

skylights

A large, curved skylight structure made of a white metal grid and glass panels, arching over a courtyard. In the foreground, a fountain with multiple jets of water is illuminated with blue light. The courtyard is surrounded by tall, multi-story buildings with many windows, some of which are lit up. The sky is a deep blue, suggesting dusk or dawn.

“With a project so monumental, our team needed a reliable partner. Oldcastle BuildingEnvelope™ had the expertise for such a challenge.”

—Jeff Barber and Donald Ghent, Gensler



“ Our design for the 18-story atrium required maximum access to daylight to support the 1.6 acre garden. Oldcastle BuildingEnvelope™ came through for us in a big way with a custom skylight solution that met our objectives. ”

—Jeff Barber, AIA, LEED AP, Managing Director and Donald Ghent, AIA, Principal, Gensler

CHALLENGE

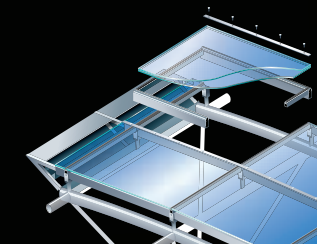
“Our extensive use of glass and skylights was key in designing the largest non-gaming hotel and convention center on the East Coast. Massive skylights cover the resort’s atriums, requiring custom extrusions and complex interfaces with other building systems.”

SOLUTION

“Oldcastle BuildingEnvelope™ took care of our large-scale needs, with custom BMS-3000 and insulating laminated segmented skylight vaults that control the sunlight pouring into the atrium. This resort showcases the beauty and functionality of skylights.”

GAYLORD NATIONAL RESORT & CONVENTION CENTER PRINCE GEORGE'S COUNTY, MD

The resort’s skylight features a custom BMS-3000 system with state-of-the-art sloped glazing technologies.



CONCEPT

The hotel’s signature feature—a striking multi-level atrium soaring to 18 stories topped with bowstring trusses totaling 2.4 million lbs.—needed to support approximately 74,000 square feet of skylight, forming one of the largest indoor gardens in North America.

why specify us?

1

LIMITLESS PRODUCT RANGE

From highly-custom to standard skylights and everything in between, Oldcastle BuildingEnvelope™ offers a wide range.



UNIT

Our single and double dome acrylic unit skylights are factory-assembled units employing aluminum frames.



HEAT & SMOKE

We offer a full range of heat and smoke vents that meet UL 793 and FM-4430 standards.



PRE-ENGINEERED

Our pre-engineered skylights are pre-glazed aluminum framed glass and acrylic skylights.



CUSTOM

Our exclusive BMS-3000 Skylight System offers total design flexibility with a structural skylight system.

2



GLASS

Oldcastle BuildingEnvelope™ can provide a fully-glazed system from one source.

3



TESTING

Our exclusive computer design and analysis software applications allow us to test, simulate and fully develop custom skylight designs.

ENGINEERING

Due to the complex nature of the skylight design, Oldcastle BuildingEnvelope™ created a full-scale mock-up which allowed the design and engineering teams to review aesthetics and performance.



project showcase



Retail

Plymouth Meeting Mall

PROJECT OVERVIEW: Consistent with traditional trends for enclosed malls to upgrade their surroundings, this extensive renovation included a skylighted interior designed to offer a more comfortable and attractive environment with natural daylight for shoppers. Continuous Vaulted acrylic skylights were installed over a large carousel in the mall's center.

PROJECT DETAILS

Location: Plymouth Meeting, PA
Architect: CREATE™ Architecture
Planning & Design
Product: Continuous Vaulted unit skylights



Canopies

Portland International Airport

PROJECT OVERVIEW: This 127,000 square foot glass canopy covers the entire arrival roadway at this airport terminal, creating a striking entrance for visitors. One of the largest canopy skylights in North America, this custom-engineered skylight by Oldcastle BuildingEnvelope™ achieved the architect's vision in terms of aesthetics and performance.

PROJECT DETAILS

Location: Portland, Oregon
Architect: Zimmer Gunsul Frasca
Product: BMS-3000 Canopy system

project showcase



Museums

National Museum of the Marine Corps

PROJECT OVERVIEW: Inspired by the sense of strength evoked by the Flag Raising at Iwo Jima, this museum features a soaring 210 foot mast at a 45-degree angle from the 160 foot high glass atrium. Daylighting is used extensively throughout the building, as well as sustainable materials, components and systems.

PROJECT DETAILS

Location: Triangle, VA
Architect: Fentress Bradburn Architects
Product: BMS-3000



Office

RadioShack Headquarters

PROJECT OVERVIEW: This corporate headquarters was designed as a state-of-the-art sustainable facility to accommodate the needs of the company and the community. As one of the largest projects in Texas to qualify for LEED® certification, the use of skylight systems provides natural daylight to enhance employee productivity.

PROJECT DETAILS

Location: Fort Worth, TX
Architect: HKS, Inc.
Product: BMS-3000



Hospitality

Gaylord Texan Hotel & Convention Center

PROJECT OVERVIEW: Located between Dallas and Fort Worth, this luxurious hotel overlooking beautiful Lake Grapevine showcases the beauty and functionality of skylights. The Oldcastle BuildingEnvelope™ BMS-3000 skylights provide solar control for the 4-acre glass atrium, which bears a Texas-sized star laminated with gold eclipse reflective coating and is visible to planes flying overhead.

PROJECT DETAILS

Location: Grapevine, TX
Architect: Hnedak Bobo Group, Inc.
Product: BMS-3000



Education

Spicewood Elementary School

PROJECT OVERVIEW: Cluster skylights were chosen to distribute natural daylight in this school. The Oldcastle BuildingEnvelope™ cluster skylight system is customized to fit dimensional requirements. The system is designed for low-slope applications requiring only 1/4" per foot of slope.

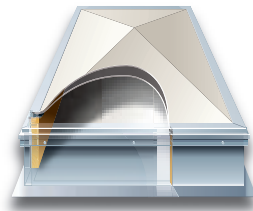
PROJECT DETAILS

Location: San Antonio, TX
Architect: Pfluger Associates
Product: Cluster skylights

Unit Skylights

Plastic

"N" Series unit skylight system is versatile and economical with a Light to Solar (LSG) range of 1.03 to 1.3.



Performance

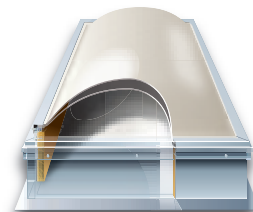
Structural Certification: SKP-C30 per IBC
Leakage: 0.01 cfm/sq ft @ 6.24 PSF
Water Resistance: No leakage @ 10.5 PSF
RC U-factor: 0.49 to 0.86
GC: 0.36 to 0.66
 Hurricane Certified when specified & Impact resistant to 1,000 ft/lbs

Features + Options

- IBC certified and labeled
- Recycled aluminum framing for LEED®
- NFRC rated double or triple glazing
- Curb Mount or Self-Flashing systems
- Non-thermalized or thermalized systems

New ETP (Engineered Thermal Polymer)

E-series environmentally friendly skylights are manufactured with thermally efficient polymer material fully sealed for air and water resistance.



Performance

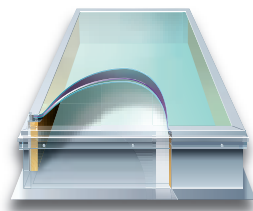
Up to a 14% Improvement in Thermal Conductivity
Light Design: <0.01 cfm/sq ft @ 6.24 PSF
Airtight Design: No leak

Features + Options

- Multi-chamber frame design for thermal improvement
- Reduces manufacturing energy consumption by as much as one-third
- Lightweight structure reduces delivery fuel
- Curb Mount or Self-Flashing systems
- Reduces potential for condensation

Glass Unit

Offers many high-performance insulating glass skylights with SunGlass® for maximum light diffusion and thermal performance.



Performance

Structural Capacity: 40 PSF positive & 20 PSF negative
Leakage: <0.01 cfm/sq ft @ 6.24 PSF
Water Resistance: No leakage @ 15 PSF
Light LSG: Clear 2.00/white 1.83

Features + Options

- Recycled aluminum framing for LEED®
- Insulating SunGlass® with special white PVB
- Mountable on flat roof applications
- Curb Mount or Self-Flashing systems
- Windborne debris glazing and framing available when specified
- Sizes up to 40 sq ft

Heat & Smoke Vents

Heat & Smoke Vents

Heat and smoke vents not only save buildings, they can help save lives by automatically venting heat, toxic gases and smoke.



Performance

793: Standard for Safety
Fire Protection: Impact Tested to 1,000 ft/lbs
 Adjustable links from 165 to 500 degrees F
 Units rated class 60 for uplift
 Venting capabilities against 10 or 30 PSF

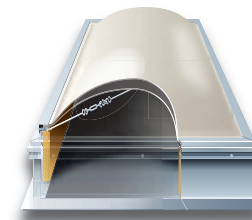
Features + Options

- Single dome, double dome or insulated metal lids on mechanical units
 - Mechanical vents available with thermal break frames
 - Ganged operation via electric release devices**
 - Standard sizes from 4' x 4' to 6' x 8'6"***
- **available

Heat & Smoke Vents

Gravity Operated Drop-out Vents

Heat & Smoke Vents that operate passively with no moving parts.



Performance

FM 4430: Approval Standard
 FM Approved for ESSL sprinkler systems
Fall Protection: Available with Saf-T-Guard use

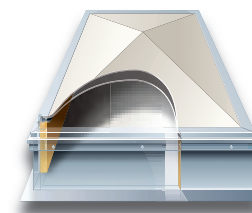
Features + Options

- Recycled extrusions available for LEED®
- Clear over Clear or Clear over White glazing options
- Custom curb heights available
- ESFR compliant option is designed to work with high volume sprinkler applications (ESFR)

Fall Protection

Vertex™

This family of skylights is designed to address fall protection safety concerns with a clean, aesthetically-pleasing appearance.



Performance

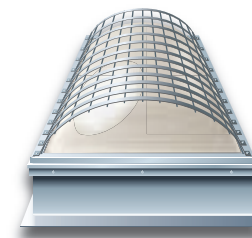
Fall Protection: Designed to meet the intent of OSHA Fall Protection standards
Impact Tested: 1,000 ft/lbs

Features + Options

- Recycled extrusions available for LEED®
- Custom sizes available
- Burglar Resistant Screws available
- Curb mount or Self-Flashing units
- Thermalized frames standard
- Dome or pyramid shapes available

Fall Protection Screen

Saf-T-Guard Fall Protection Screens: Enhances building safety by preventing falls through skylight openings.



Performance

Fall Protection: Designed to meet the intent of OSHA Fall Protection standards
Impact Tested: 375 ft/lbs

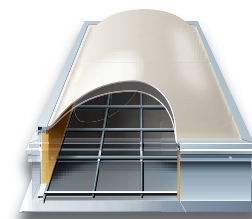
Features + Options

- Custom sizes available
- Galvanized, welded steel construction
- Standard 4" x 4" grid pattern
- Retrofit options available

Security

Security Grilles

Security Grilles by Oldcastle BuildingEnvelope™ help to keep building contents safe from above.



Performance

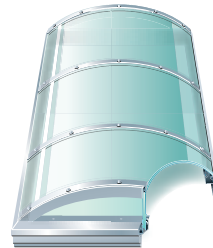
Custom made to your specification
 Provides resistance to burglar intrusion

Features + Options

- Prime painted white
- 1/2" diameter steel rod construction
- Optional bar spacing
- Custom perimeter mounting available

Pre-engineered Skylights

Continuous Vaulted



Continuous vaulted skylights introduce economical daylighting into a space larger than unit skylights can provide.

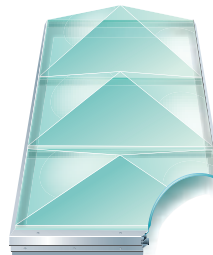
Performance

Structural Capacity: Up to 40 PSF positive and 25 PSF negative per ASTM E 283
Water Resistance: No leakage @ 6.24 PSF negative pressure
 Single or double glazed with monolithic or multiwall panels

Features + Options

- Sizes up to 123" wide x unlimited length
- Ships assembled or in sections (up to 84" wide)
- Recycled aluminum thermalized framing for assistance with LEED® Credit 4.1 and 4.2 available when specified
- Vertical or domed ends
- Fall protection available for some sizes

Cluster System



Cluster framing system allows for great flexibility and easy installation; dry glazed & fall protection for ≤5' x 5' modules.

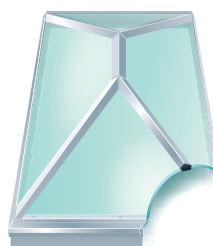
Performance

Structural Capacity: Up to 40 PSF positive and 40 PSF negative per ASTM E 283
Air Leakage: 0.05 @ 1.57 PSF per ASTM E 283
Water Resistance: No leakage @ 10 PSF per ASTM E 331
 Impact tested to 1,000 ft/lbs (special conditions apply)

Features + Options

- Self-supporting perpendicular to the roof slope at up to 6' bay spacing
- Low slope performance, min. 1/4" per ft required
- Sizes: 25' up slope x unlimited length
- Glazing: acrylic, impact modified plastic, monolithic or multiwall PC, insulating or laminated glass

Versalite™



Skylights are available in Hipped & Vertical End Ridge (up to 8' x unlimited), Pyramid & Octagon (up to 8' x 8') or Lean-To designs.

Performance

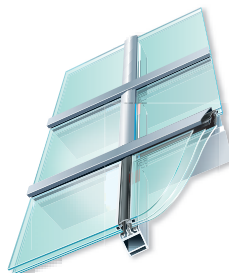
Structural Capacity: Up to 40 PSF positive and 40 PSF negative per ASTM E 283
Air Leakage: 0.1 @ 6.24 PSF per ASTM E 283
Water Resistance: No leakage @ 15 PSF per ASTM E 331

Features + Options

- Ships assembled and glazed as laminated or insulating glass, multiwall PC, translucent panel
- Patented thermal glazing clip technology
- Pre-fabricated Curbs for some units
- Recycled thermal break aluminum framing for assistance with LEED® Credit 4.1 and 4.2

Custom

Express Delivery



The "EZ" and "EX" Express versions of BMS-3000 provide fast shipment (1-2 weeks vs 6-8 weeks or sooner) on selected frame designs & options.

Performance

Air Infiltration per ASTM E 283: Less than 0.06 cfm/sq ft at 6.24 PSF
Static Water Infiltration per ASTM E 331: No uncontrolled leakage at 12 PSF
Dynamic Water Infiltration per AAMA 501.1: No uncontrolled leakage at 12 PSF

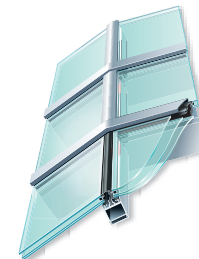
Features + Options

- Flush integral gutter system of tubular framing members; 2-1/2" sight line
- Stepped guttering system for water control
- Positive-stop controls lip-seal pressure
- Available with full-captured or two-sided silicone glazing methods

Metal Framed Skylights

BMS-3000

These structurally sound, leak-free & reliable skylights are tested for air, static & dynamic water resistance, acoustic & thermal performance.



Performance

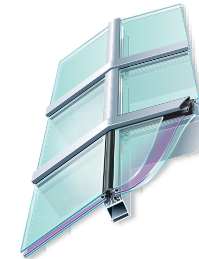
Air Infiltration per ASTM E 283: Less than 0.06 cfm/sq ft at 6.24 PSF
Static Water Infiltration per ASTM E 331: No uncontrolled leakage at 15 PSF
Dynamic Water Infiltration per AAMA 501.1: No uncontrolled leakage at 15 PSF

Features + Options

- Flush integral gutter system of tubular framing members; 2-1/2" sight line
- Stepped guttering system; positive-stop controls lip-seal pressure at edges of glass units
- Framing with 2-1/2" to 12" deep rafter extrusions
- Suitable for various pitches & custom applications

StormMax™ BMS-3000

Screw-Glazed (SG) for projects with a conventional pressure-wall system using stainless steel screws vs thermally broken glazing clips.



Performance

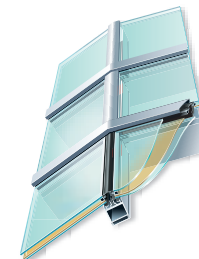
Air Infiltration per ASTM E 283: Less than 0.06 cfm/sq ft at 6.24 PSF
Static Water Infiltration per ASTM E 331: No uncontrolled leakage at 12 PSF
Dynamic Water Infiltration per AAMA 501.1: No uncontrolled leakage at 12 PSF

Features + Options

- Flush integral gutter system of tubular framing members; 2-1/2" sight line
- "HR" accommodates 9/16" laminated and select insulating glass units
- "SG" offers a full range of framing members

BlastMax™ BMS-3000

Multi-Hazard (MH) for anti-terrorism or blast resistant applications (<6 psi) using either the fully-captured or two-sided glazing methods.



Performance

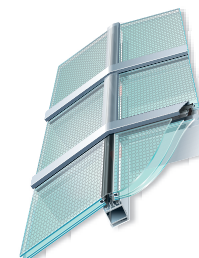
Air Infiltration per ASTM E 283: Less than 0.06 cfm/sq ft at 6.24 PSF
Static Water Infiltration per ASTM E 331: No uncontrolled leakage at 15 PSF
Dynamic Water Infiltration per AAMA 501.1: No uncontrolled leakage at 15 PSF

Features + Options

- Flush integral gutter system of tubular framing members
- Stepped guttering system
- Positive-stop controls lip-seal pressure
- Accommodates 1-5/16" insulating glass units
- Framing members include 5" to 8" deep rafter extrusions

BMS-3000 BIPV and EC

These versions involve custom iterations of the tubular framing systems for accessories, hardware and wiring of different modules.



Performance

Air Infiltration per ASTM E 283: Less than 0.06 cfm/sq ft at 6.24 PSF
Static Water Infiltration per ASTM E 331: No uncontrolled leakage at 12 PSF
Dynamic Water Infiltration per AAMA 501.1: No uncontrolled leakage at 12 PSF

Features + Options

- Flush integral gutter system of tubular framing members; 2-1/2" sight line
- Stepped guttering system; positive-stop controls lip-seal pressure at edges of glass units
- Internal wire management technology for seamless integration; works for most insulating glass

Engineered Skylights are only a part of our comprehensive offering.

As the leading supplier of engineered skylights, 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 Glass

Architectural Windows

Entrances and Storefronts



Oldcastle BuildingEnvelope™

Engineering your creativity™

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Mixed Sources

Product group from well-managed forests, controlled sources and recycled wood or fiber

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