

HERITAGE DOUBLE GLAZED ROOF PATENT GLAZING SPECIFICATION

H10 PATENT GLAZING

TYPE(S) OF PATENT GLAZING

115 PATENT GLAZING

- Drawing reference(s): HD1070 - HD2050 - HD3000 - HD5020 - UCL 06 - VD1130

- Supporting structure: Top -suitably pitched timber rails

Intermediate -suitably pitched timber rails Bottom -suitably pitched timber rails

- Patent Glazing system: To BS 5516, with performance criteria as specified in this section.

- Manufacturer and reference: The Standard Patent Glazing Company Ltd, Flagship House,

Forge Lane, Dewsbury, West Yorkshire, WF12 9EL. Tel :01924 461213 www.patent-glazing.com

- Type: 2 EDGE SUPPORTED PATENT GLAZING SYSTEM

- Glazing bar: 'HERITAGE' LC type glazing bar.

- Material: rolled mild steel inner cores with minimum tensile strength of 355 N/mm².

Galvanized finished and covered with twin winged seamless lead extrusion with soldered ends to create a hermetic seal.

- Finish: Glazing bars to be self-finish (lead covered) and any aluminum accessories to be polyester powder coated to BS 6496.

- **Colour/texture:** aluminum accessories to be coated to RAL 7015 slate grey matt finish to match lead covers.

- Minimum film thickness: 40 micrometers for any polyester powder coated sections

- Glazing Bar spacing: as shown on Architects drawings or approx. 600mm centers.

- Roof Slope: Varies - refer to drawings

- Bottom overhang/lap: as recommended by The Standard Patent Glazing Co. Ltd

- **Pane/infilling material(s):** 30mm thick double glazed units with centre pane of at least $1.15W/m^2K$.

OUTER PANE: 6mm Toughened Insulight Sun Ambient

CAVITY: 16mm Argon gas filled cavity with warm edge spacer bars

INNER PANE: 6mm Clear Toughened inner pane with applied 100micron Safety Film - Incorporated components: dress only lead flashings to perimeter positions (lead flashings measured elsewhere)

- Opening Vents: Type- Top Hung Thermally Broken

- Opening Vents: Quantity - 11

- Opening Vents: Opening Mechanism -Manual Control - Screwjack gear

- Opening Vents: Control Devices - Crank Handle for Screwjack Gear

GENERAL REQUIREMENTS

211 DESIGN:

- Complete detailed design of the patent glazing in accordance with BS 5516 and the requirements of this specification.

- Coordinate detailed design with that for all related works.

- Submit detailed design to the CA before commencement of patent glazing work.

221 PRODUCT SAMPLES: Before commencing detailed design provide the CA with identified samples of glazing bar if requested and obtain approval of appearance before proceeding.

231 SAMPLES OF FIXINGS: When submitting detailed design, provide the CA with identified samples of each type of fixing, with details of methods of adjustment and tolerances if requested.

DESIGN/PERFORMANCE REQUIREMENTS

311 GENERALLY: Performance requirements specified in this section apply to the entire patent glazing assembly,



including flashings and junctions with adjacent parts of the building. Full allowance must be made for deflections and other movements.

321 VERIFICATION OF PERFORMANCE: Submit reports and calculations to the CA before commencement of patent glazing work. Reports and calculations must be based on approved laboratory testing or computer modelling.

331 INTEGRITY: Calculate size(s) and spacing(s) of glazing bars, thickness of glazing/infilling, types and locations of fixings and other structural requirements in accordance with BS 5516 and CP 3:Chapter V:Part 2 (making due allowance for any internal pressure) to ensure that the patent glazing will resist all dead loads and design live loads, and accommodate all deflections and thermal movements without damage.

- Basic wind speed (V): m/s to be determined from site post code.
- Topography factor (S1): to be determined from site post code.
- Ground roughness, building size and height factor (S2):
- Determine from CP 3:Chapter V:Part 2, Table 3.
- Statistical factor (S3): 1.
- Snow load: Determine from BS 6399:Part 3.

- Permanent imposed loads: none

341 FIRE RESISTANCE OF PATENT GLAZING: To BS 476: Part 22

345 SURFACE SPREAD OF FLAME OF PATENT GLAZING: To BS 476:part 7: Internal: Class 1 External Class 1

361 WATER PENETRATION onto internal surfaces or into cavities not designed to be wetted must not occur when the patent glazing is tested in accordance with Centre for Window and Cladding Technology, Test methods for curtain walling, section 5 to a peak positive pressure of Pascal's.

381 CONDENSATION must not form on the internal surfaces of framing members of glazing/infilling in the following conditions: External air temperature: -4oC Internal air temperature: +21oC Internal relative humidity: 55%.

391 SOLAR CONTROL: Glazing units must have:

- A shading coefficient of not more than 0.7 for clear double glazed units.

- Average light transmission of not less than 78% of average daylight for clear double-glazed units.

401 THERMAL SAFETY: Glazing units must have adequate resistance to thermal stress generated by orientation, shading, solar control and construction.

411 SOUND REDUCTION of the patent glazing must be not less than 31dB for noise at a frequency ofHz.

421 SECURITY: Patent glazing bars to have externally fixed caps/wings with non-removable fasteners if required.

FABRICATION AND INSTALLATION

510 WORKMANSHIP GENERALLY:

- To BS 5516.
- All fixings must be concealed unless indicated on detailed drawings.
- Machine cut and drill all components in the workshop wherever possible.

- Site drill or cut into structure only in approved locations.

520 GLASS:

- To BS 952 generally, free from bubbles, cracks, rippling, dimples and other defects. Panes to be accurately sized with clean, undisfigured and undamaged edges and surfaces.

- Insulating glass units to BS 5713, hermetically sealed and Kitemark certified.

550 INFILLING must be:

- Accurately sized with undisfigured and undamaged edges and surfaces.

- Adequately rigid to comply with all design/performance requirements.

560 SUITABILITY OF STRUCTURE: During the site survey of the supporting building structure, check line, level and fixing points. Report immediately to the CA if the structure is unsuitable to receive the patent glazing.





570 PROTECTION AND FINAL CLEANING:

- Remove any cement and plaster based spillage whilst wet.
- Prevent staining, scratching and other disfigurement of the patent glazing during installation and by following trades.
- At Practical Completion or when otherwise agreed with the CA, remove any protective coverings and thoroughly clean external and internal surfaces with mild detergent solutions approved by the patent glazing manufacturer.



RAFTERLINE DOUBLE GLAZED ROOF PATENT GLAZING SPECIFICATION

H10 PATENT GLAZING

TYPE(S) OF PATENT GLAZING

115 PATENT GLAZING

- Drawing reference(s): UCL 06 - VD1130

- **Supporting structure:** continuous structural timber rafters min. 44mm wide positioned under every glazing bar.

- Patent Glazing system: To BS 5516, with performance criteria as specified in this section. - Manufacturer and reference: The Standard Patent Glazing Company Ltd, Flagship House,

Forge Lane, Dewsbury, West Yorkshire, WF12 9EL. Tel :01924 461213 www.patent-glazing.com - Type: 2 EDGE SUPPORTED PATENT GLAZING SYSTEM

- Glazing bar: 'RAFTERLINE' SPG type thermally broken non-structural glazing bar

- Glazing bar screw-on capping: PC1 Extruded aluminum cap

- Glazing bar snap-on capping: PC2 Plain Square edged extruded aluminium Cap - with additional roll mop detail and lead cover to mimic flat lead roof lap joint detail

- Material: Grade 6063 temper T6 aluminium alloy, conforming to BS EN 755-2.

- Finish:All aluminium sections to be polyester powder coated to BS 6496

- Colour/texture: a non-metallic RAL colour from the standard range

- Minimum film thickness: 40 micrometers for any polyester powder coated sections

- Glazing Bar spacing: as shown on Architects drawings or approx. 600mm centers.

- Roof Slope: Varies - Refer to drawings

- Bottom overhang/lap: as recommended by The Standard Patent Glazing Co. Ltd

- **Pane/infilling material(s):** 28mm thick double glazed units with centre pane U Value of at least 1.15W/m²K.

OUTER PANE: 6mm Toughened Insulight Sun Ambient

CAVITY: 18mm Argon gas filled cavity with warm edge spacer bars

INNER PANE: 6mm Clear Toughened inner pane with applied 100micron Safety Film

- Incorporated components: dress only lead flashings to perimeter positions (lead flashings measured elsewhere)

- Opening Vents: Type- Top Hung Thermally Broken
- Opening Vents: Quantity 11

- Opening Vents: Opening Mechanism - Manual Control - Screwjack gear

- Opening Vents: Control Devices - Crank Handle for Screwjack Gear

GENERAL REQUIREMENTS

211 DESIGN:

- Complete detailed design of the patent glazing in accordance with BS 5516 and the requirements of this specification.
- Coordinate detailed design with that for all related works.

- Submit detailed design to the CA before commencement of patent glazing work.

221 PRODUCT SAMPLES: Before commencing detailed design provide the CA with identified samples of glazing bar if requested and obtain approval of appearance before proceeding.

231 SAMPLES OF FIXINGS: When submitting detailed design, provide the CA with identified samples of each type of fixing, with details of methods of adjustment and tolerances if requested.

DESIGN/PERFORMANCE REQUIREMENTS

311 GENERALLY: Performance requirements specified in this section apply to the entire patent glazing assembly, including flashings and junctions with adjacent parts of the building. Full allowance must be made for deflections and other movements.

321 VERIFICATION OF PERFORMANCE: Submit reports and calculations to the CA before commencement of patent





glazing work. Reports and calculations must be based on approved laboratory testing or computer modelling.

331 INTEGRITY: Calculate size(s) and spacing(s) of glazing bars, thickness of glazing/infilling, types and locations of fixings and other structural requirements in accordance with BS 5516 and CP 3:Chapter V:Part 2 (making due allowance for any internal pressure) to ensure that the patent glazing will resist all dead loads and design live loads, and accommodate all deflections and thermal movements without damage.

- Basic wind speed (V): m/s - to be determined from site post code.

- Topography factor (S1): - to be determined from site post code.

- Ground roughness, building size and height factor (S2):

Determine from CP 3:Chapter V:Part 2, Table 3.

- Statistical factor (S3): 1.

- Snow load: Determine from BS 6399:Part 3.

- Permanent imposed loads: none

341 FIRE RESISTANCE OF PATENT GLAZING: To BS 476: Part 22

345 SURFACE SPREAD OF FLAME OF PATENT GLAZING: To BS 476:part 7: Internal: Class 1 External Class 1

361 WATER PENETRATION onto internal surfaces or into cavities not designed to be wetted must not occur when the patent glazing is tested in accordance with Centre for Window and Cladding Technology, Test methods for curtain walling, section 5 to a peak positive pressure of Pascal's.

371 HEAT CONSERVATION: The average thermal transmittance (U-value) of the patent glazing must be not more than 1.40W/m²K for domestic projects and 1.6W/m²K for non-dwellings in the following conditions (listed buildings are exempt from compliance with these values): External air temperature: -4°C Internal air temperature: +21°C Internal relative humidity: 45% (dew point temperature 8.8°C).

381 CONDENSATION must not form on the internal surfaces of framing members of glazing/infilling in the following conditions: External air temperature: -4oC Internal air temperature: +21oC Internal relative humidity: 55%.

391 SOLAR CONTROL: Glazing units must have:

- A shading coefficient of not more than 0.7 for clear double glazed units.

- Average light transmission of not less than 78% of average daylight for clear double-glazed units.

401 THERMAL SAFETY: Glazing units must have adequate resistance to thermal stress generated by orientation, shading, solar control and construction.

411 SOUND REDUCTION of the patent glazing must be not less than 31dB for noise at a frequency ofHz.

421 SECURITY: Patent glazing bars to have externally fixed caps/wings with non-removable fasteners if required.

FABRICATION AND INSTALLATION

510 WORKMANSHIP GENERALLY:

- To BS 5516.

- All fixings must be concealed unless indicated on detailed drawings.

- Machine cut and drill all components in the workshop wherever possible.

- Site drill or cut into structure only in approved locations.

520 GLASS:

- To BS 952 generally, free from bubbles, cracks, rippling, dimples and other defects. Panes to be accurately sized with

www.patent-glazing.com

clean, undisfigured and undamaged edges and surfaces.

- Insulating glass units to BS 5713, hermetically sealed and Kitemark certified.

550 INFILLING must be:

- Accurately sized with undisfigured and undamaged edges and surfaces.

- Adequately rigid to comply with all design/performance requirements.



560 SUITABILITY OF STRUCTURE: During the site survey of the supporting building structure, check line, level and fixing points. Report immediately to the CA if the structure is unsuitable to received the patent glazing.

- 570 PROTECTION AND FINAL CLEANING:
 Remove any cement and plaster based spillage whilst wet.
 Prevent staining, scratching and other disfigurement of the patent glazing during installation and by following trades.
- At Practical Completion or when otherwise agreed with the CA, remove any protective coverings and thoroughly clean external and internal surfaces with mild detergent solutions approved by the patent glazing manufacturer.







Drg No. HD-1070 < use this ref for downloading from our website		
Title : Heritage Glazing details LC7 double glazing bar with storm clip	Scale: 1:1	
download from www.patent-glazing.com/pdf/heritage for .pdf format download from www.patent-glazing.com/cad/heritage for .dwg format		

Typical Heritage Detail



No.7 'Heritage' Lead Covered Steel Glazing Bar with 28mm Double Glazing infill





Drg No. HD-2050 < use this ref for downloading from o	ur website	
Title : Heritage Glazing details Head detail 2	Scale: 1:2	
download from www.patent-glazing.com/pdf/heritage for .pdf format		

Typical Heritage Detail





Drg No. HD-3000 < use this ref for downloading from our website		
Title : Heritage Glazing details Eaves detail 1	Scale: 1:2	
download from www.patent-glazing.com/pdf/heritage for .pdf format download from www.patent-glazing.com/cad/heritage for .dwg format		

Typical Heritage Detail





Drg No. HD-5020 < use this ref for downloading from o	ur website	
Title : Heritage Glazing details Verge detail 3	Scale: 1:2	
download from www.patent-glazing.com/pdf/heritage for .pdf format download from www.patent-glazing.com/cad/heritage for .dwg format		

Typical Heritage Detail





	03.06.16	Working sizes amended.		LT
V.	DATE	DESCRIPTION		INITIALS
ITL able	E ended sky	light to below address:		
ROJ opia ittei igby V23	ECT ry Cottage worth Roa /, 0AA.	e, ad,		
IAI		ACTOR		
arry	Howard L	LP.		
RCI	HITECT			
ATENT GLAZING PATENT GLAZING ESTABLISHED 1902 agship House orge Lane ewsbury Vest Yorkshire VF12 9EL mail: info@patent-glazing.com				
OP 3	- 3	ISSUE 1 A	MENDM	ENT 1
RA	WN BY:	L. Taylor	DATE:	28.04.16
RA۱	WING No	o. 60419/1	REV.	А







DESCRIPTION

Position	Product 10 ^M	Process _[O ^N	Thickness (nominal) mm	Weight kg/m ²
Pilkington Insuligh	t™ Sun	- OTLELL	- OILEAN	OULAL
Glass 1	Ambient	Toughened	6.0) * *
Cavity 1	Argon (90%)		16.0	
Glass 2	Pilkington Optifloat ™ Clear	Toughened	6.0	J.S.
Product Code	6C(70)T-16Ar-6T	O PILISI.	28.0	30.00

PERFORMANCE

Light			Energy			
Transmittance	BILL IT	70%	Direct Transmittance	a PILe	ETAR	34%
	UV % 🤇	2 11%	Reflectance		ER	35%
Reflectance Out	LR out	16%	Absorptance	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	EA	31%
Reflectance In	LR in	17%	Total Transmittance	all'or	g	37%
Performance Code			Shading Coefficient Total	appen	OPW AND	0.43
Ug-value/Light/Energy		1.0 / 70 / 37	Shading Coefficient Shortwa	ive		0.4
Ra	A CTOR	96	Sound Reduction	R _w (C;C _{tr}) dB	31 (-1; -4)
The values of some of char No Performance Determine	racteristics are displayed as NP ed.	D. This stands for	Thermal Transmittance	W/m ² K	O Phi	1.0

Carbon Footprint

GWP

kgCO₂e/m²

NPD

Global Warming Potential (GWP) values dervied from Environmental Product Declarations verified by an independent third party. They are declared for modules A1 to A3, but extracted from EPDs based on cradle-to-grave and module D approach in accordance with the requirements of EN 15804:2012+A2:2019/AC:2021 and Product Category Rules in accordance with EN 17074:2019.

Pilkington Spectrum allows you to combine a wide range of products available from Pilkington and determine their key properties such as light transmittance, g value and U value. The program includes restrictions that prevent some combinations being selected that may be considered unwise or impractical. Even with these restrictions, it is still possible to create product combinations that may not be available from your supplier. Please check with your supplier that your chosen product combination is possible, available in the sizes required and in a timescale appropriate to your project. Furthermore, it is essential that you check that your product combination is appropriate for satisfying local, regional, national and other project-specific requirements.

Calculations are made according to EN standards 410 and 673/12898

Pilkington Spectrum Version UK:7.3.1

01/05/2024





SAFETY & SECURITY FILM 100 Micron – Clear SA-100CL-iSR

opolux

Opalux[®] safety and security window films are designed to make glass safer, both by strengthening it against breakage and helping hold dangerous shards of shattered glass in situations where breakage does occur.

Tested and certified to EN 12600 Class 2B2, Opalux[®] 100-micron clear safety and security film is used as a minimum specification for safety film and can be used by organisations to address Regulation 14 of the Workplace (Health, Safety and Welfare) Regulations 1992 by upgrading low-level glazing where necessary for reasons of health and safety. Opalux[®] safety and security window films are suitable for use in many applications in the workplace and home. Other benefits can include improved security by creating a deterrent to "smash-and-grab" and forced entry crime, and providing protection against the vandalism of glass through graffiti such as the etching or scratching of glass.

FEATURES

- High optical clarity
- Quick, retro-fit installation
- Scratch-resistant
- Screening of harmful UV rays

BENEFITS

- Clear, non-tinted appearance on glass
- Can be used where costly and disruptive large-scale replacement of existing glazing is not a viable option
- Suitable for most non-abrasive window-cleaning methods
- Reduced fading of interior furnishings

PERFORMANCE	DATA	SA-100CL-ISR
SOLAR ENERGY	Transmitted	78%
	Reflected	9%
	Absorbed	13%
VISIBLE LIGHT	Transmitted	88%
	Reflected (Interior)	10%
	Reflected (Exterior)	10%
UV Rejection		98%
Glare Reduction		0%
Shading Coefficie	nt	0.93
Solar Heat Gain Coefficient (G-Value)		0.81
U-Value (W/m²K)		6.08
Total Solar Energy	Rejected	19%
Product Warranty*		10 years

PHYSICAL PROPERTIES			
Description	Clear		
Film Thickness	100-Microns (4-thou)		
Structure	Single Ply		
Tensile Strength	28,500 PSI		
Break Strength	110 Pounds per Inch (width)		
Adhesive Type	Acrylic Pressure Sensitive		
Peel Strength	6 to 7 Pounds per Inch		

NOTES

Test results are produced from film applied to 3mm clear single glass. Performance data is subject to change without prior notice. It is the users' responsibility to ensure the product is suitable for the intended use. The seller shall not be liable for any direct, indirect or consequential loss or damage howsoever arising.

SPECIFICATION

The safety and security window film is to be Opalux[®] SA-100CLiSR, as manufactured by Opalux[®] (www.opaluxwindowfilms.com). The film is to be installed to the interior surface of the glass, and the unique product roll numbers used are to be registered in accordance with the manufacturer's warranty procedure.

02.17

An exterior grade is available. Refer to code: SA100CL-eSR.



CRANK HANDLES



Brass, Chrome









ANDLE

VENT ENGINEERING VENT ENGINEERING



Brass, Chrome

CRANK HANDLES

PRODUCT SUMMARY

Brass Crank Handle

- Maximum length 1.5 Metres
- All brass crank handle with hardwood grips and wall bracket
- To complement the All Brass Telescopic Spindle

Chrome Crank Handle

- Maximum length 1.5 Metres
- All chrome crank handle with hardwood grips and wall bracket
- To complement the All Chrome Telescopic Spindle

PRODUCT CODES

PRODUCT CODE PRODUCT DESCRIPTION

SC870HB	
SC870HC	
SC870H1	
SC870H1.5	
SC870H2	
SC87VOH	

1.5m chrome crank handle with wall bracket
1m aluminium crank handle
1.5m aluminium crank handle
2m aluminium crank handle
1.75-3m adjustable telescopic crank handle

1.5m brass crank handle with wall bracket

Vent

Aluminium Crank Handle

- Suitable for use with any spindle supplied by Vent Engineering
- Standard lengths: 1.00 1.50 2.00 metres.

Telescopic Crank Handle

• Adjustable crank extends : 1.75 - 3.00 metres

NO ONE OPENS MORE VENTS tel 01202 744958, fax 01202 733026 email info@vent.co.uk website www.vent.co.uk Units 16c & 16f, Chalwyn Industrial Estate, Poole BH12 4PE

SPINDLES

$150_{\text{mm}}/300_{\text{mm}}$

Brass,Chrome





TELESCOPIC SPINDLE



BUILT IN HANDLE



SPINDLE

VENT ENGINEERING VENT ENGINEERING

Brass, Chrome

SPINDLES

PRODUCT SUMMARY

Single Telescopic Spindle

- Type 1350HT & S1350H
- Manual operation
- Maximum opening length 150mm or 300mm
- Chrome plated or brass finish.
- Operated by crank handle, type 870H
- Net-weight: 320 grammes, 445 grammes

Type 1350HTA 150mm & 1350HA 300mm

All brass spindle with gold anodised brackets and steel eye

Type 1350HTC 150mm & 1350HC 300mm

Chrome plate spindle eye in steel with aluminium brackets

Type 1350HB 300mm

· All brass spindle and eye with brass brackets

Type 1350HTN 150mm & 1350HN 300mm

Brass spindle with steel eye and aluminium brackets

PRODUCT CODES

PRODUCT CODE

PRODUCT DESCRIPTION S-12 Brass single spindle 300mm S1350HA Brass telescopic spindle 300mm with anodised brackets **S1350HTA** Brass telescopic spindle 150mm with anodised brackets S1350HC Chrome telescopic spindle 300mm S1350HTC Chrome single telescopic spindle 150mm S1350HB Brass telescopic spindle 300mm S1350HN Brass telescopic spindle 300mm with Steel Eye S1350HTN Brass telescopic spindle 150mm with Steel Eye **S135SLA** Brass single telescopic spindle 300mm with Brass handle S135SLC Chrome single telescopic spindle 300mm with chrome handle S135SLTA Brass single telescopic spindle 150mm with brass handle S135SLTC Chrome single telescopic spindle 150mm with chrome handle



All Brass Single Spindle

- Type S/12
- Maximum length 300mm
- Operated by crank handle

Built in Handle

Type 135SLTA 150mm & 135SLA 300mm

- Brass spindle with built in handle
- Manual operation
- Maximum opening length 150mm or 300mm
- Brass spindle with gold anodised brackets

Type 135SLTC 150mm & 135SLC 300mm

- Chrome plated spindle with built in handle
- Manual operation
- Maximum opening length 150mm or 300mm •
- Net weight: 450 grammes
- Chrome plated finish with aluminium brackets