



Heritage 47 Casement window

Overview

- Energy Rating WER B (existing dwellings, windows similar to dwellings in existing commercial & new commercial)
(1.2Wm²k centre pane uValue) 4-20-4 Planitherm Total Plus
- Energy Rating 1.6Wm²k (new dwellings, other windows in existing commercial & new commercial)
(1.1Wm²k centre pane uValue) 4-20-4 Planitherm One
- BFRC Reg No. 6171 WER B rating
- 47mm thermally broken Smart's aluminium
- Crimped frame & sash system

Weather Performance (BS6375-1)

- BS EN 1026: 2000 Air Permeability: Class 4 600 Pa
- BS EN 1027: 2000 Water tightness: Class 9A 600 Pa
- BS EN 12211: 2000 Resistance to Wind Load: Class AE 2400 Pa

Alitherm Heritage Window

The Alitherm Heritage window system offers a modern thermally broken alternative to steel windows. The Alitherm Heritage has been designed with signature slim sightlines, attractive aesthetic contours and enhanced thermal performance.

The Alitherm Heritage window offers integral mullions, transoms and cruciforms as standard or can be built as a series of horizontal or vertical modules which can be stacked using couplers to form multi-part windows featuring a specially designed drip bar between modules.

- Fixed frames externally beaded & sashes internally beaded as standard
- Option to use dummy sash for internally beaded fixed frames
- Square bead throughout.
- Espagnolette with bi-directional locking
- Triple glazing is available 36mm unit. Openers will use the **W20028 sash**

Features and Options

- Ultra slim frame and sash – used as a replacement for slim steel style windows
- Trickle vents available (fitted into 42mm frame extension)
- Odd leg outer frame available W20016 - 16mm leg (long leg sizes required for orders/quotations) **note: extended lead time**
- French escape window option available (handle to master & finger bolts to slave)

Optional PAS24 or Secure by Design - includes claw locks to sashes and Glaslok secure-clip security clip to externally beaded fixed panes (supplied loose) **note: check your glazing requirements.**

Size Restrictions

- Maximum sizes will depend on wind loading requirements and style of window but indicative sash sizes with Securistyle (13mm stack height) friction stays are as follows:

Top Hung Sashes

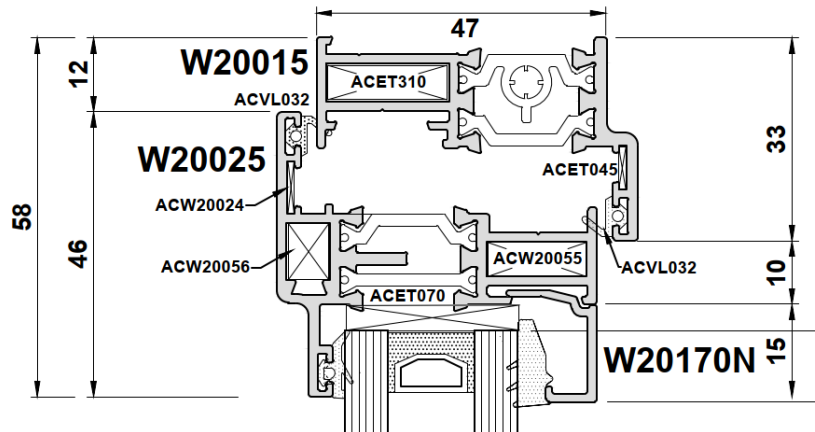
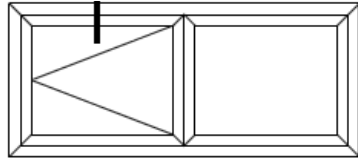
- Max width: 1400mm (sash size)
- Min width: 376mm (frame size 400mm)
- Max height: 1300mm (sash size)
- Min height: 300mm (frame size 330mm) (transom drop 320mm)
- Max weight: 40kg

Side Hung Sashes

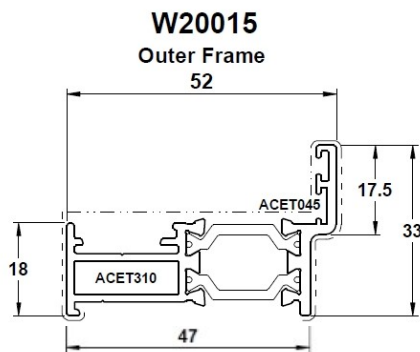
- Max width: 700mm (sash size) using side hung stays (600mm using egress/easy clean stays)
- Min width: 300mm (frame size 330mm)
- Max height: 1400mm (sash size)
- Min height: 376mm (frame size 400mm)
- Max weight: 24kg
- 450mm opening (fire escape) - frame/frame min 580mm - frame/mullion CL min 520mm

Cross Sectional Drawings

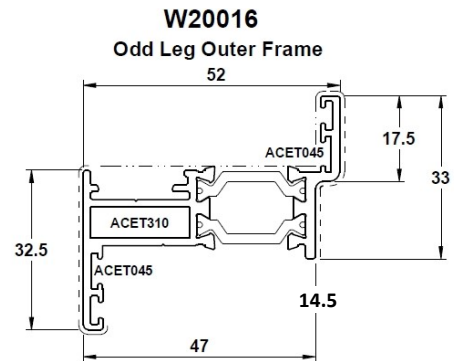
Standard Frame & Sash Detail



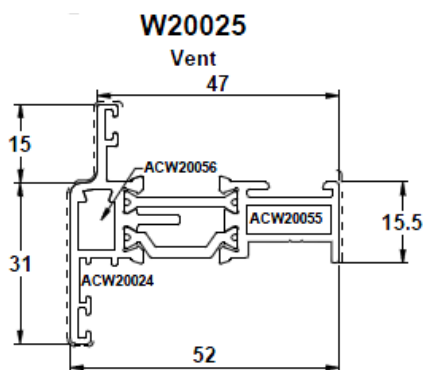
Standard Outer Frame
I_x value 8.08



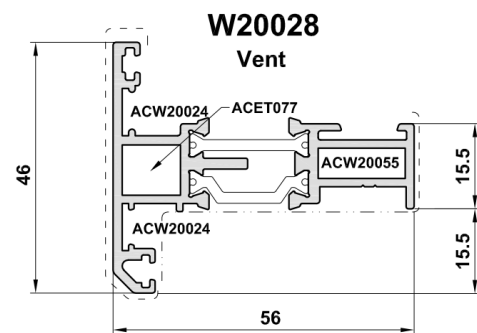
Odd leg Outer Frame



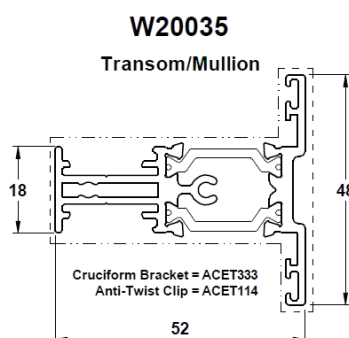
28 mm Internally Beaded Sash



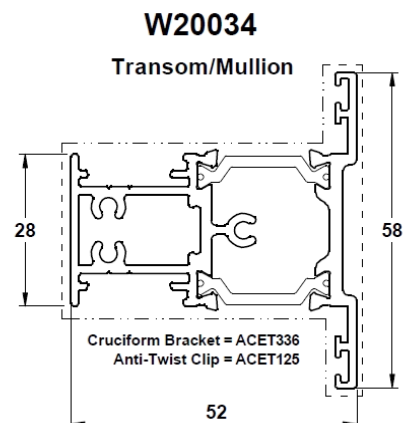
36mm Internally Beaded Sash

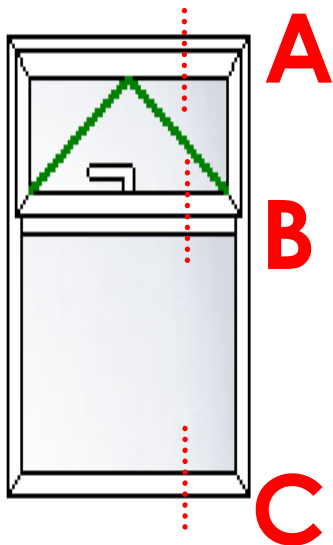


Standard Transom/Mullion
I_x value 10.67



Heavy Duty Transom/Mullion
I_x value 14.43





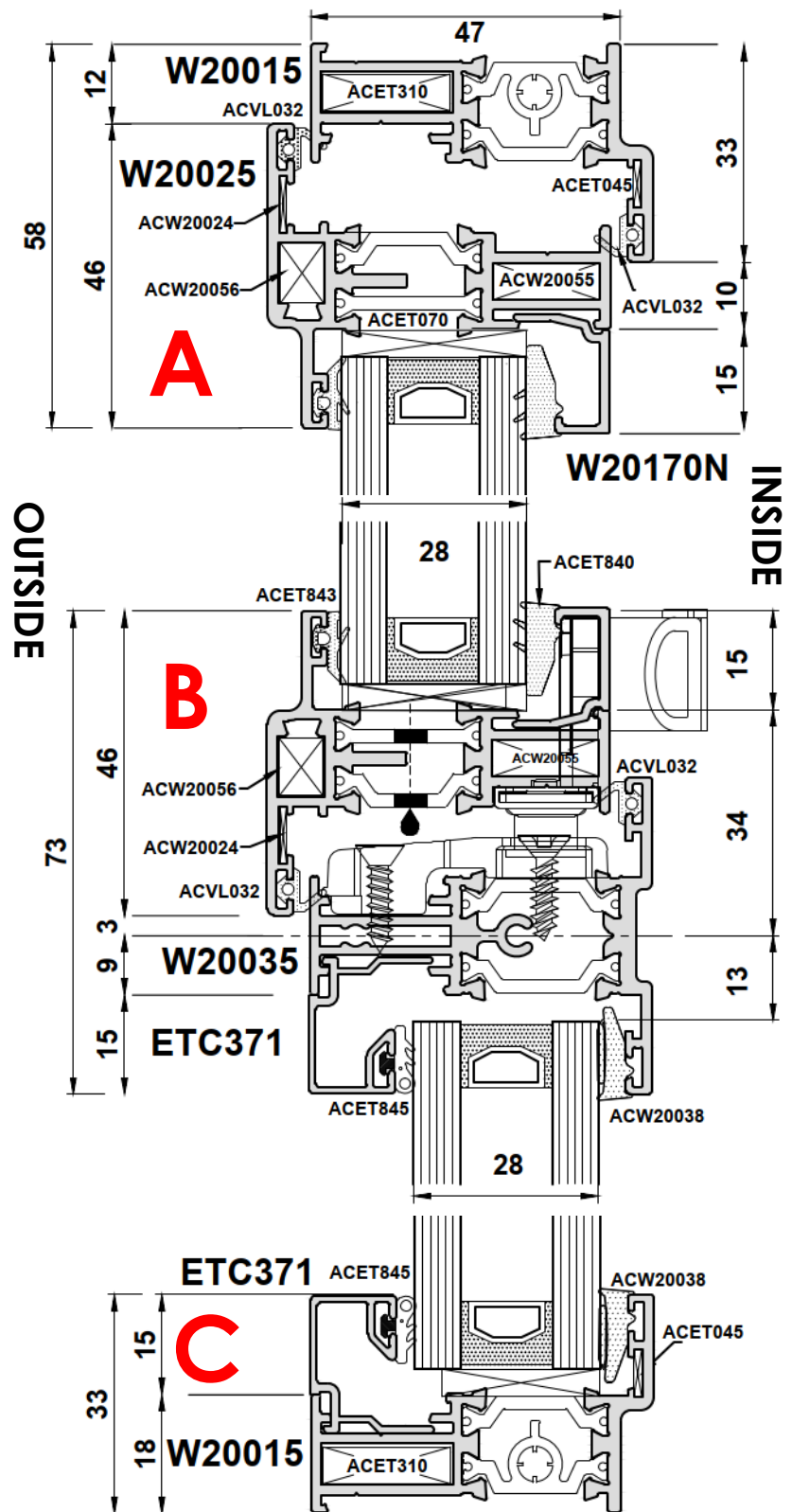
Internally beaded sash
over externally beaded
fixed pane

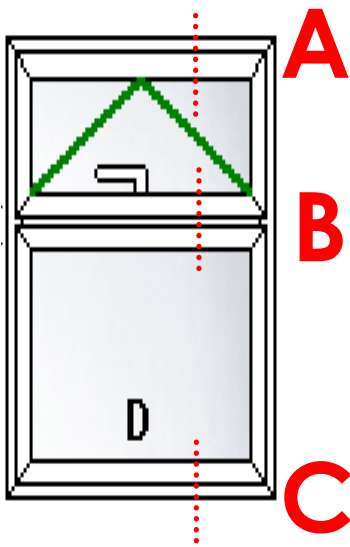
Cross section detail of

(A) Head

(B) Transom

(C) Cill





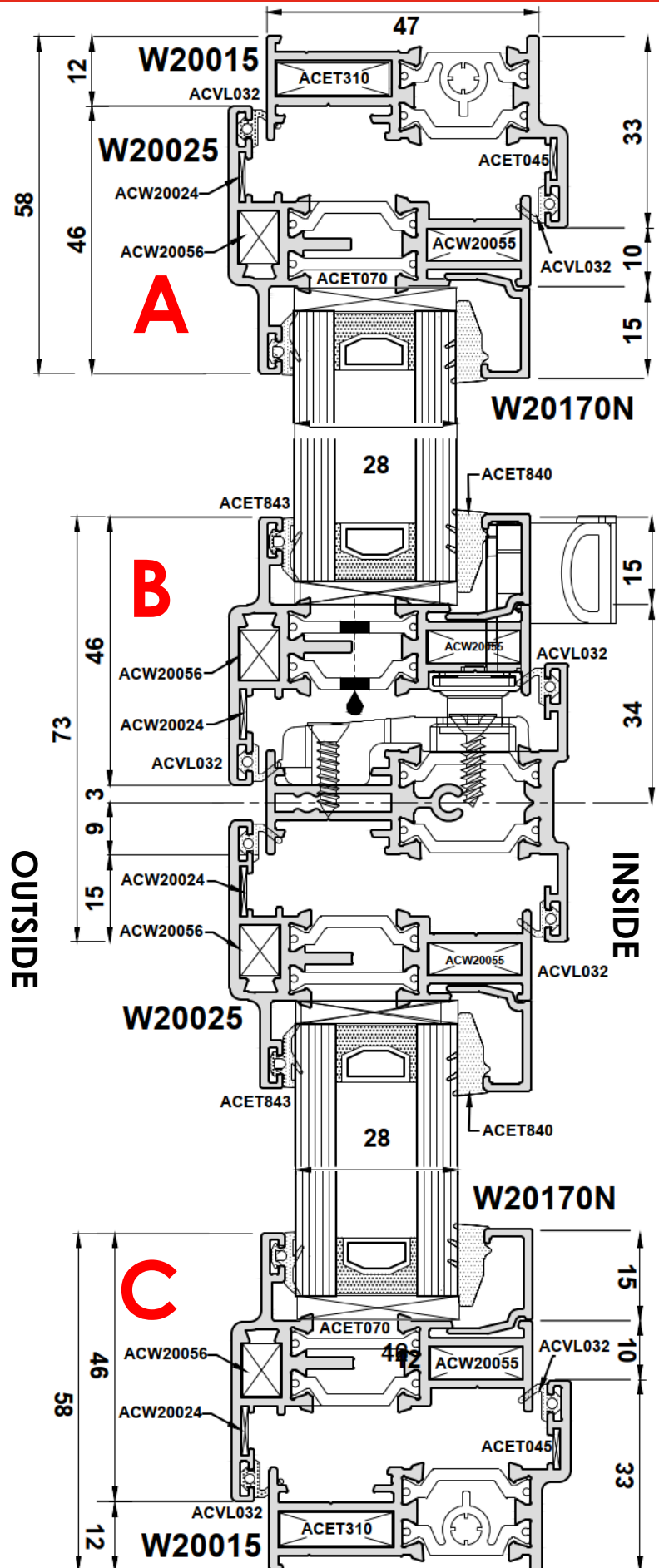
Internally beaded sash
over internally beaded
dummy sash

Cross section detail of

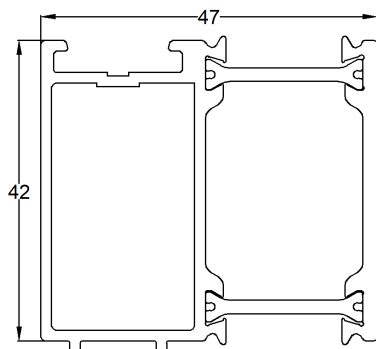
(A) Head

(B) Transom

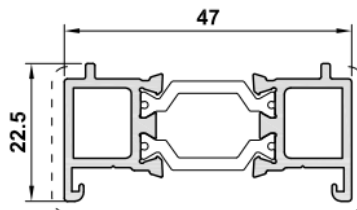
(C) Cill



47mm x 42 mm ETD058 Head Extension

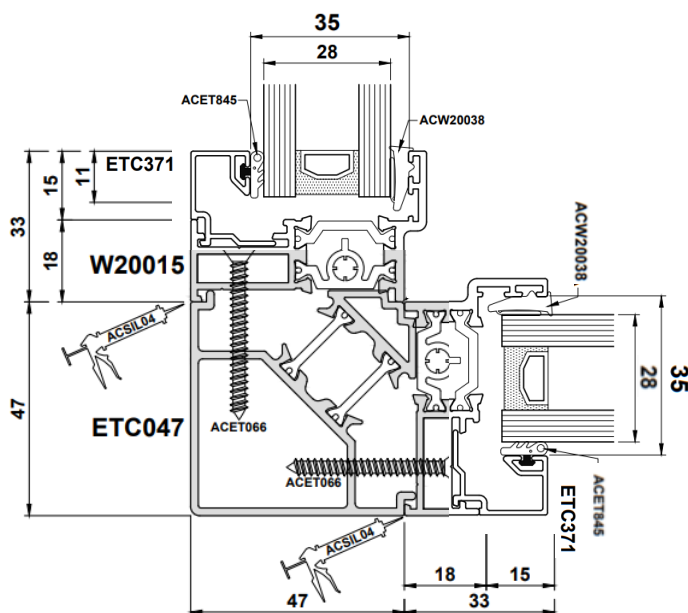


47mm x 20 mm ETD056 Frame Extension



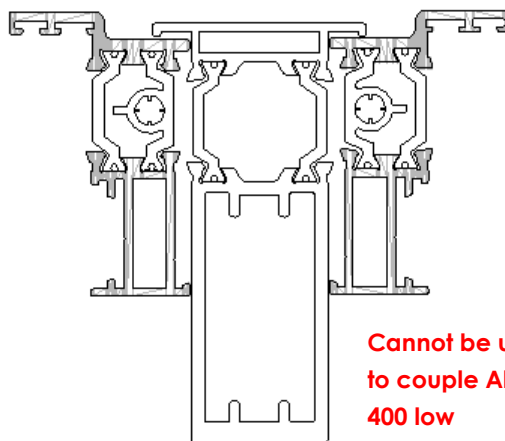
ETC047 90° Corner Post

+1.5mm to window width
each side to be joined



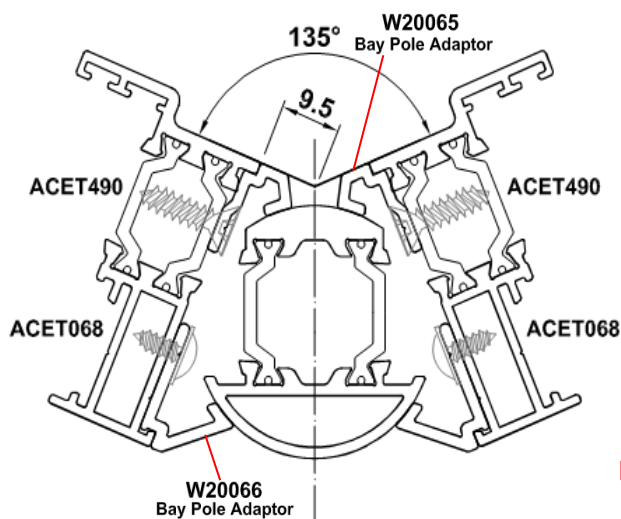
ETC357 25x76.5mm coupler

12.5mm deduction each side
lx value 41.5



**Cannot be used
to couple Ali
400 low
aluminium
threshold doors**

W20069 Bay Pole



Angle	Deduction 'A'	Angle	Deduction 'A'
115°	5	150°	12.5
120°	6.5	155°	13.5
125°	7.5	160°	14.5
130°	8.5	165°	15.5
135°	9.5	170°	16
140°	10.5	175°	17
145°	11.5	180°	18

Note: All joints must be adequately sealed

Egress hinges (Fire escape opening Dwellings)

Egress hinges are required to meet Approved Document B of the building regulations.

Extract from document B - Section 2 General provisions 2.10.

Full information on requirements: [Fire safety: Approved Document B - GOV.UK \(www.gov.uk\)](https://www.gov.uk/guidance/fire-safety-approved-document-b)

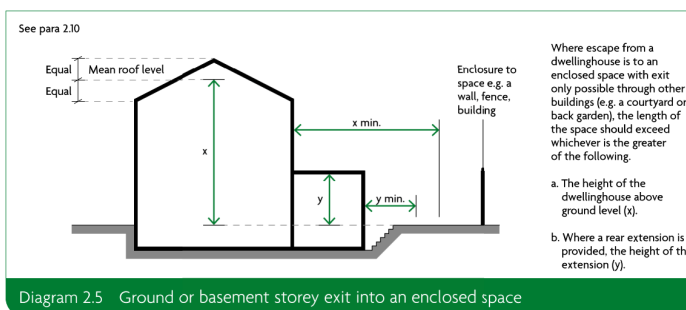
A. Window should have unobstructed openable area complying with, all of the following.

- A minimum area of 0.33m²
- A minimum height of 450mm and minimum width of 450mm (the route through the window may be at an angle rather than straight through). $(450 \times 734 / 734 \times 450) = 0.33\text{m}^2$
- The bottom of the openable area is a maximum of 1100mm above the floor.

B. People escaping should be able to reach a place free from danger from fire. Courtyards or inaccessible back gardens should comply with diagram 2.5.

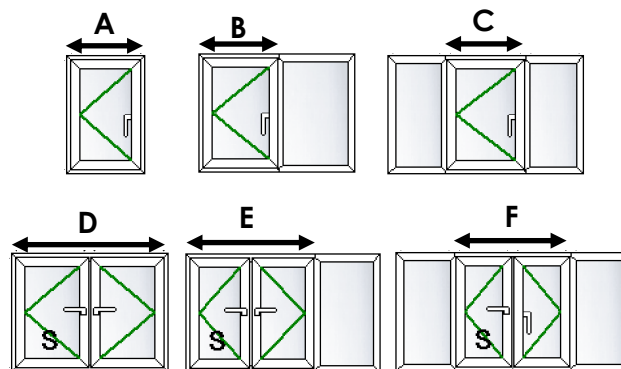
C. Locks (with or without removable keys) and opening stays (child-resistant release catches) may be fitted to escape windows.

D. Windows should be capable of remaining open without being held.



The following give the minimum frame sizes to achieve the 0.33m² clear opening using standard egress & mega egress hinges.

Height	799mm	
Width	Egress	Mega Egress
A	591	546
B	582	537
C	573	528
French Escape windows		
D	736	576
E	727	567
F	718	558



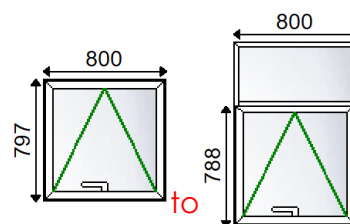
Note: under these sizes the clear opening will not comply with building regulations for doc B.

Top Hung sash requires a minimum of 16" hinge.

Sash finish size of 776mm wide (cannot be narrower than this)

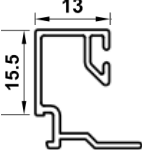
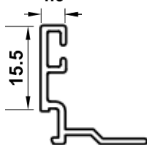
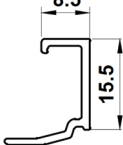
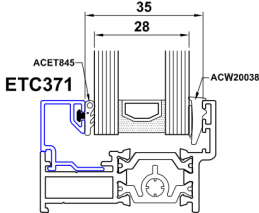
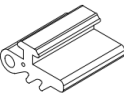
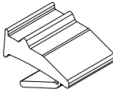
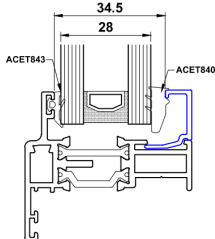
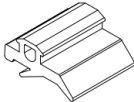
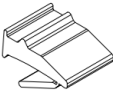
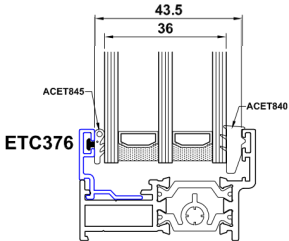
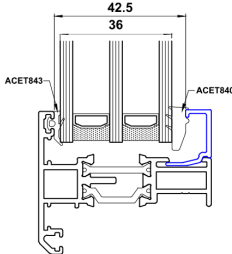
x minimum of 773mm high. See frame sizes detailed.

Note: You must request at time of order that the top hung needs meet fire escape opening.



450mm Clear opening when pushed out. This will be greater subject to sash height and hinge size.

Bead & Gaskets

28mm External Outerframe bead	ETC371 	36mm External Outerframe bead	ETC376 	28mm & 36mm Internal Sash bead	W20170N 	
Fixed Pane externally beaded			Sash internally beaded			
		Outside E type	Inside wedge		Outside E type	Inside Wedge
28mm double glazed		3mm ACET845 	4-3mm tear away ACW20038 		2mm ACET843 	4-3mm tear away ACW20038 
36mm triple glazed						

Note: If Laminated glazing is requested (only available to 28mm units) either 6.4 or 6.8 the overall unit thickness will be either 28.4mm or 28.8mm the internal wedge gasket will be replaced as follows:

Fixed panes ACVG20038 - still supplied but when glazing remove the tear off to make a 3mm wedge



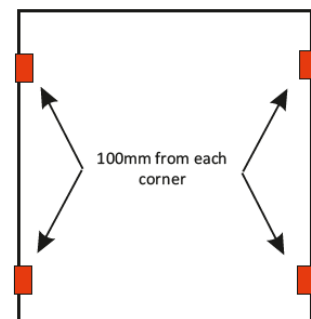
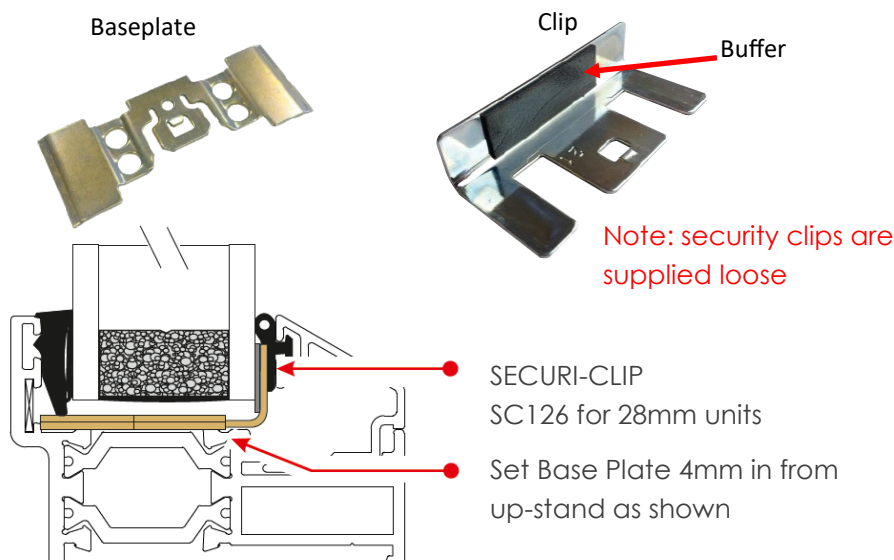
Sashes ACVG20038 4-3mm wedge



Glaslok Security glazing clip

To comply with PAS24/SBD all fixed panes need to be glazed with a glazing security clip.

The clip set assembly is comprised of a baseplate, clip to suit the sealed unit thickness and a buffer to prevent contact between glass and clip.



Use same combination for all transoms and mullions with fixed glazed units.

When fixing into Polyamide use a double helix thread screw

Wind Loading – Heritage 47

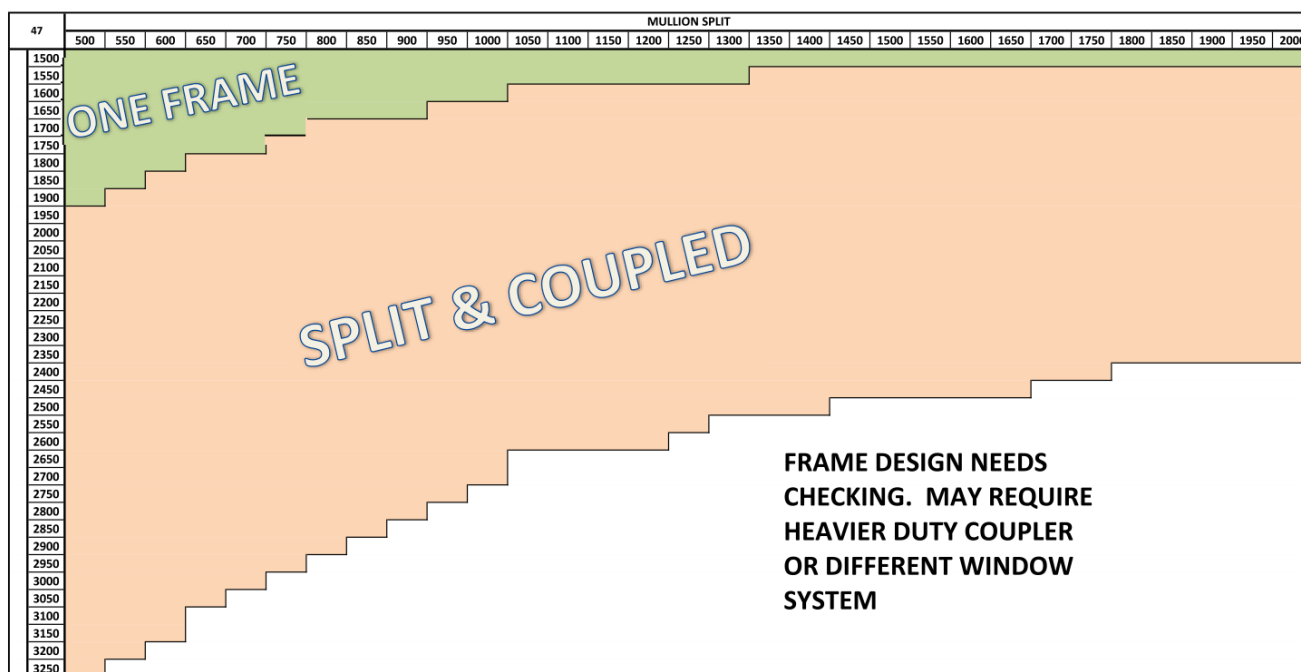
Wind loading calculations based on 800pa, and equal mullion splits.

Mullion W20035 Ix value of 10.67

Frame W20015 Ix value 8.08

Coupler ETC357 Ix value 41.5

Coupler and Frame combined Ix value $(8.08 \times 2 + 41.5 = 57.66)$



Note both CWCT (Centre for Window & Cladding Technology) & NHBC (National House Building Council) consider all storey height glazing (approx. 4mtrs) to be a curtain wall and therefore should be designed as such.

A window or combination of coupled windows shouldn't be used where curtain walling should be.

See MC600 Curtain walling - [Section N](#)

U Value & Energy ratings

To comply with Document L

Suitable for only

Existing Dwellings

Existing Commercial*

New commercial*

***only to windows in buildings
similar to dwellings**

(based on WER value)

BFRC License 6171

Double Glazed Units

- 28mm double glazed units
- 4mm Planilux clear /4mm Planitherm +
- 90% argon gas filled cavity
- 20mm black super spacer bar
- 20kg per m²

Outer Frame W20015

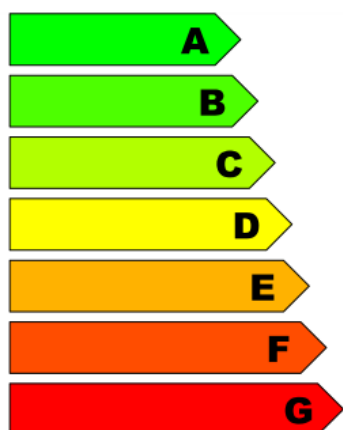
with Sash W20025 and Mullion W20035

Average WER 'B' (U Value 1.7W/m²K)

Unit centre pane U-value of 1.2 W/m²K , G-Value 0.71

WER: Window Energy Performance Certificate

WER Window Energy Rating - In accordance with Approved Document L



Company

**Starglaze Windows
& Conservatories
also T/A
Sternfenster
Window Systems**

Project

Date

30 Aug 2023

WER:	Window Energy Rating: 196.74((1-f)xgglass) - 68.5 x (U + (0.0165 xAL))	-6.6 kWh/m²/Year
Thermal Transmittance:	WER U Value of window calculated using the methods and conventions set out in BR443 Whole window U Value with frame, glazing and glass spacer bar combined. Standard window configuration set out by BR443/GGF 2.3 U Window: 0.628+0.977+0.148	1.753 W/m²K
Frame:	Supplier: Smart Architectual Aluminium System: Alitherm Heritage Outer Frame: W20015 (3.066) Vent Frame: W20025 (3.553) Transom Mullion: W20035 (3.392) Heat Transfer: Uf 3.378 W/m ² K x (18.6% Frame)	0.628 W/m²K
Glazing:	Supplier: SG Specification: 4/20/4 28mm 4mm/20/4mm Planitherm Total Plus Centre Pane, g Value: 1.20 W/m ² K, 0.71 Heat Transfer: CP 1.20 W/m ² K x (81.4% Glass)	0.977 W/m²K
Spacer:	Supplier: Edgetech Spacer Bar: Super Spacer Premium Heat Transfer: Psi 0.035 W/mK x (4.223m/m ²)	0.148 W/m²K
U Value:	Window U Value: Calculation to Document L 2021 1.23m(±25%)x1.48m(-25%)	1.7 W/m²K

Calculated in accordance with UK Building Regulations Document L and BR443
BS EN ISO 10077-2: Thermal performance of windows, doors and shutters.
Calculation of thermal transmittance. Part 2. Numerical method for frames

Version 6.0 (0408)

U Value & Energy ratings

To comply with Document L

Suitable for only

New Dwellings

Existing Commercial*

New commercial*

***only to windows in buildings**

similar to dwellings

(based on U value)

Double Glazed Units

- 28mm double glazed units
- 4mm Planilux clear / 4mm Planitherm One
- 90% argon gas filled cavity
- 20mm black super spacer bar
- 20kg per m²

Outer Frame W20015

with Sash W20025 and Mullion W20035

Average U-Value 1.6 W/M²k

Unit centre pane U-value of 1.0 W/m²K , G-Value 0.49

U Value: Certificate

Window U Value - In accordance with Approved Document L

U Value
1.6 W/m²K

Company

**Starglaze Windows
& Conservatories
also T/A
Sternfenster
Window Systems**

Project

Date

30 Aug 2023

WER:	Window Energy Rating: 196.74((1-f)xgglass) - 68.5 x (U + (0.0165 xAL))	-36.2 kWh/m²/Year
Thermal Transmittance:	WER U Value of window calculated using the methods and conventions set out in BR443 Whole window U Value with frame, glazing and glass spacer bar combined. Standard window configuration set out by BR443/GGF 2.3 U Window: 0.628+0.895+0.148	1.671 W/m²K
Frame:	Supplier: Smart Architectural Aluminium System: Alitherm Heritage Outer Frame: W20015 (3.066) Vent Frame: W20025 (3.553) Transom Mullion: W20035 (3.392) Heat Transfer: Uf 3.378 W/m ² K x (18.6% Frame)	0.628 W/m²K
Glazing:	Supplier: SG Specification: 4/20/4 28mm 4mm/20/4mm Planitherm One Centre Pane, g Value: 1.10 W/m ² K, 0.49 Heat Transfer: CP 1.10 W/m ² K x (81.4% Glass)	0.895 W/m²K
Spacer:	Supplier: Edgetech Spacer Bar: Super Spacer Premium Heat Transfer: Psi 0.035 W/mK x (4.223m/m ²)	0.148 W/m²K
U Value:	Window U Value: Calculation to Document L 2021 1.23m(±25%)x1.48m(-25%)	1.6 W/m²K

Calculated in accordance with UK Building Regulations Document L and BR443
BS EN ISO 10077-2. Thermal performance of windows, doors and shutters.
Calculation of thermal transmittance. Part 2. Numerical method for frames

Version 6.0 (0408)

U Value & Energy ratings

To comply with Document L

Suitable for only

Existing Dwellings

Existing Commercial*

New commercial*

*only to windows in buildings

similar to dwellings

(based on WER value)

BFRC License 6171

Laminated Double Glazed Units

- 28.8mm double glazed units
- 6.8mm Std Laminated / 4mm Planitherm +
 - 90% argon gas filled cavity
 - 18mm black super spacer bar
 - 27kg per m²

Outer Frame W20015

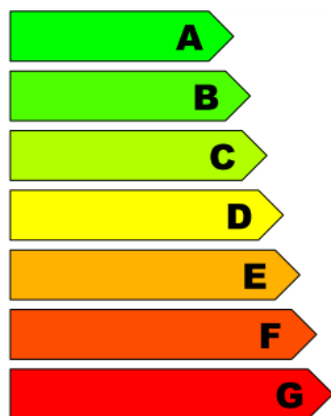
with Sash W20025 and Mullion W20035

Average WER 'B' (U Value 1.7W/m²K)

Unit centre pane U-value of 1.2 W/m²K , G-Value 0.70

WER: Window Energy Performance Certificate

WER Window Energy Rating - In accordance with Approved Document L



Company

**Starglaze Windows
& Conservatories
also T/A
Sternfenster
Window Systems**

Project

Date

30 Aug 2023

WER:	Window Energy Rating: 196.74((1-f)xgglass) - 68.5 x (U + (0.0165 xAL))	-9.0 kWh/m²/Year
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Thermal Transmittance:	WER U Value of window calculated using the methods and conventions set out in BR443 Whole window U Value with frame, glazing and glass spacer bar combined. Standard window configuration set out by BR443/GGF 2.3	
	U Window:	0.628+0.977+0.160
		1.765 W/m²K

Frame:	Supplier:	Smart Architectural Aluminium	
	System:	Alitherm Heritage	
	Outer Frame:	W20015 (3.066)	
	Vent Frame:	W20025 (3.553)	
	Transom Mullion:	W20035 (3.392)	
	Heat Transfer:	Uf 3.378 W/m ² K x (18.6% Frame)	0.628 W/m²K

Glazing:	Supplier:	SG	
	Specification:	6.8/18/4 28.8mm 6.8mm Std Lam/18/4mm Planitherm Total Plus	
	Centre Pane, g Value:	1.20 W/m ² K, 0.70	
	Heat Transfer:	CP 1.20 W/m ² K x (81.4% Glass)	0.977 W/m²K

Spacer:	Supplier:	Edgetech	
	Spacer Bar:	Super Spacer Premium	
	Heat Transfer:	Psi 0.038 W/mK x (4.223m/m ²)	0.160 W/m²K

U Value:	Window U Value: Calculation to Document L 2021 1.23m(±25%)x1.48m(-25%)	1.7 W/m²K
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Calculated in accordance with UK Building Regulations Document L and BR443
BS EN ISO 10077-2. Thermal performance of windows, doors and shutters.
Calculation of thermal transmittance. Part 2. Numerical method for frames

Version 6.0 (0408)

U Value & Energy ratings

To comply with Document L

Suitable for only

New Dwellings

Existing Commercial*

New commercial*

***only to windows in buildings**

similar to dwellings

(based on U value)

Laminated Double Glazed Units

- 28.8mm double glazed units
- 6.8mm Laminated /4mm Planitherm One
 - 90% argon gas filled cavity
- 18mm black super spacer bar
 - 27kg per m²

Outer Frame W20015

with Sash W20025 and Mullion W20035

Average U-Value 1.5 W/M²k

Unit centre pane U-value of 1.0 W/m²K , G-Value 0.46

U Value: Certificate

Window U Value - In accordance with Approved Document L

U Value
1.5 W/m²K

Company

**Starglaze Windows
& Conservatories
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Sternfenster
Window Systems**

Project

Date

30 Aug 2023

WER:	Window Energy Rating: 196.74((1-f)xgglass) - 68.5 x (U + (0.0165 xAL))	-36.3 kWh/m²/Year
Thermal Transmittance:	WER U Value of window calculated using the methods and conventions set out in BR443 Whole window U Value with frame, glazing and glass spacer bar combined. Standard window configuration set out by BR443/GGF 2.3 U Window: 0.628+0.814+0.160	1.603 W/m²K
Frame:	Supplier: Smart Architectual Aluminium System: Alitherm Heritage Outer Frame: W20015 (3.066) Vent Frame: W20025 (3.553) Transom Mullion: W20035 (3.392) Heat Transfer: Uf 3.378 W/m ² K x (18.6% Frame)	0.628 W/m²K
Glazing:	Supplier: SG Specification: 6.8/18/4 28.8mm 6.8mm Std Lam/18/4mm Planitherm One Centre Pane, g Value: 1.00 W/m ² K, 0.46 Heat Transfer: CP 1.00 W/m ² K x (81.4% Glass)	0.814 W/m²K
Spacer:	Supplier: Edgetech Spacer Bar: Super Spacer Premium Heat Transfer: Psi 0.038 W/mK x (4.223m/m ²)	0.160 W/m²K
U Value:	Window U Value: Calculation to Document L 2021 1.23m(±25%)x1.48m(-25%)	1.5 W/m²K

Calculated in accordance with UK Building Regulations Document L and BR443
BS EN ISO 10077-2. Thermal performance of windows, doors and shutters.
Calculation of thermal transmittance. Part 2. Numerical method for frames

Version 6.0 (0408)

U Value & Energy ratings

To comply with Document L

Suitable for all

Existing Dwellings

New Dwellings

Existing Commercial*

New commercial*

*only to windows in buildings
similar to dwellings

(based on WER / U value)

Triple Glazed Units

- 36mm triple glazed units
- 4mm Planilux clear / 4mm Planitherm + / Planitherm +
- 90% argon gas filled cavity
- Qty 2 x 12mm black super spacer bar
- 30kg per m²

Outer Frame W20015

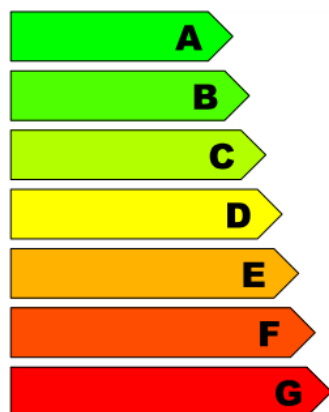
with Sash W20028 and Mullion W20035

Average U-value 1.3 W/m²K & Average WER 'A'

Unit centre pane U-value of 0.8 W/m²K , G-Value 0.61

WER: Window Energy Performance Certificate

WER Window Energy Rating - In accordance with Approved Document L



Company

**Starglaze Windows
& Conservatories
also T/A
Sternfenster
Window Systems**

Project

Date

19 Sep 2023

WER:	Window Energy Rating: 196.74((1-f)xgglass) - 68.5 x (U + (0.0165 xAL))	-5.5 kWh/m²/Year
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Thermal Transmittance:	WER U Value of window calculated using the methods and conventions set out in BR443 Whole window U Value with frame, glazing and glass spacer bar combined. Standard window configuration set out by BR443/GGF 2.3	
	U Window:	0.632+0.651+0.127
		1.410 W/m²K

Frame:	Supplier:	Smart Architectural Aluminium	
	System:	Alitherm Heritage	
	Outer Frame:	W20015 (3.066)	
	Vent Frame:	W20028 (3.586)	
	Transom Mullion:	W20035 (3.416)	
	Heat Transfer:	Uf 3.400 W/m ² K x (18.6% Frame)	0.632 W/m²K

Glazing:	Supplier:	SG	
	Specification:	4/12/4/12/4 36mm Planitherm Total Plus x 2	
	Centre Pane, g Value:	0.80 W/m ² K, 0.57	
	Heat Transfer:	CP 0.80 W/m ² K x (81.4% Glass)	0.651 W/m²K

Spacer:	Supplier:	Edgetech	
	Spacer Bar:	Super Spacer Premium	
	Heat Transfer:	Psi 0.030 W/mK x (4.223m/m ²)	0.127 W/m²K

U Value:	Window U Value: Calculation to Document L 2021 1.23m(±25%)x1.48m(-25%)	1.3 W/m²K
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Calculated in accordance with UK Building Regulations Document L and BR443
BS EN ISO 10077-2. Thermal performance of windows, doors and shutters.
Calculation of thermal transmittance. Part 2. Numerical method for frames

Version 6.0 (0409)

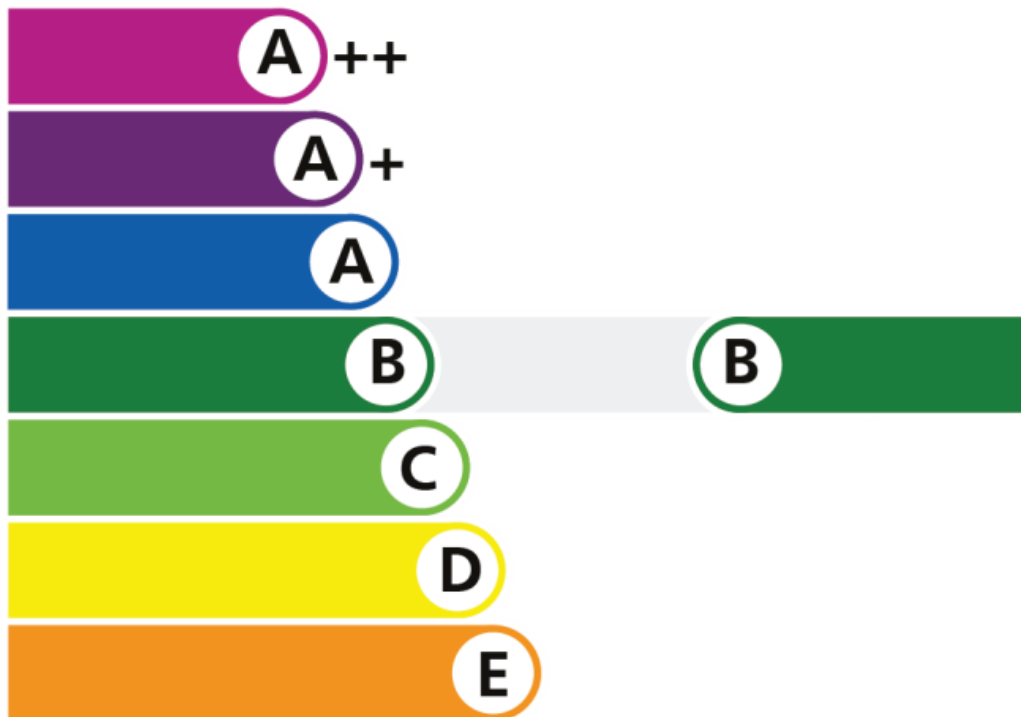


Energy Window

Starglaze/Sternfenster

Heritage

Casement Window



Licence No. **6171**

Review Date:

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