



Comcast Center, Philadelphia, PA – LEED Gold



LEED[®]
BUILDING GUIDE

JE BERKOWITZ, LP
ARCHITECTURAL GLASS SINCE 1920

JEB SUSTAINABILITY MISSION

It is our mission at JEB to reduce our carbon footprint. Along with LEED, we are committed to sustainability. Here are some initiatives we have taken to do our part for the environment.

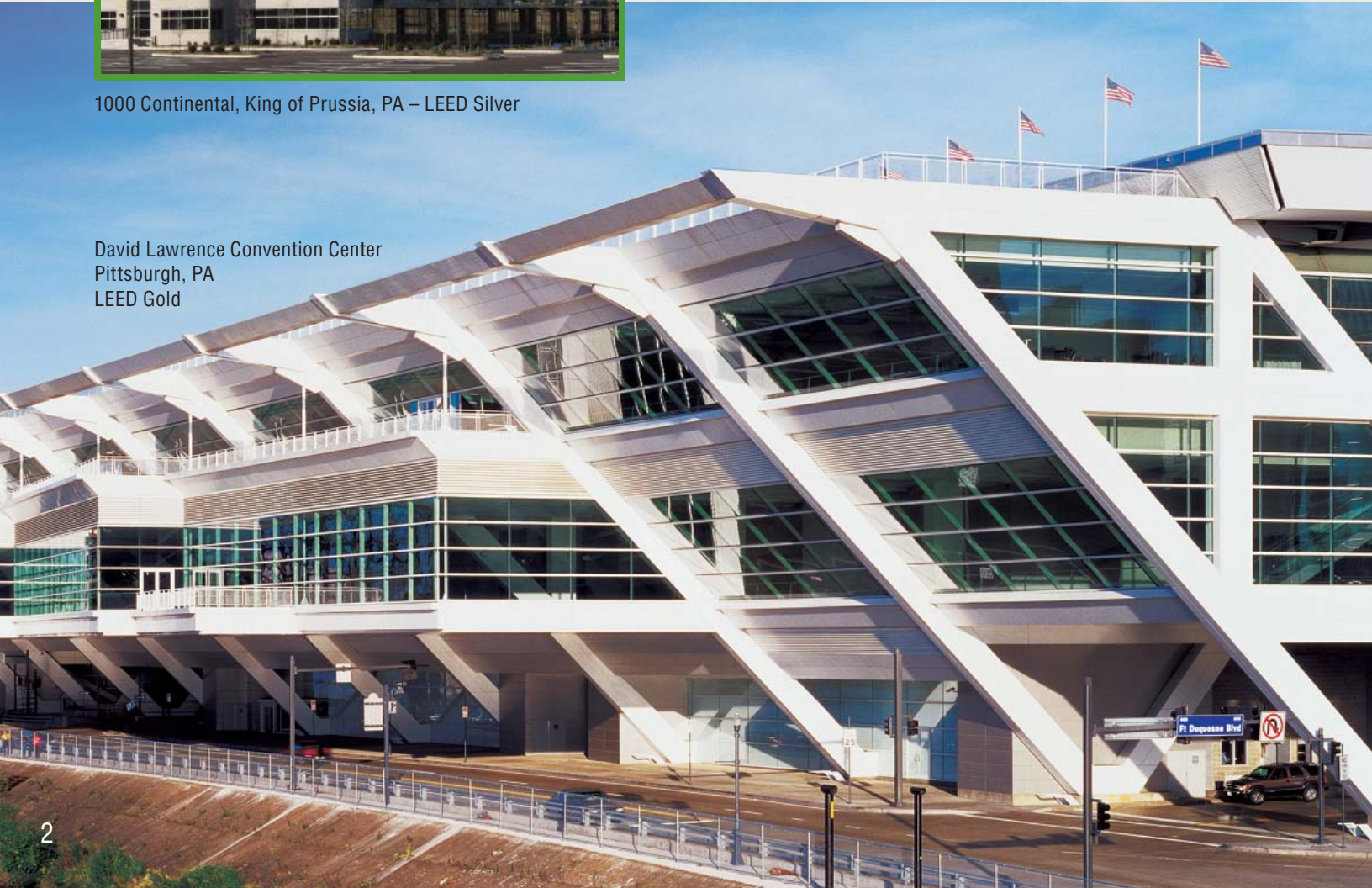
- ISO Quality and Commitment to continue process improvements
- USGBC Member
- RENOVATE by BERKOWITZ triple glazing system for the renovation/rehabilitation segment, can contribute towards LEED certification



1000 Continental, King of Prussia, PA – LEED Silver

- Photovoltaic solar array covers the entire roof of JEB facility with over 7,200 solar panels:
 - a) Produces annually in excess of 2m KW hours
 - b) Over 30% of all electric usage supplied by solar array
 - c) Renewable energy source
- Sort and recycle glass to reduce landfill waste
- Sort and recycle PVB interlayer scraps for reuse
- Energy-efficient tempering furnaces
- Highly efficient water recycling systems, including reverse osmosis plant
- Natural lighting and software controlled lighting systems in manufacturing plant
- Specialized Freight Options using returnable steel rack transportation versus wood crating to preserve natural resources
- Partner with the U.S. Environmental Protection Agency (EPA) on the SmartWaySM Transport Partnership Program to provide eco-friendly shipping

David Lawrence Convention Center
Pittsburgh, PA
LEED Gold



LEED CERTIFICATION AND SUSTAINABLE DESIGN

To qualify as a **LEED** certified building, the building must attain at least 40 of the possible 110 points.

JEB CONTRIBUTION TO USGBC LEED CREDITS

Credit	Category	Potential Points
Energy and Atmosphere (EA)		
EA Credit 1	Optimize Energy Performance	1 - 19
Materials & Resources (MR)		
MR Credit 4	Recycled Content	2
MR Credit 5	Regional Materials	2
Indoor Environmental Quality (IEQ)		
IEQ Credit 8.1	Daylight and Views - Daylight	1
IEQ Credit 8.2	Daylight and Views - Views	1
Innovation in Design (ID)		
ID Credit 1	Innovation in Design	1 - 5

We will show you how JEB can help to maximize your **LEED** points.

JEB glass contributes to four LEED categories:

- Energy and Atmosphere (EA)
- Materials and Resources (MR)
- Indoor Environmental Quality (IEQ)
- Innovation in Design (ID)

Certifications are awarded according to the following scale:

- Certified 40–49 points
- Silver 50–59 points
- Gold 60–79 points
- Platinum 80 points and above

New Construction and Major Renovations (LEED-NC) address seven topics:

- Sustainable Sites (SS)
- Water Efficiency (WE)
- Energy and Atmosphere (EA)
- Materials and Resources (MR)



Howard Hughes Medical Center, Ashburn, VA
LEED Silver

- Indoor Environmental Quality (IEQ)
- Innovation in Design (ID)
- Regional Priority (RP)

LEED CATEGORY: ENERGY AND ATMOSPHERE

EA Credit 1: Optimize Energy Performance

LEED Credit: (1-19)

Intent: To achieve increasing levels of energy performance beyond the prerequisite standard to reduce environmental and economic impacts associated with excessive energy use.

Requirements

Select 1 of the 3 compliance path options.

OPTION 1: Whole Building Energy Simulation (1-19 Points)

Demonstrate a percentage improvement in the proposed building performance rating compared with the baseline building performance rating per ANSI/ASHRAE/IESNA Standard 90.1-2007 (without amendments), as demonstrated by a whole building project simulation using the Building Performance Rating Method in Appendix G of the Standard*.

OPTION 2: Prescriptive Compliance Path: ASHRAE Advanced Energy Design Guide (1 point)

Comply with the prescriptive measures of the ASHRAE Advanced Energy Design Guide, in the climate zone where the building is located, for buildings less than 20,000 square feet and small warehouses less than 50,000 square feet.

OPTION 3: Prescriptive Compliance Path: Advanced Buildings™ Core Performance™ Guide (1–3 points)

Comply with the prescriptive measures in the Advanced Buildings™ Core Performance™ Guide developed by the New Buildings Institute. The building must be less than 100,000 square feet. Must comply with Section 1 and Section 2 of the Core Performance Guide. Health care, warehouse and laboratory projects are excluded.

JEB Contribution:

JE Berkowitz Winduo™ insulating glass units contribute to the LEED certification of your project. JEB offers a wide range of products that can be paired with our Winduo units to help attain credits towards LEED certification.

For the lowest Solar Heat Gain Coefficient (SHGC) performance* select clear, tinted or pyrolytic reflective glasses paired with high performance Low-E products including the PPG Solarban® products, Guardian Sunguard® products and Pilkington Energy Advantage™.

JEB can support the project design to achieve maximum energy efficiency. We can configure products in our insulating glass units to meet design, orientation, and performance challenges. This includes utilizing **warm edge spacer** technology to improve overall U-Value and Condensation Resistance Factor (CRF) and **argon gas** fill, along with high performance Low E coatings, spectrally selective coatings, and tinted substrates, to support several climate zone criterions.

* Performance values are based on LBNL Windows 5.2 and Optics 5.

California Institute of Technology
San Francisco, CA
LEED Platinum



IG Units with the Azon Warm-Light® thermally-broken spacer

LEED CATEGORY: MATERIALS AND RESOURCES

MR Credit 4: Recycled Content

LEED Credit: 1-2 points

Intent: Increase demand for building products that have incorporated recycled content materials, thereby reducing the impacts resulting from the extraction of new materials.

Requirements (1 – 2 points)

Use materials with recycled content such that the sum of postconsumer recycled content plus one-half of the pre-consumer content constitutes at least 10% (1 point) or 20% (2 points), based on cost of the total value of the materials in the project.

JEB Contribution:

A portion of our air spacers used to make insulating glass units are made of recycled aluminum.

Butacite® polyvinyl butyral (PVB) interlayers using DuPont™ technology, which can be used to make JEB's laminated glass, are made with recycled materials and can contribute to LEED certification.

NOTE: We can assist you with recycled content on a per project basis.

MR Credit 5: Regional Materials

LEED Credit: 1-2 points

Intent: Increase demand for building materials and products that are extracted and manufactured within the region, thereby supporting the use of indigenous resources and reducing the environmental impacts resulting from their transportation to the jobsite.

Requirements (1 – 2 points)

Use building materials or products that have been extracted, harvested or recovered, as well as manufactured, within 500 miles of the project site for a minimum of 10% (1 point) or 20% (2 points), based on cost of the total materials value. If only a fraction of a product or material is extracted, harvested, or recovered and manufactured locally, then only that percentage (by weight) can contribute to the regional value.

JEB Contribution:

We source to float glass manufacturers that are located within a **500-mile radius**. A PPG Industries float glass facility is located in Carlisle, PA. A Guardian Industries float glass facility is located in Geneva, NY. A Pilkington float glass facility is located in Laurinburg, NC. All companies source raw materials regionally.

JEB provides a **specialized freight option** using returnable steel rack transportation versus wood crating to preserve natural resources. We are also a partner with the U.S. Environmental Protection Agency (EPA) on the **SmartWaySM** Transport Partnership Program to provide eco-friendly shipping.



Specialized freight option
returnable steel rack



LEED CATEGORY: INDOOR ENVIRONMENT QUALITY

IEQ Credit 8.1: Daylight

LEED Credit: 1 point

Intent: Provide building occupants with a connection between indoor spaces and the outdoors through the introduction of daylight and views into the occupied areas of the building.

Requirements*

Through 1 of the 4 options, achieve daylighting in at least the following spaces:

* Exceptions for areas where tasks would be hindered by the use of daylight.

OPTION 1: Simulation: Demonstrate through computer simulations that 75% or more of all regularly occupied spaces areas achieve daylight illuminance levels of a minimum of 25 footcandles (fc) and a maximum of 500 fc in a clear sky condition on September 21 at 9 a.m. and 3 p.m. Areas with illuminance levels below or above the range do not comply. However, designs that incorporate view-preserving automated shades for glare control may demonstrate compliance for only the minimum 25 fc illuminance level.

OPTION 2: Prescriptive: Use a combination of side-lighting and/or top-lighting to achieve a total daylighting zone that is at least 75% of all the regularly occupied spaces.

OPTION 3: Measurement: Demonstrate through records of indoor light measurements that a minimum daylight illumination level of 25 fc has been achieved in at least 75% of all regularly occupied areas. Measurements must be taken on a 10-foot grid for all occupied spaces and recorded on building floor plans. Only the square footage associated with the portions of rooms or spaces meeting the minimum illumination requirements may be counted in the calculations.

OPTION 4: Combination: Any of the above calculation methods may be combined to document the minimum daylight illumination in at least 75% of all regularly occupied spaces. The different methods used in each space must be clearly recorded on all building plans.

IEQ Credit 8.2: Views

LEED Credit: 1 point

Intent: Provide building occupants a connection to the outdoors through the introduction of daylight and views into the regularly occupied areas of the building.

Requirements

Achieve direct line of sight to vision glazing between 30 and 90 inches above the finish floor for building occupants in 90% of all regularly occupied spaces. For private offices, the entire square footage of the office may be counted if 75% or more of the area has a direct line of sight to perimeter vision glazing. For multi-occupant spaces, the actual square footage with a direct line of sight to perimeter vision glazing is counted.

Tasty Baking Company, Philadelphia, PA
LEED Gold

JEB Contribution:

JE Berkowitz efficiently fabricates high performance and spectrally selective* glass products from regional and global manufacturers including PPG, Guardian and Pilkington to help maximize natural light into the building while providing excellent solar control in compliance with ASHRE 90.1.

All PPG residential and commercial glass products are certified, and therefore, eligible to contribute to LEED certification.

*Glass achieving a Light-to-Solar Gain (LSG) of more than 1.25 as defined by the U.S. Department of Energy (DOE).



One Christina Crescent, Wilmington, DE
LEED Gold



LEED CATAGORY: INNOVATION AND DESIGN PROCESS

ID Credit 1: Innovation in Design

LEED Credit: 1-4 points

Intent: To provide design teams and projects the opportunity to achieve exceptional performance above the requirements set by the LEED Green Building Rating System and/or innovative performance in Green Building categories, not specifically addressed by the LEED Green Building Rating System.

Requirements

Credit can be achieved through any combination of the Innovation in Design and Exemplary Performance paths as described below:

PATH 1: Innovation in Design (1-5 points)

Achieve significant, measurable environmental performance using a strategy not addressed in the LEED 2009 for New Construction and Major Renovations Rating System. One point is awarded for each innovation achieved. No more than 5 points under IDc1 may be earned through PATH 1—Innovation in Design.

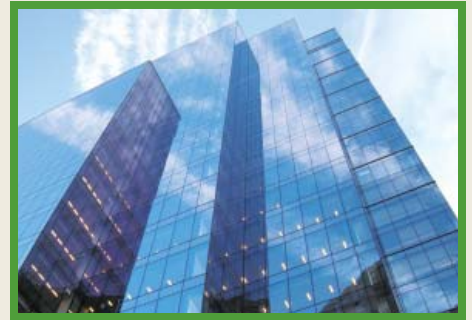
PATH 2: Exemplary Performance (1-3 points)

Achieve exemplary performance in an existing LEED 2009 for New Construction and Major Renovations prerequisite or credit that allows exemplary performance as specified in the LEED Reference Guide for Green Building Design & Construction, 2009 Edition. An exemplary performance point may be earned for achieving double the credit requirements and/or achieving the next incremental percentage threshold of an existing credit in LEED. One point is awarded for each exemplary performance achieved. No more than 3 points under IDc1 may be earned through PATH 2 — Exemplary Performance.

JEB Contribution:

We can help you to satisfy specific innovation credits by **assisting you with product selection** to substantially exceed energy performance in your overall building design.

All PPG glass products are cradle-to-cradle certified and eligible to contribute to LEED Innovation & Design Credit.



Four Seasons Hotel and Legg Mason Tower,
Baltimore, MD – LEED Silver



1225 Connecticut Avenue, Washington, D.C.
LEED Platinum



Buffalo Life Sciences Complex Buffalo, NY
LEED Silver

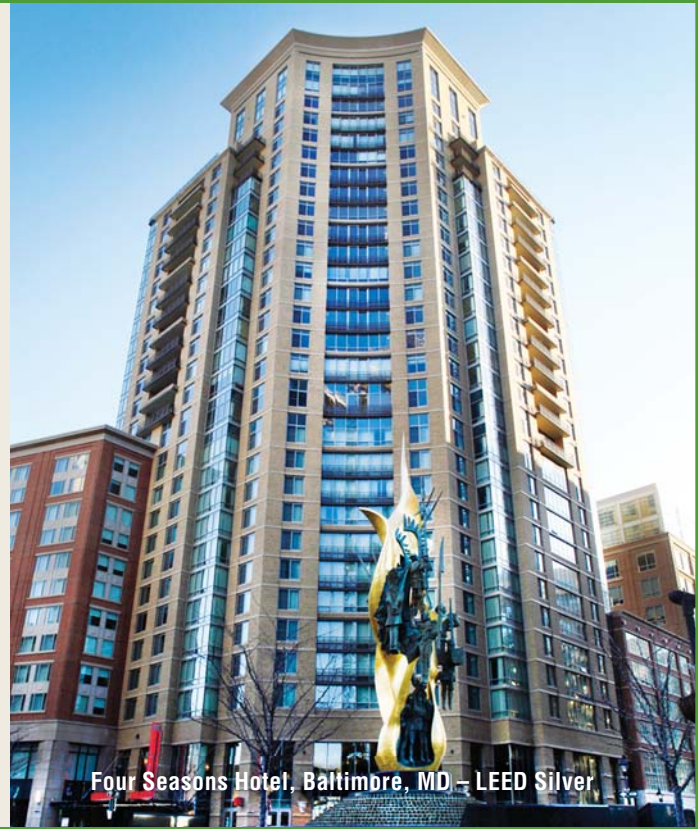


New Castle County Public Safety Building,
New Castle, DE – LEED Silver

TAKE PART IN THE ENVIROMENTAL SOLUTION WITH JEB

We offer solutions. For more specific project information, give us a call at [1-800-257-7827](tel:1-800-257-7827) or e-mail us at info@jeberkowitz.com.

For complete information on LEED and its certification process, visit the USGBC web site at <http://www.usgbc.org/leed>.



Four Seasons Hotel, Baltimore, MD – LEED Silver

PHOTO CREDITS

Cover

Comcast Center, Philadelphia, PA

Products: PPG Starphire®/Starphire® Ultra Clear IGU's
Architect: Robert A.M. Stern Architects
Glazing Contractor: Enclos Corporation

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1000 Continental Avenue, King of Prussia, PA

Products: Pilkington Grey Eclipse Advantage™
Architect: SPG3 Architects
Glazing Contractor: Hutt's Glass
General Contractor: IMC Construction Inc.

David L. Lawrence Convention Center, Pittsburgh, PA

Products: PPG Solarban® 60 (2) Insulating Units
Architect: Rafael Vinoly Architects
Glazing Contractor: Ajay Glass

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Janelia Farm Research Campus of the Howard Hughes

Medical Institute (HHMI), Ashburn, VA
Products: Saint-Gobain Diamant® Ultra Clear Low-Iron Laminated Glass
Architect: Rafael Vinoly Architects
Glazing Contractor: Enclos Corp.

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California Academy of Sciences, San Francisco, CA

Products: PPG Starphire® Ultra Clear Laminated Glass for Photovoltaic (PV) Solar Cells
PV Designer: Applied Solar LLC (formerly Open Energy Co.)
PV Manufacture: Suntech Power Holdings Co., Ltd.
Glazing Contractor: Josef Gartner

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One Christina Crescent, Wilmington, DE

Products: Pilkington Arctic Blue Eclipse Advantage™ / Solarban® 60 (3) Insulating Units
Architect: Moeckel Carbonell Associates, Inc.
Glazing Contractor: APG International, Inc.

Tasty Baking Company Headquarters, Philadelphia, PA

Products: PPG Solarban® 60 HS (2) / Clear HS Guardian AG 50 HS (2) / Clear or HS #109B Subdued Grey
Architect: Erdy McHenry Architecture
Glazing Contractor: National Glass
General Contractor: IMC Construction

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Buffalo Life Sciences Complex, Buffalo, NY

Products: PPG Atlantica®/Solarban® 60 (3) Insulating Units
Architect: Francis Cauffman Foley Hoffmann Architects
Glazing Contractor: APG International, Inc.
Photo by Elliott Kaufman

Four Seasons Hotel and Legg Mason Tower, Baltimore, MD

Products: Clear IGUs with PPG Solarban® 60 (2) Subdued Gray #4 Ceramic Frit IGUs
Architect: BH&A Architects
Glazing Contractor: Trainor Glass Co.
General Contractor: Armada Hoffer

1225 Connecticut Avenue, Washington, DC

Products: PPG Solarban® 70XL IGUs / Clear or White Silkscreen Horizontal Line Finish
Architect: RTKL Associates, Inc.
Glazing Contractor: Harmon Inc.
General Contractor: James G. Davis Construction

New Castle County Public Safety Building, New Castle, DE

Products: PPG Solarban® 80 HS / Clear Annealed Solarban® 80 / Clear HS / 109A Warm Grey Frit Solarban 80 Temp
Architect: Tevebaugh Architects
Glazing Contractor: R.A. Kennedy & Sons
General Contractor: Remington Group

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Four Seasons Hotel, Baltimore, MD

Products: Clear IGUs with PPG Solarban® 60 (2) Subdued Gray # Ceramic Frit IGUs
Architect: BH&A Architects
Glazing Contractor: Trainor Glass Co.
General Contractor: Armada Hoffer

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