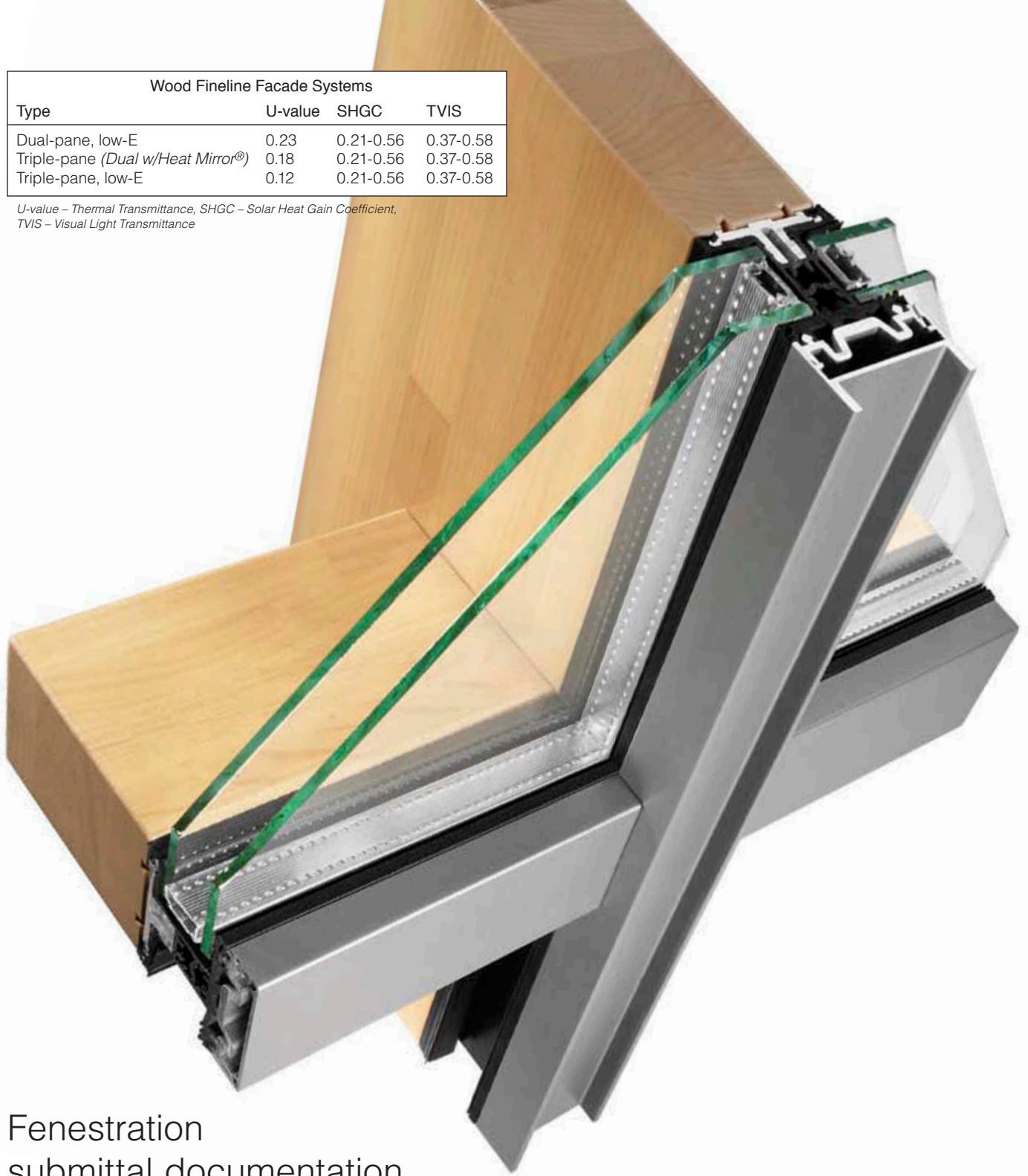


Wood Fineline Facade Systems			
Type	U-value	SHGC	TVIS
Dual-pane, low-E	0.23	0.21-0.56	0.37-0.58
Triple-pane (<i>Dual w/Heat Mirror®</i>)	0.18	0.21-0.56	0.37-0.58
Triple-pane, low-E	0.12	0.21-0.56	0.37-0.58

U-value – Thermal Transmittance, SHGC – Solar Heat Gain Coefficient,
TVIS – Visual Light Transmittance



Fenestration
submittal documentation
and requirements for

LEED[®]
Certification



Aluminum-Clad Wood Window/Door Systems			
Type	U-value	SHGC	TVIS
Dual-pane, low-E	0.23	0.21-0.56	0.37-0.58
Triple-pane (Dual w/Heat Mirror®)	0.18	0.21-0.56	0.37-0.58
Triple-pane, low-E	0.12	0.21-0.56	0.37-0.58

U-value – Thermal Transmittance, SHGC – Solar Heat Gain Coefficient, TVIS – Visual Light Transmittance

Double or triple pane insulated glass

Mortised Multi-point Locking Hardware

Outside: simulated wood grain finish or powder-coated aluminum

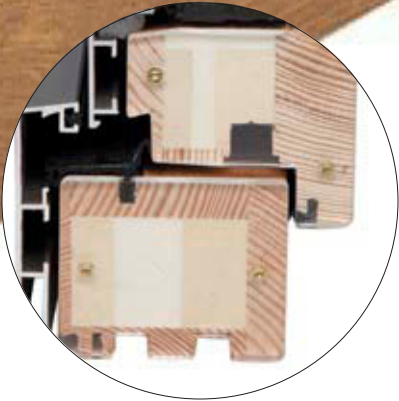


Keyed aluminum cladding

Triple layer laminated solid wood

Triple compression gasket seals

Aluminum cladding suspended away from face of wood prevents moisture buildup

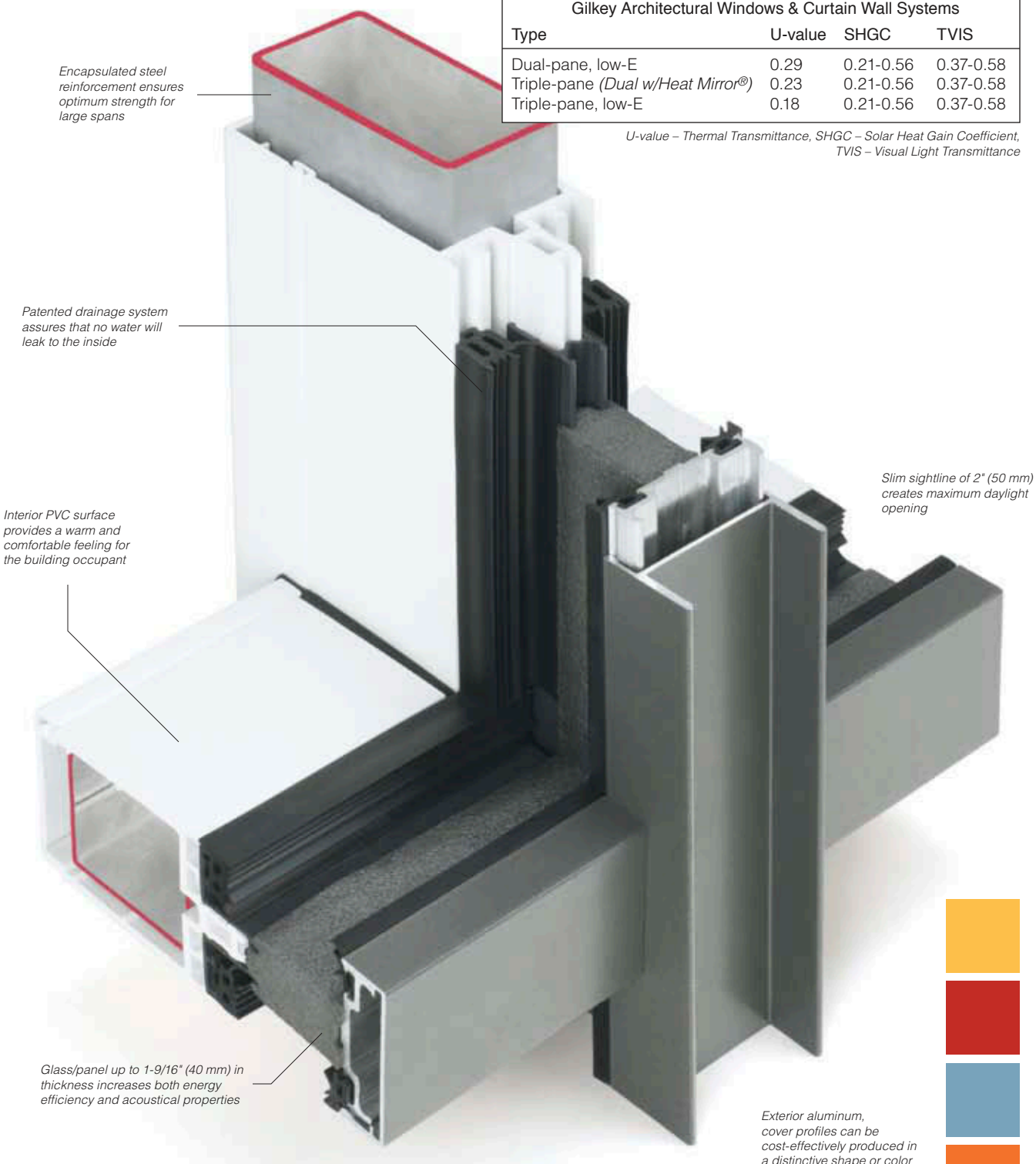


Optional Ultratherm for improved thermal performance



Gilkey Architectural Windows & Curtain Wall Systems			
Type	U-value	SHGC	TVIS
Dual-pane, low-E	0.29	0.21-0.56	0.37-0.58
Triple-pane (Dual w/Heat Mirror®)	0.23	0.21-0.56	0.37-0.58
Triple-pane, low-E	0.18	0.21-0.56	0.37-0.58

U-value – Thermal Transmittance, SHGC – Solar Heat Gain Coefficient, TVIS – Visual Light Transmittance

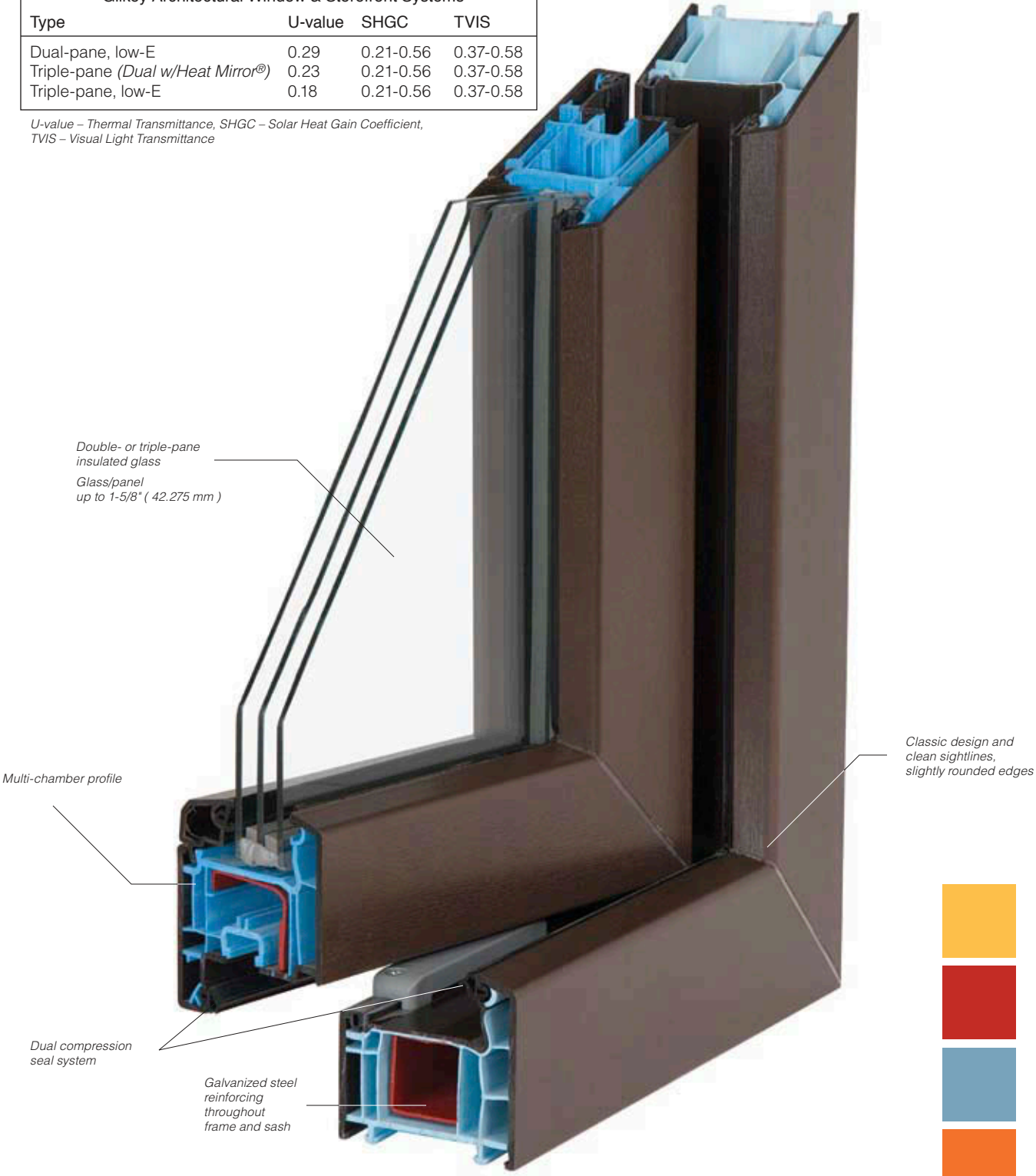


Gilkey Architectural Windows & Curtain Wall Systems



Gilkey Architectural Window & Storefront Systems			
Type	U-value	SHGC	TVIS
Dual-pane, low-E	0.29	0.21-0.56	0.37-0.58
Triple-pane (Dual w/Heat Mirror®)	0.23	0.21-0.56	0.37-0.58
Triple-pane, low-E	0.18	0.21-0.56	0.37-0.58

U-value – Thermal Transmittance, SHGC – Solar Heat Gain Coefficient, TVIS – Visual Light Transmittance



Gilkey Architectural Window & Storefront Systems

Gilkey Architectural Windows and Glass Facades – High Performance & Style

EA Credit 1 – Optimize Energy Performance

Option 1 – Whole Building Energy Simulation (up to 10 points), Input Proposed Design Fenestration Specifications

Gilkey Architectural Window/Door & Storefront Systems;



- U.29** Dual-pane hybrid-frame tinted low-E glass: SHGC 0.21-0.56, TVIS 0.37-0.58
- U.23** Triple-pane (*Dual-pane with Heat Mirror® center*) hybrid-frame low-E glass: SHGC 0.21-0.56, TVIS 0.37-0.58
- U.18** Triple-pane hybrid-frame low-E glass: SHGC 0.21-0.56, TVIS 0.37-0.58

Gilkey Architectural Windows & Curtain Wall Systems;



- U.29** Dual-pane hybrid-frame tinted low-E glass: SHGC 0.21-0.56, TVIS 0.37-0.58
- U.23** Triple-pane (*Dual-pane with Heat Mirror® center*) hybrid-frame low-E glass: SHGC 0.21-0.56, TVIS 0.37-0.58
- U.18** Triple-pane hybrid-frame low-E glass: SHGC 0.21-0.56, TVIS 0.37-0.58

U-value – Thermal Transmittance, SHGC – Solar Heat Gain Coefficient, TVIS – Visual Light Transmittance

Aluminum-Clad Wood Window/Door Systems;



- U.23** Dual-pane hybrid-frame tinted low-E glass: U 0.23, SHGC 0.21-0.56, TVIS 0.37-0.58
- U.18** Triple-pane (*Dual-pane with Heat Mirror® center*) hybrid-frame low-E glass: SHGC 0.21-0.56, TVIS 0.37-0.58
- U.12** Triple-pane hybrid-frame low-E glass: SHGC 0.21-0.56, TVIS 0.37-0.58

Wood Fineline Facade Systems;



- U.23** Dual-pane hybrid-frame tinted low-E glass: SHGC 0.21-0.56, TVIS 0.37-0.58
- U.18** Triple-pane (*Dual-pane with Heat Mirror® center*) hybrid-frame low-E glass: SHGC 0.21-0.56, TVIS 0.37-0.58
- U.12** Triple-pane hybrid-frame low-E glass: SHGC 0.21-0.56, TVIS 0.37-0.58

EA Prerequisite 2 – Minimum Energy Performance

NC 2.2 – Comply with min. ASHRAE/IESNA Std. 90.1-2004.

v3 2009 – 10% improvement over ANSI/ASHRAE/IESNA Std. 90.1-2007

Prescriptive minimum criteria for fixed vertical glazing fenestrations of 30 to 40% of wall area – 90.1-2004

Min U and max SHGC value recommendations				
Zone	3A	4	5	6
U-value	0.57	0.57	0.57	0.57
SHGC all	0.25	0.39	0.39	0.39
SHGC north	0.39	0.49	0.49	0.49

U-value – Thermal Transmittance, SHGC – Solar Heat Gain Coefficient

Option 2 – Prescriptive Compliance Path – Advanced Energy Design Guide for buildings (LEED NC 2.2 uses v2004, LEED v3 2009 uses v2006) under 20,000 sf. for zones 3, 4, 5 and 6.

Prescriptive minimum criteria for fixed vertical glazing fenestrations of 20 to 40% of wall area

Min U and max SHGC value recommendations				
Zone	3	4	5	6
U-value	0.45	0.42	0.42	0.42
SHGC all	0.31	0.46	0.46	0.46
SHGC north	0.46	0.46	0.46	0.46

U-value – Thermal Transmittance, SHGC – Solar Heat Gain Coefficient

Option 3 – Prescriptive Compliance Path – Advanced Buildings Core Performance Guide for buildings under 100,000 sf. for zones 3, 4, 5 and 6.

Any office project using the Core Performance program for LEED must meet all of the prescriptive measures in Section 1 (Design Process Strategies (3 points NC 2.2, 1 point v3 2009)) and Section 2 of the *Core Performance Guide*. From the guide, “*must meet all local energy code requirements or the prescriptive requirements of ASHRAE 90.1-2004, which ever is more stringent.*” 2.6 FENESTRATION PERFORMANCE; Meet specific window performance Criteria for U-value and solar heat gain coefficient, based on NFRC ratings. TVIS/SHGC ratio should be >1.5 for all daylight glazing products.

Prescriptive minimum criteria for fixed vertical glazing fenestrations to max of 40% of wall area

Min U and max SHGC				
Zone	3	4	5	6
Non-metal frames				
U-value	0.40	0.40	0.35	0.35
SHGC: any PF	0.40	0.40	0.40	0.40
Metal frames				
U-value	0.50	0.40	0.40	0.40
SHGC: PF < 0.25	0.24	0.24	0.30	0.30
SHGC: 0.25 < PF < 0.5	0.32	0.32	0.39	0.39
SHGC: PF > 0.5	0.39	0.39	0.39	0.39

U-value – Thermal Transmittance, SHGC – Solar Heat Gain Coefficient, TVIS – Visual Light Transmittance, PF – Projection Factor

Materials and Resources

Materials and Resources

Credit 4

Recycled Content

The following chart contains typical recycled content for Gilkey commercial storefront & curtain wall, window, and door systems. 1 point for 10% and 2 points for 20% are available for NC 2.2 and v3 2009. An Exemplary Performance point is also available for 30%. Specific documentation will be provided with your order.

Material name	Manufacturer	Percent compliant (%)	Post-consumer recycled content (%)	Pre-consumer recycled content (%)
Windows	Gilkey	80.00	5.00	10.00
Curtain wall	Gilkey	80.00	5.00	10.00
Wood fineline	Gilkey	80.00	5.00	10.00
Aluminum-clad wood	Gilkey	80.00	5.00	10.00

Credit 7

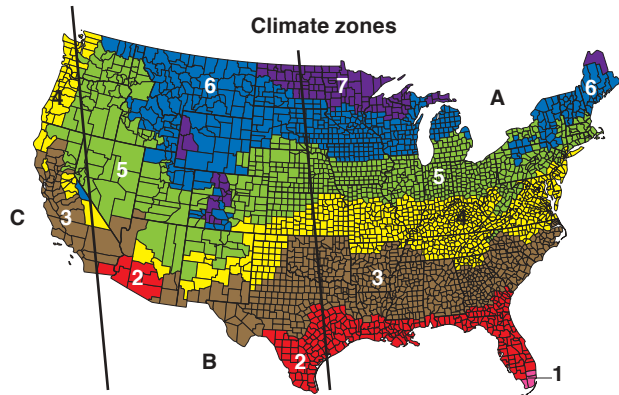
Certified Wood

The following chart contains typical values, FSC wood content percentage, and Chain Of Custody (COC) Number for Gilkey commercial storefront & curtain wall, window, and door systems. 1 point is available for NC 2.2 or v3 2009. An ID EP point is also available. Specific documentation will be provided with your order.

Sample aluminum-clad wood window assembly percentage FSC wood based content

Component	Weight (lbs)	Wood-based component weight (lbs)	FSC certified wood weight (lbs)
Glass	80	0	0
Aluminum	10	0	0
FSC wood	8	8	8
Insulation foam	1	0	0
Elastomer seals	1	0	0
Total	100	8	8
Percent wood (8/100)			8%
Percent FSC certified wood			8%

Unilux COC: Certificate SGS-PEFC/COC-0679



Credit 5

Regional Materials

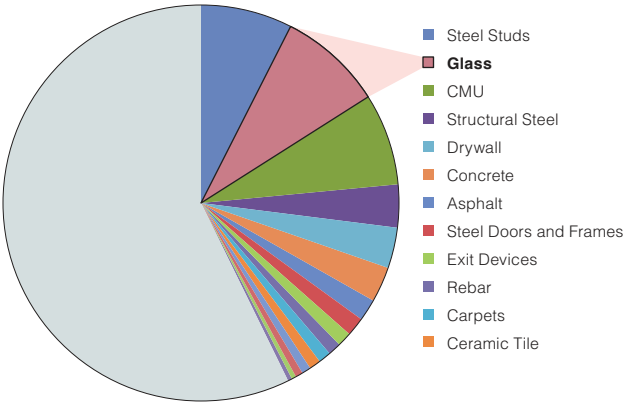
The following chart contains typical regional extraction and manufacturing locations for Gilkey commercial storefront & curtain wall, window, and door systems. 1 point for 10% and 2 points for 20% are available for NC 2.2 and v3 2009. An Exemplary Performance point is also available for 40% NC 2.2 or 30% v3 2009. Specific documentation will be provided with your order including glass, aluminum, steel, wood, and vinyl extraction locations appropriate. The Gilkey manufacturing plant is located in Cincinnati, Ohio: Longitude -84.4050; Latitude 39.2907.

Product name	Manufacturer	Percent compliant (%)	Harvest location (glass)	Manufacture location
Windows	Gilkey	80.00	Toledo, OH	Cincinnati
Curtain wall	Gilkey	80.00	Toledo, OH	Cincinnati
Wood fineline	Gilkey	80.00	Toledo, OH	Cincinnati
Aluminum-clad wood	Gilkey	80.00	Toledo, OH	Cincinnati

Over half of the US population is within 500 miles of Cincinnati, Ohio



Typical commercial LEED platinum project 44% regional materials



Environmental Quality

Environmental Quality

Prerequisite 1 – Minimum Indoor Air Quality

Minimum indoor air quality performance for naturally ventilated spaces can be met by meeting ASHRAE 62.1 - 2004/2007 requirements for spaces within 25' of operable windows with an area equal to at least 4% of the occupiable floor area.

Credit 2 – Increased Ventilation

For naturally ventilated spaces, project teams should provide sample calculations demonstrating how opening size for operable windows were determined in accordance with The Chartered Institute of Building Services Engineers (CIBSE), London and The Carbon Trust "Good Practice Guide 237" (1998). 1 point is available for NC 2.2 or v3 2009.

Credit 6.2 – Controllability of Systems, Thermal Comfort

Operable windows can be used in lieu of comfort controls for occupants of areas that are 20 feet inside and 10 feet to either side of the operable part of the window. 1 point is available for NC 2.2 or v3 2009.

Specific documentation will be provided with your order.

Product	Operable window area %
Gilkey window	0-95%
Gilkey curtain wall	0-95%
Aluminum-clad wood	0-95%
Wood fineline	0-95%

Typical operable window configurations



Credit 8.1

Daylight and Views, Daylight 75% of Spaces

NC 2.2 – Glazing Factor Calculation Method

Complete the template calculation spreadsheet to demonstrate overall Glazing Factor of at least 2%. Refer to former charts for the visible light transmittance range (TVIS) for each glazing type to input into the LEED template.

v3 2009 – Prescriptive Calculation Method

Achieve a value, calculated as the product of the visible light transmittance (TVIS) and window-to-floor ratio (WFR) of daylight zone between 0.150 and 0.180.

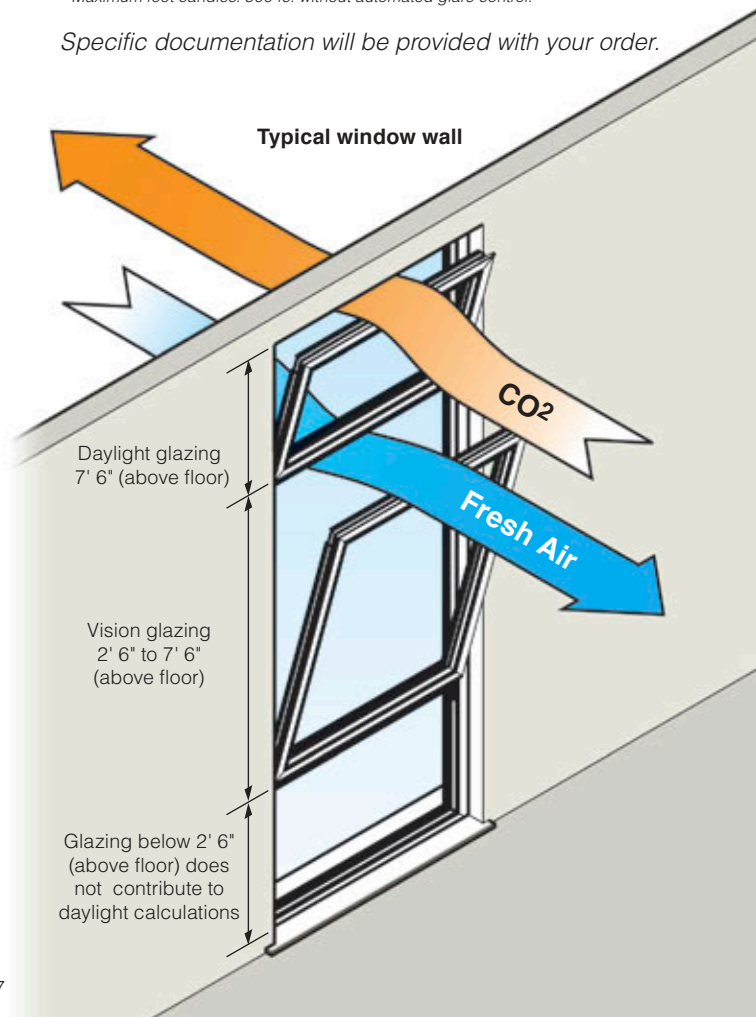
Daylight Simulation or Measurement Method

For projects that have used computer simulation or physical measurements of regularly occupied spaces.

	NC 2.2	v3 2009
Minimum foot candles	25 fc.	25 fc.
1 point	75% sf.	75% sf.
2 points	95% sf.	90% sf.
Time: Equinox	noon	9 am & 3 pm

Maximum foot candles: 500 fc. without automated glare control.

Specific documentation will be provided with your order.



LEED CERTIFICATION CAN BE WITHIN REACH OF ANY PROJECT'S BUDGET

Many LEED Credits can be earned with minimum or no extra cost, as a result of an early commitment by the building team to create the most sustainable structure within the budget. It is essential to begin every LEED project with sustainable client goals and it is important to factor in not only the first costs but the long term savings. Payback from energy efficiencies may be as low as four years for a Silver Certified project to eight years for a Platinum project. Savings and costs vary, usually in direct proportion to one another.

Windows and fenestrations with high performance energy efficiencies combined with sustainable manufacturing processes are Gilkey's mission and vision for the future. Our highest performing fenestrations may contribute as much as 15% improvement over LEED NC 2.2 EA Credit 1 baseline building energy simulations.

Call us. We speak your language.



Engine House No. 10 – Columbus, Ohio

The Gilkey Window Company Commercial Division supplied the windows for the new Engine House No. 10 in Columbus, OH, the first LEED project for the City of Columbus. The Gilkey Architectural Window & Storefront System was selected for the round windows in the facade as well as the bull nosed ones at street level.

Photo courtesy of Architect, Bruce A. Harris, AIA, Harris Architects.

ACHIEVE YOUR LEED GOALS WITH GILKEY'S 4 PROFILES



Gilkey Architectural Window & Storefront Systems

Designed, engineered and manufactured by Gilkey. Features maximum energy efficiency with vinyl and steel construction.



Gilkey Architectural Windows & Curtain Wall Systems

Gilkey is the manufacturer for this high performance profile. Fenestrations are cut, welded and finished in the Cincinnati facility.



Aluminum-Clad Wood Window/Door Systems

One of the world's highest performing fenestrations. Used in "Zero Energy" homes with available special triple glazing.



Wood Finline Facade Systems

High end, decorative profile frames with super efficient glazing. Customize by choosing one of the many beautiful FSC woods for the interior and selecting from a wide palette of colors for the exterior.

This brochure was developed using the U.S. Green Building Council's (USGBC) LEED for New Construction (NC) Version 2.2 and v3 2009 for typical small to medium commercial office. The inputs can be used for computer performance modeling or prescriptive compliance. Project specific LEED documentation will be supplied with your order.



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