Reflective #2 over PPG Solarban® z50 Low-E #3, PPG Solarban® z50 Low-E #2 over PPG Azuria™ high-performance Tint, PPG Solarban® 70 XL Low-E #2 over Clear, PPG Vistacool Azuria™ Reflective #2 over Silk-screened Glass



project showcase



Government | Federal Reserve Bank

PROJECT OVERVIEW: This 600,000 square foot complex features a 14-story limestone-clad tower with a 2-story conference and visitor center that satisfies the need for functionality and security as a shining fortress on a hill. Located in the center of the city, employees and visitors are inspired by sweeping views of city landmarks through laminated glass by Oldcastle BuildingEnvelope™

PROJECT DETAILS

Location: Kansas City, MO
 Architect: Pei Cobb Freed & Partners
 Product: Insulating Laminated: Guardian SunGuard SuperNeutral™ 68 on Clear Low-E #2 over Clear Laminated Glass



Schools | University of Texas Southwestern Medical Center

PROJECT OVERVIEW: This 8-story Ambulatory Surgical Outpatient Building provides 209,000 square feet of space for health care services to help meet the needs of the City of Dallas and its citizens. Oldcastle BuildingEnvelope™ insulating glass units are integral to the construction of this facility. Many different types of glass are featured in this center, including a custom silk-screened pattern on insulating Low-E glass.

PROJECT DETAILS

Location: Dallas, TX
 Architect: FKP Architects
 Product: Insulating Glass: Versalux™ Blue over PPG Solarban® 60 on Clear Low-E #3, PPG Solarban® 60 on Clear Low-E #2 over Clear, Custom Color and Pattern Silk-screened #2 over PPG Solarban® 60 on Clear Low-E #3

project showcase



Offices | Lear Headquarters

PROJECT OVERVIEW: Located on a 24-acre former brownfield site, this 3-story administration building is part of the corporate headquarters and technology center for a leading global automotive supplier. Its cantilevering structure and translucent glass curtain wall are major features of this 105,000 square foot building. Two-sided silicone structural glazing is used throughout this office building, conveying a transparent and productive corporate setting.

PROJECT DETAILS

Location: Southfield, MI
Architect: Albert Kahn Associates, Inc.
Product: Insulating Glass: PPG Solarban® 60 on Clear Low-E #2 over Clear, PPG Solarban® 60 on Clear Low-E #2 over White Laminated, PPG Solarban® 60 on Clear Low-E #2 over Custom Gradient Silk-screened, PPG Solarban® 60 on Clear Low-E #2 over Spandrel



Commercial | Chelsea Arts Towers

PROJECT OVERVIEW: Located at West 25th Street in Manhattan, this 20-story condominium commercial gallery building showcases the extraordinary versatility of concrete and glass. With high ceilings and flexible open spaces, the units in this 110,000 square foot building offer panoramic views to the south and west. Architectural glass by Oldcastle BuildingEnvelope™ served a critical role in achieving this engineering masterpiece.

PROJECT DETAILS

Location: New York, NY
Architect: Kossar & Garry Architects
Product: Insulating Glass: Pilkington Clear Eclipse Advantage™ Radiant Low-E #2 over PPG Solarban® 60 on Clear Low-E #3

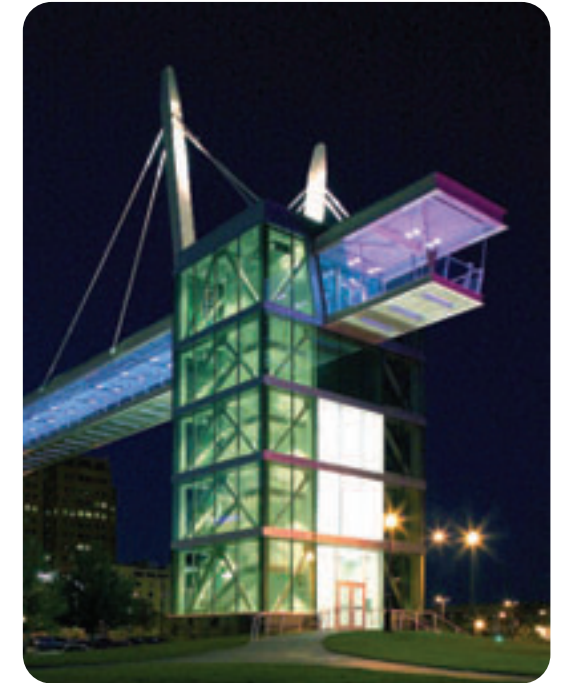


Hotels | Turquoise Place

PROJECT OVERVIEW: Achieving the distinction of being Alabama's tallest residential building, Turquoise Place offers 400 luxury condominiums housed within two towers that rise up 370 feet. This beachfront vacation resort was designed for residents to enjoy magnificent views of the white sandy beaches and turquoise blue waters of the Gulf of Mexico. The resort is encased in a unique and appropriate shimmering turquoise glass facade by Oldcastle BuildingEnvelope™.

PROJECT DETAILS

Location: Orange Beach, AL
Architect: Forrest Daniell & Associates
Product: Insulating Glass: Versalux™ Green 2000T over Clear



Civic | Rhythm City Skybridge

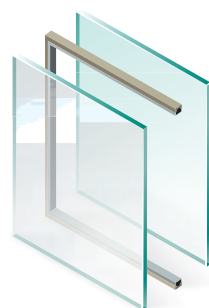
PROJECT OVERVIEW: A marvel of glass and steel, this skybridge required glass that was thermally efficient, translucent and safe. Composed of glass inset panels, the floor supports heavy foot traffic while providing a soft translucent glow to the streets below. Montage® by Oldcastle BuildingEnvelope™ has proven to be both strong and aesthetically appealing for this important landmark.

PROJECT DETAILS

Location: Davenport, IA
Architect: Holabird & Root and Neumann Monson, P.C.
Product: Insulating Glass: Pilkington EverGreen™ over Clear; Laminated: Multiply Laminated Glass with Non-skid Ceramic Frit #1 and Satin Etch Ceramic Frit #5

□ architectural glass

□ Energy Efficient



SunGlass®

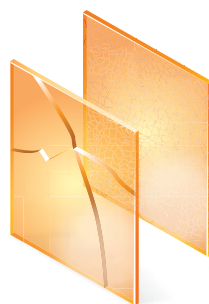
High-performance Solar Control Low-E Glass allows 50% visible light transmission while providing a low 0.25 Solar Heat Gain Coefficient.

Light to Solar Gain (LSG)

Glass Type	LSG Value
Clear Insulating Glass Unit	1.13
High-Performance Low-E Glass	1.44
SunGlass®	2.00

The Light to Solar Gain (LSG) value of SunGlass® outperforms typical high-performance solar control Low-E glasses. The higher the LSG value, the better the glass performs at transmitting daylight and reducing heat gain from the sun.

Heat-strengthened & Tempered



For more resistance to impact, wind loads and thermal stress breakage, annealed glass is heated and rapidly air-cooled.

Heat-treated Product Chart

Products	Strength vs. Annealed	Specifications / Standards	Products Attributes
Heat-strengthened	2x	ASTM C1048	Increased resistance to thermal and wind loads
Fully Tempered	4x	ASTM C1048, CPSC 16 CFR-1201, ANSI Z97.1 CAN/CGSB-12.1	Breaks into small particles, meeting safety glazing requirements

Decorative Glass



i-Glass™

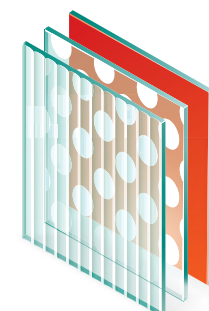
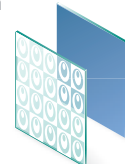
Complex and multi-color digital images printed on heat-treated glass for monolithic, laminated and insulating glass applications.

Specifications

Applications:	Interior, Exterior Glass
Minimum Size:	12" x 12"
Maximum Size:	96" x 144"
Glass Thickness Range:	1/8" - 1/2"
Print Resolution:	360 dpi
File Formats:	PDF, PS, AI, EPS, TIFF, BMP and JPEG

Silk-Screened & Spandrel

Also available, please visit oldcastlebe.com for more information.



Montage®

Architects and designers are able to create unique custom effects by combining a variety of standard designs and technologies.

Features + Options

- Allows for combining textured patterned glass, custom-colored coatings & designer silk-screened patterns, even unique rice paper designs
- Custom-colored Coatings: Choose from 12 designer colors or create a custom color
- Silk-screened: 12 Standard silk-screened designs are available
- Rice Paper: Six designer rice paper patterns are available
- Textured Patterned Glass: A choice of standard designer textures are available

Structural Glass



Stackwall®

This exclusive structural wall system with glass panels includes the facade and vertical glass mullions to resist horizontal forces.

Capabilities

For a floor-loaded system up to 40' height or a suspended-fin system up to 60' plus seismic loading, glass plates are joined to the fins with metal patch or "spider" fittings, and structural silicone. Metal framing (revealed or recessed) is used at the perimeter only.

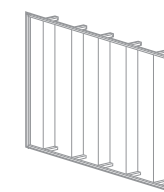


Stackwall® uses structural glass mullions (fins) to provide unobstructed views. Various insulating glass make-ups can be used to maximize performance.



Finwall®

For openings <16' high, exterior flush glass glazed wall uses interior glass fins (not metal); monolithic or insulating glass facade.



Typical



Segmented



Point-Support

For a more transparent look without metal mullions, these systems allow for bolted fittings of glass; popular in vertical walls & canopy applications.

Capabilities

Oldcastle BuildingEnvelope™ will supply point-supported glass for vertical, horizontal and sloped glazing applications as part of a system that includes hardware and engineering, confirming that the glass is proper and adequate for the conditions that exist. The fittings can be

designed to mount to a steel substructure generally supplied by others or can be supplied with cable or rod truss supports. Point-supported systems can also be designed to work with the Stackwall® glass fin system.

Bent Tempered



Bentemp®

This tempered or heat-strengthened glass that is bent during the heat-treating process to a specified radius allows for creative design.

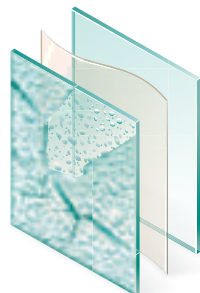
Characteristics

Bentemp® is offered in a large variety of glass products, including clear, low iron, Low-E, standard or high-performance (spectrally selective) tints and reflectives. Although Bentemp® glass is usually specified as fully-tempered, Bentemp® can also be heat-strengthened.

Size Requirements

Glass Thickness	Min. Inside Radius
1/4" (6mm)	25" (635mm)
5/16" (8mm)	30" (762mm)
3/8" (10mm)	30" (762mm)
1/2" (12mm)	35" (889mm)
5/8" (15mm)	100" (2550mm)
3/4" (19mm)	106" (2700mm)

Hurricane-Resistant



StormGlass™

This hurricane impact-resistant glazing meets the most stringent codes, protecting against wind-borne debris & cyclic wind pressure.

Product Configuration

Outboard Lite	Interlayer	Inboard Lite"	Min. Thickness	Average Thickness	Max. Thickness	Weight lbs/ft ²
1/8"	0.075"	1/8"	.31"	.33"	.35"	3.7
3/16"	0.075"	3/16"	.44"	.46"	.48"	5.4
1/4"	0.075"	1/4"	.51"	.54"	.57"	6.5

Sound-Resistant

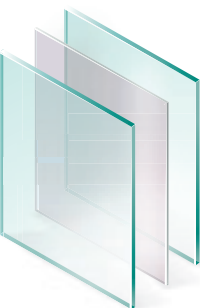


Sound-Resistant

Sound-dampening interlayers reduce noise levels by up to 50%. Ideal for airport applications or any building in cities or near highways.

Glass Type	Outboard Lite	Air Space	Inboard Lite		STC	OITC	Sound Transmission Loss @ 1250Hz	
	Glass		Glass	PVB Glass				
Monolithic IG	1/4"	1/2"	1/4"	—	33	26	43	
Monolithic Laminated	—	—	1/4"	0.060	1/4"	37	34	35
Laminated IG	1/4"	1/2"	1/4"	0.060	1/4"	41	43	44
Acoustic Interlayer	1/4"	1/2"	1/4"	0.060	1/4"	41	43	49

Specialty

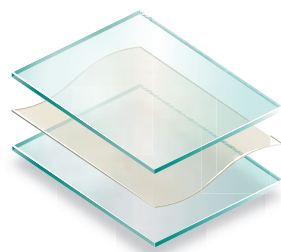


ionoplast

This very rigid, high clarity interlayer allows greater spans and/or lower deflections; highly resistant to moisture and sealants.

Construction	Glass		Thickness		Weight	
	ionoplast	Glass	in.	mm	lbs/ft ²	kg/m ²
1/4"	0.035	1/4"	1/2"	13	6.3	30
1/4"	0.060	1/4"	9/16"	14	6.4	31
1/4"	0.090	1/4"	19/32"	15	6.6	32

Overhead



Overhead

Preferred for overhead glazing & when glass slopes >15° from the vertical; can be fabricated with our Point-Supported Canopy Systems.

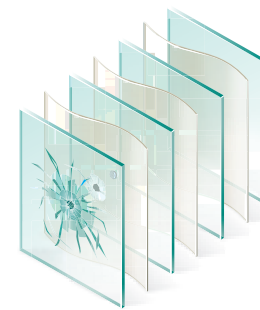
Typical Products

Nominal Thickness	Construction	Outboard Lite	Air Space	Inboard Lite			Weight (lbs/ft ²)
				Glass	PVB	Glass	
9/16"	Mono	—	—	1/4" HS	0.060"	1/4" HS	6.4
1-3/16"	IG	1/4 FT*	1/2"	3/16" HS	0.060"	3/16" HS	8.4
1-5/16"	IG	1/2 FT*	1/2"	1/4" HS	0.060"	1/4" HS	9.5

*FT - Fully Tempered, HS - Heat-strengthened

For more information on these glass products visit oldcastlebe.com

Bullet-Resistant



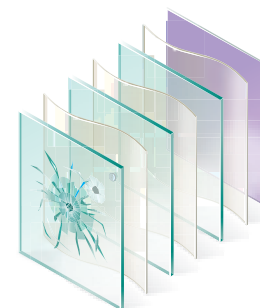
ArmorResist®

With multiple layers of glass and PVB bonded as a monolithic unit, this multi-ply laminated glass minimizes the spall & meets UL 752 needs.

A Selection of Security Laminates for Use in Bullet-Resistant Applications

Model#	UL 752	Thickness in.	Weight (lbs/ft ²)	Max. Weight	Assembly
211000	1	1.17"	14.7	500	AGL ⁽¹⁾
212000	2	1.54"	19.3	500	AGL
213000	3	1.93"	24.2	500	AGL
214000	4	2.05"	25.8	500	AGL
216000	6	1.81"	22.6	500	AGL

(1) All-glass Laminated



ArmorResist® Plus

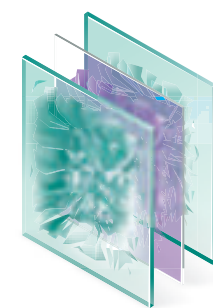
Using PVB and/or a Thermo Plastic Urethane as the interlayer, this combines glass and polycarbonate for 250 times the impact strength.

A Selection of Security Laminates for Use in Bullet-Resistant Applications

Model#	UL 752	Thickness in.	Weight (lbs/ft ²)	Max. Size	Assembly
222000	2	1.03"	11.2	60"x96"	GP ⁽²⁾
224200	4	1.22"	13.5	60"x96"	GP
226000	6	1.04"	10	60"x96"	GP
228000	8	2.17"	25.1	60"x96"	GP

(2) Glass and polycarbonate with exposed polycarbonate

Blast Mitigating



Blast Mitigating

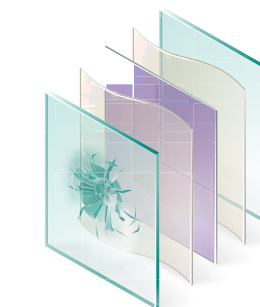
This laminated glass with a PVB interlayer holds the glass together after a blast event and retains it, reducing the amount of flying glass.

Typical Make-up

Model#	Construction			Thickness		Weight	
	Glass	PVB	Glass	in.	mm	lbs.ft ²	kg/m ²
110100	1/8"	0.060	1/8"	5/16	8	3.60	17.6
110110	3/16"	0.060	3/16"	7/16	11	5.31	25.9
110120	1/4"	0.060	1/4"	9/16	14	6.41	33.4

Listed above are constructions of laminated glass that are most commonly specified for bomb-blast resistance mitigation. These are often used in Seismic applications.

Forced-Entry



ArmorProtect® Plus

Resistant to prolonged physical attacks, ArmorProtect® Plus security glazing provides maximum resistance in jails & other settings.

A Selection of Security Laminates for Use in Forced-Entry Applications

Model #	HPW-TP-500			Thickness in.	Weight (lbs/ft ²)	Max. Size	Assembly
	FE ⁽³⁾	BR ⁽⁴⁾	WMFL ⁽⁵⁾				
121000	1	A	—	7/16"	4.6	60"x96"	GCP ⁽⁶⁾
121100	1	A	—	9/16"	5.4	60"x96"	GCP
121200	1	B	—	11/16"	6.2	60"x96"	GCP
122000	2	B	3	13/16"	6.4	60"x96"	GCP
122320	2	B	2	15/16"	7.2	60"x96"	GCP

(3) Forced-Entry (4) Bullet-Resistant (5) Walker M^cGough Foltz & Lyeria (6) Glass-clad polycarbonate

For more information on these glass products visit oldcastlebe.com

Architectural Glass is only a part of our comprehensive offering.

As the leading supplier of architectural glass, Oldcastle BuildingEnvelope™ offers the most comprehensive portfolio of products specified to close the building envelope. Our products include custom-engineered curtain wall and window wall, architectural windows, storefront systems, doors, skylights and architectural glass.



Building Envelope Solutions

Architectural Windows

Entrances and Storefronts

Skylights



Oldcastle BuildingEnvelope™

Engineering your creativity™

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Mixed Sources
Product group from well-managed forests, controlled sources and recycled wood or fiber
www.fsc.org Cert no. SGS-COC-003411
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