



Heritage 47 Casement window

Energy Rating B uValue 1.7Wm²k

47mm thermally broken Smart's aluminium

Alitherm Heritage Window – Window Energy Rating 'B'

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
- Double glazed 28mm: average U-value of 1.7 W/m²K (1.2 centre pane) – WER 'B'
- Triple glazed 36mm: average U-value of 1.4 W/m²K (0.8 centre pane) – WER 'A' (**W20028 sash**)

Features and Options

- Ultra slim frame and sash – used as a replacement for Crittall style windows
- Trickle vents available (fitted into 42mm frame extension)
- 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

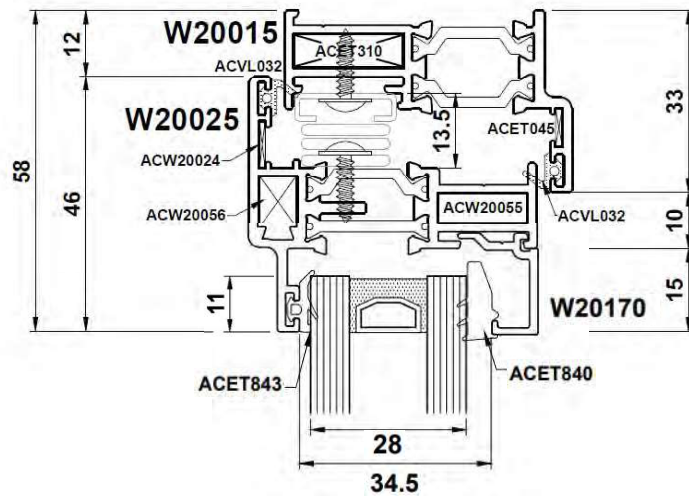
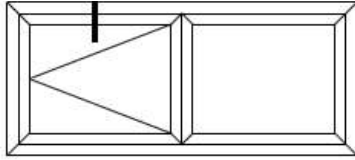
- Max width: 700mm (sash size) using side hung stays (600mm using egress/easy clean stays)
- Min width: 300mm (frame size 330mm)
- Max height: 1400mm (sash size)
- Min height: 376mm (frame size 400mm)
- Max weight: 24kg
- 450mm opening (fire escape) - frame/frame min 580mm - frame/mullion CL min 520mm

Weather Performance (BS6375-1)

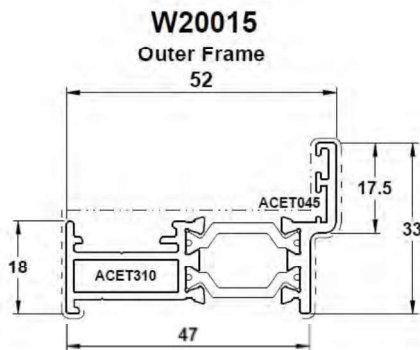
- BS EN 1026: 2000 Air Permeability: Class 4 600 Pa
- BS EN 1027: 2000 Water tightness: Class 9A 600 Pa
- BS EN 12211: 2000 Resistance to Wind Load: Class AE 2400 Pa

Cross Sectional Drawings

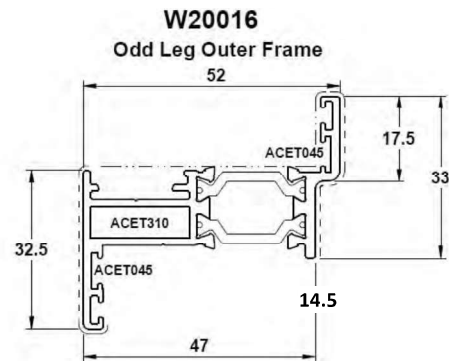
Standard Frame & Sash Detail



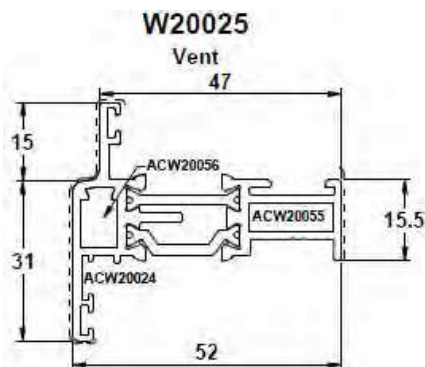
Standard Outer Frame
Ix value 8.08



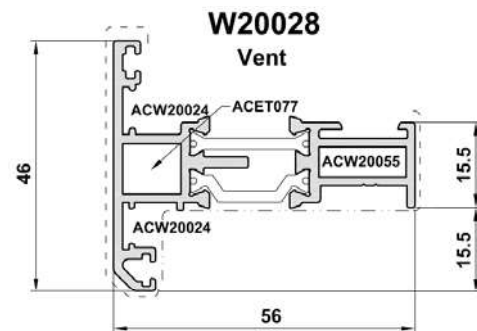
Odd leg Outer Frame



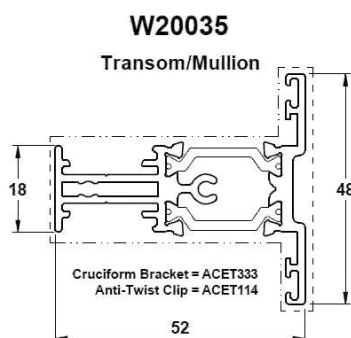
28 mm Internally Beaded Sash



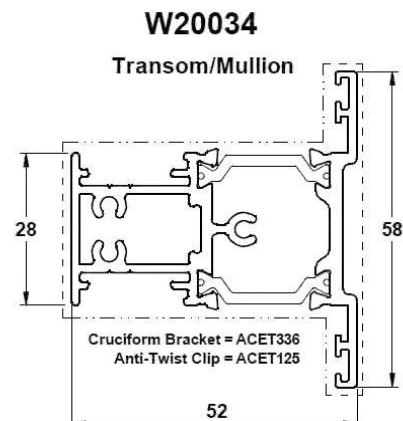
36mm Internally Beaded Sash

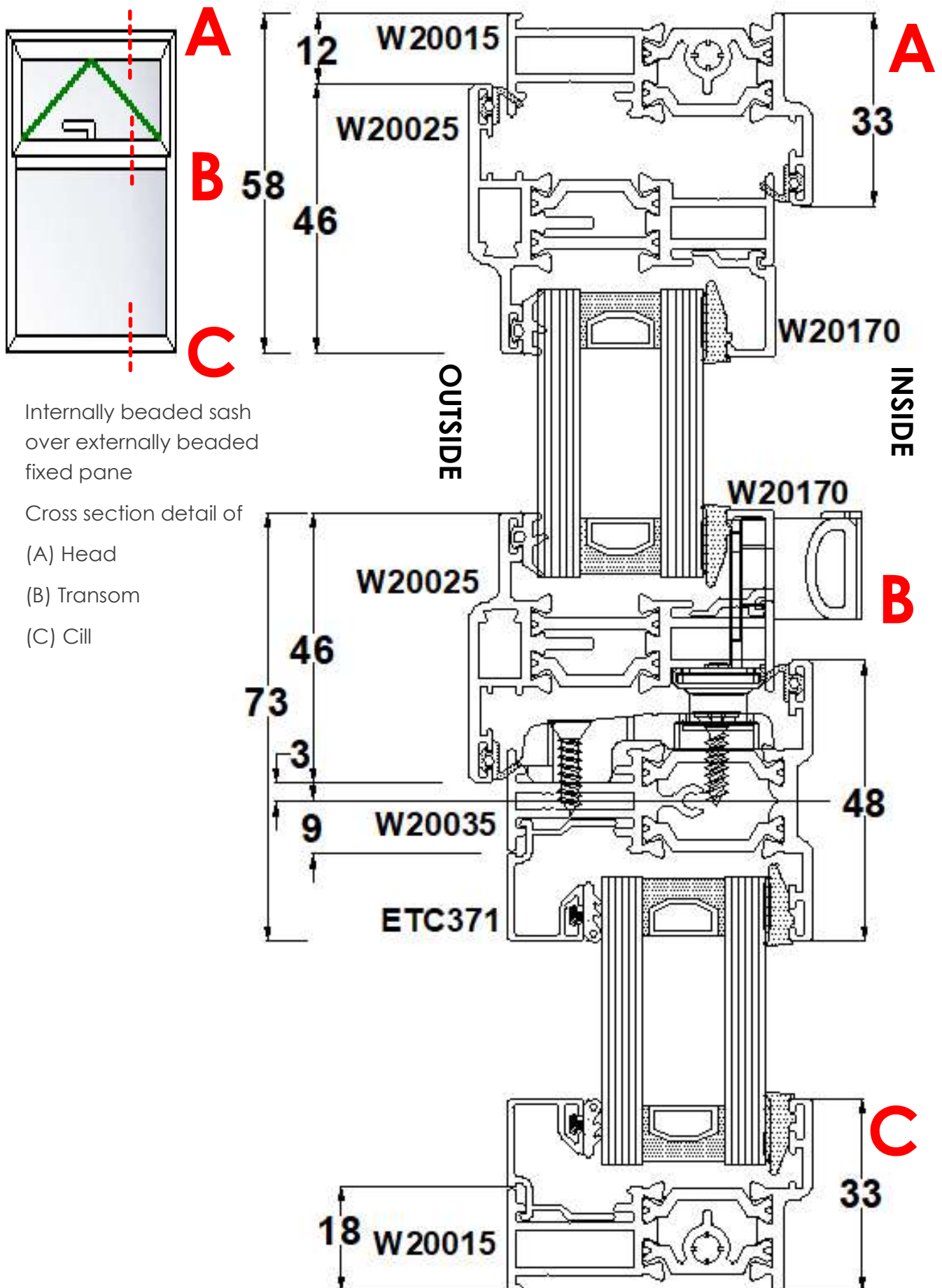


Standard Transom/Mullion
Ix value 10.67



Heavy Duty Transom/Mullion
Ix value 14.43

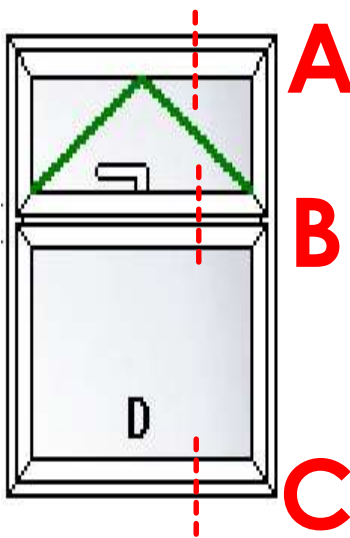




Internally beaded sash
over externally beaded
fixed pane

Cross section detail of

- (A) Head
- (B) Transom
- (C) Cill



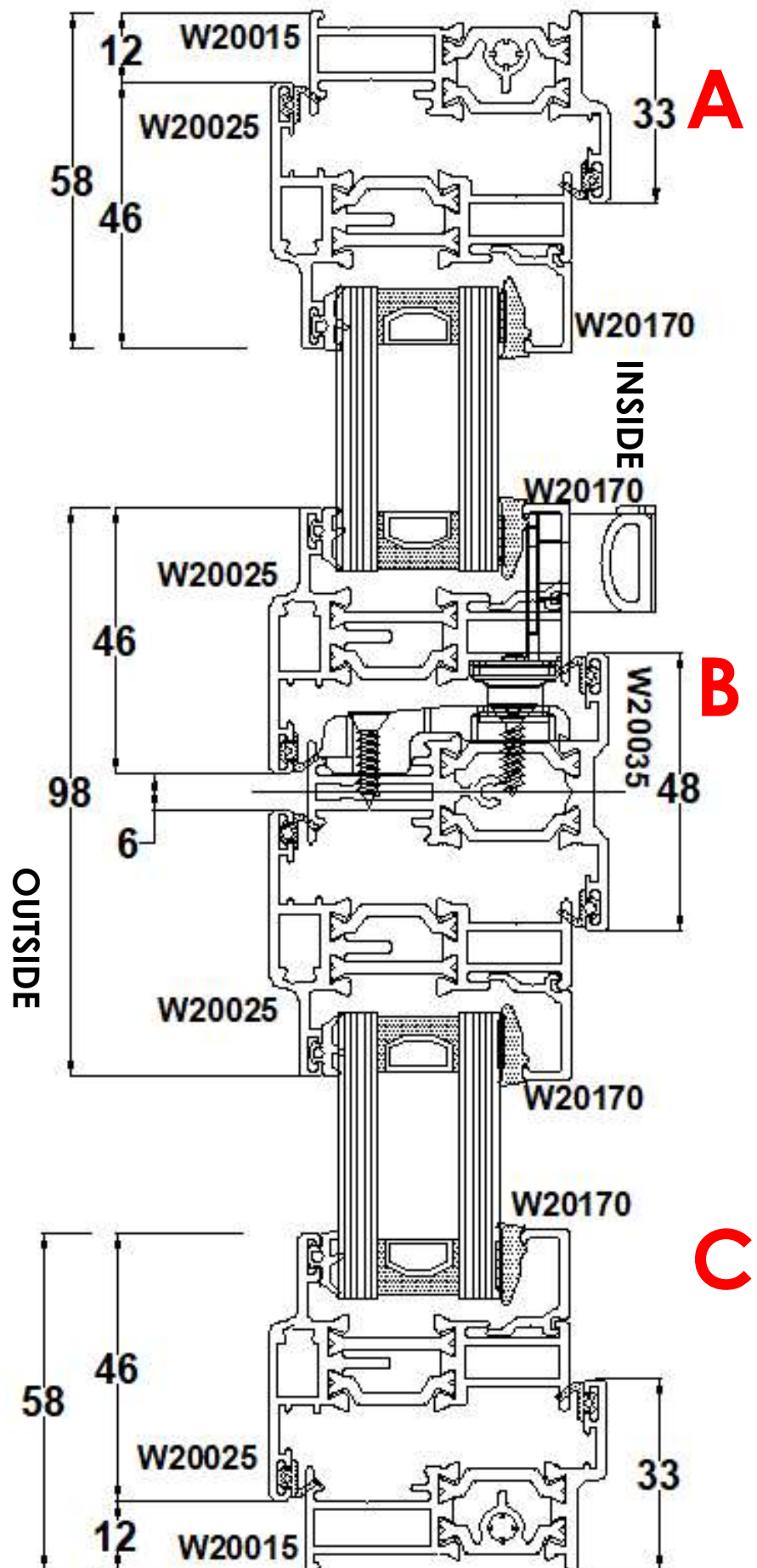
Internally beaded sash
over internally beaded
dummy sash

Cross section detail of

(A) Head

(B) Transom

(C) Cill

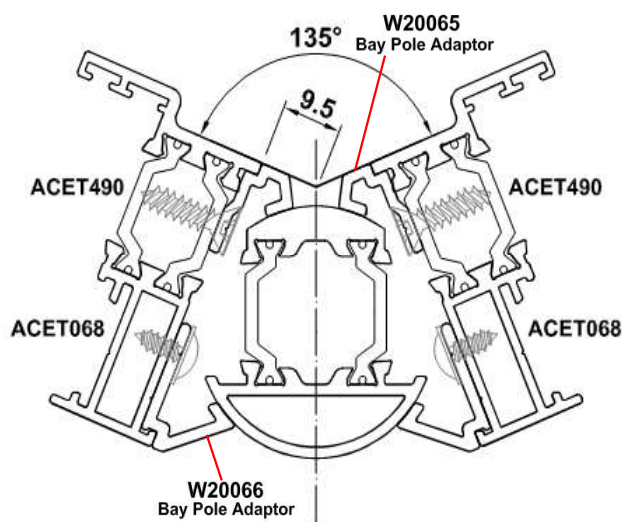
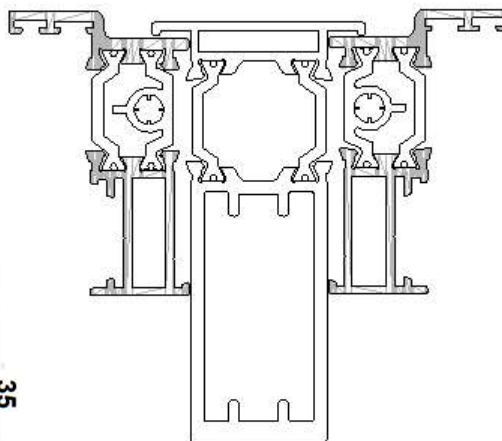


OMEGA
windows, doors & conservatories

Technical drawing of a rectangular frame. The drawing shows a top-down view of a frame with a central rectangular opening. The overall width is labeled as 47 and the overall height is labeled as 42. The frame has a complex profile with multiple horizontal and vertical sections, suggesting it might be a cross-section of a multi-layered or multi-part assembly.

Technical drawing of the ETC047 assembly, showing dimensions and components. The drawing includes the following labels and dimensions:

- Dimensions:**
 - Overall width: 33
 - Overall height: 47
 - Top section height: 15
 - Bottom section height: 18
 - Top section width: 28
 - Bottom section width: 18
 - Right section height: 28
 - Right section width: 15
- Components:**
 - ETC047 (Main assembly)
 - W20015 (Internal component)
 - ACET066 (Internal component)
 - ACET845 (Internal component)
 - ACW20038 (Internal component)
 - ACS (Internal component)
 - ETC371 (Internal component)
 - ACSIL 04 (Internal component)



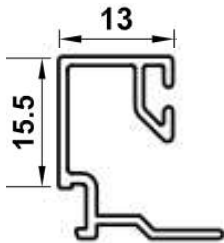
Angle	Deduction 'A'	Angle	Deduction 'A'
115°	5	150°	12.5
120°	6.5	155°	13.5
125°	7.5	160°	14.5
130°	8.5	165°	15.5
135°	9.5	170°	16
140°	10.5	175°	17
145°	11.5	180°	18

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Bead & Gaskets

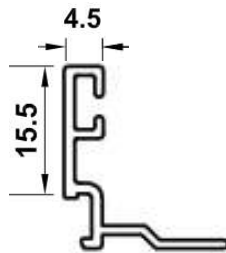
28mm External
Outerframe bead

ETC371



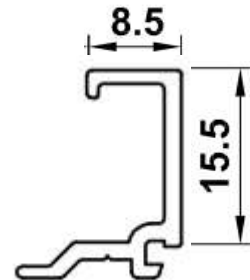
36mm External
Outerframe bead

ETC376



28mm & 36mm
Internal Sash bead

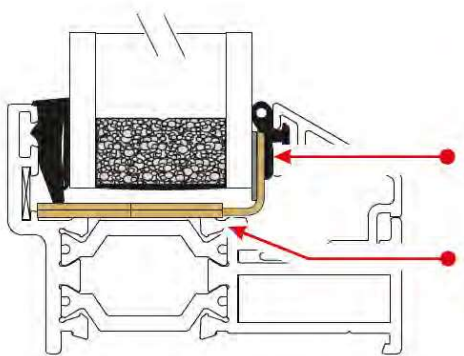
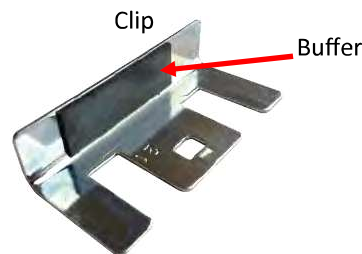
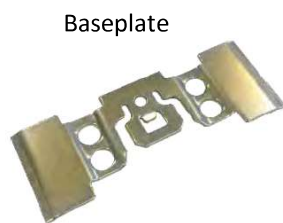
W20170



Glaslok Security glazing clip

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

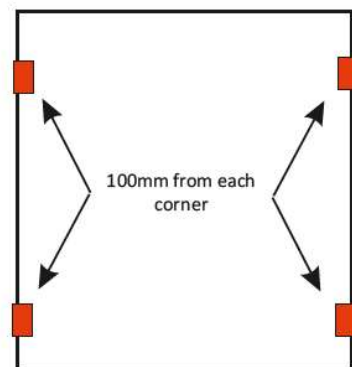
The clip set assembly is comprised of a baseplate, clip to suit the sealed unit thickness and a buffer to prevent contact between glass and clip.



SECURI-CLIP
SC126 for 28mm units

Set Base Plate 4mm in from
up-stand as shown

**Note: security clips are
supplied loose**



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

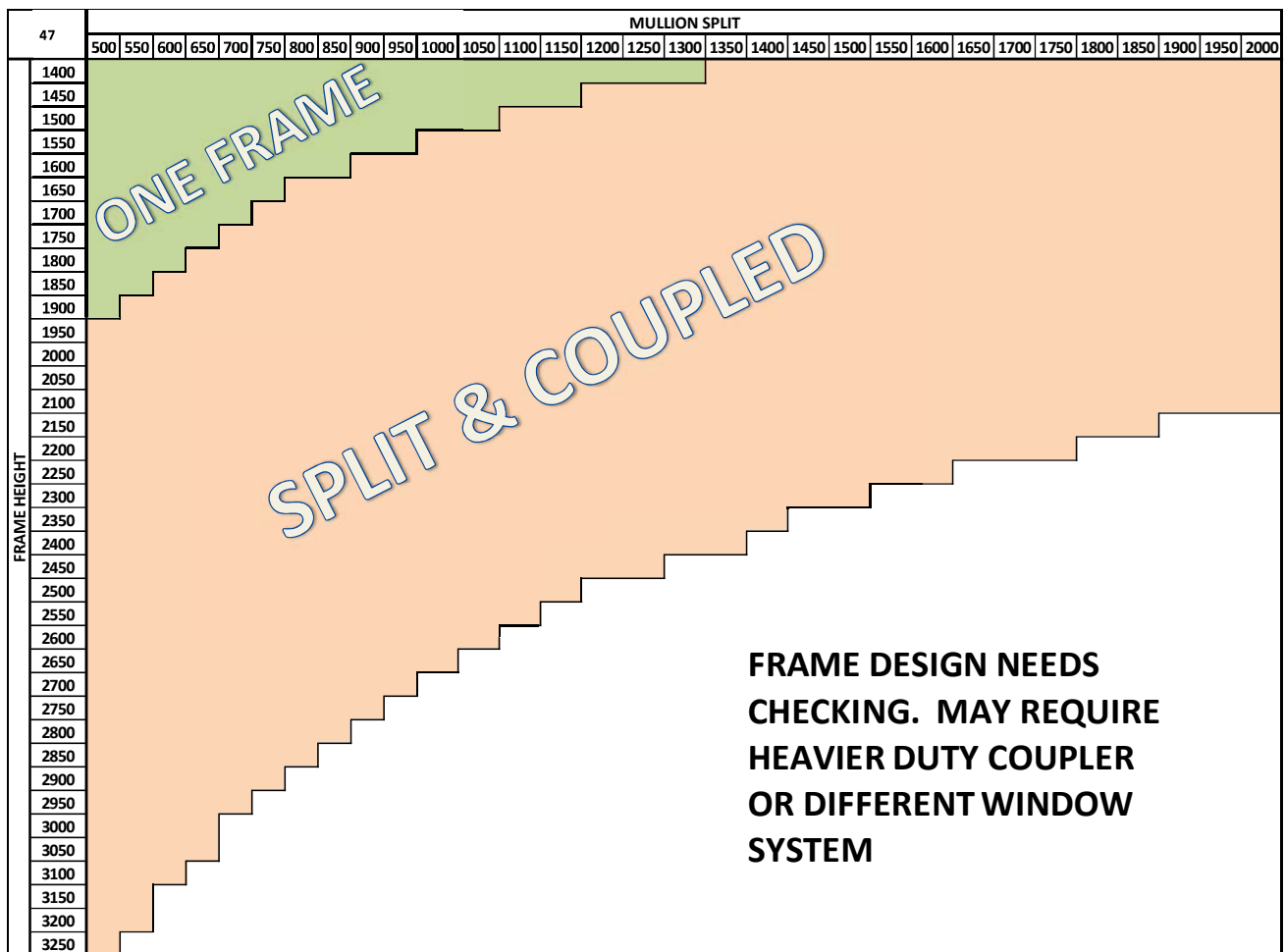
Wind loading calculations based on 800pa, and equal mullion splits.

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 $(8.08 \times 2 + 41.5) = 57.66$



U-values for Double Glazed Units

Our standard glass specification is:

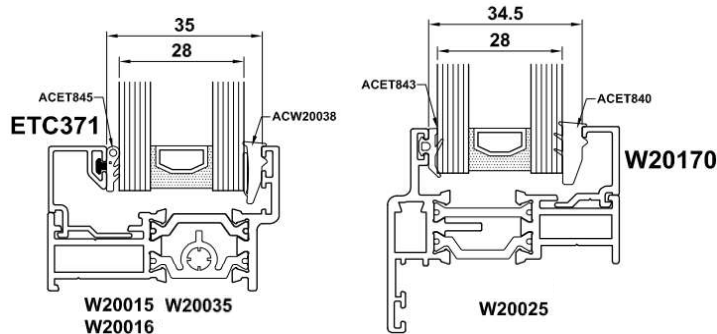
- 28mm double glazed units
- 4mm Planilux clear /4mm Planitherm +
- 90% argon gas filled cavity
- 16mm Black super spacer bar
- 20kg per m²

Outer Frame W20015

with Sash W20025 and Mullion W20035

Average U-value of 1.7 W/m²K - WER 'B'

Unit centre pane of 1.2 W/m²K



WER: Window Energy Performance Certificate

WER Window Energy Rating - In accordance with Approved Document L 2013

Company	
Project	
Date	27 Mar 2018
WER Rating	B
Thermal Transmittance	1.7 W/m ² K
Frame	Supplier: Smart Architectural Aluminium System: Alitherm 47 Heritage Outer Frame: W20015 (3.091) Vent Frame: W20025 (3.553) Transom Mullion: W20035 (3.392) Heat Transfer: 3.385 W/m ² K x (18.6% Frame) 0.629 W/m ² K
Glazing	Supplier: SaintGobain Specification: 28mm double clear/Planitherm - Argon Filled Centre Pane, g Value: 1.20 W/m ² K, 0.73 Heat Transfer: 1.20 W/m ² K x (81.4% Glass) 0.977 W/m ² K
Spacer	Supplier: Edgetech Spacer Bar: Super Spacer Premium Heat Transfer: 0.035 W/m ² K x (4.223m ²) 0.148 W/m ² K
U Value	Window U Value: Calculation to BS EN 14351-1 1.7 W/m ² K

WER:	Window Energy Rating: 196.74((1-f _g glass) - 68.5 x (U + (0.0165 x AL)))	-3.7 kWh/m ² /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 U Window: 0.629+0.977+0.148	1.7 W/m ² K
Frame:	Supplier: Smart Architectural Aluminium System: Alitherm 47 Heritage Outer Frame: W20015 (3.091) Vent Frame: W20025 (3.553) Transom Mullion: W20035 (3.392) Heat Transfer: 3.385 W/m ² K x (18.6% Frame)	0.629 W/m ² K
Glazing:	Supplier: SaintGobain Specification: 28mm double clear/Planitherm - Argon Filled Centre Pane, g Value: 1.20 W/m ² K, 0.73 Heat Transfer: 1.20 W/m ² K x (81.4% Glass)	0.977 W/m ² K
Spacer:	Supplier: Edgetech Spacer Bar: Super Spacer Premium Heat Transfer: 0.035 W/m ² K x (4.223m ²)	0.148 W/m ² K
U Value:	Window U Value: Calculation to BS EN 14351-1	1.7 W/m ² K

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 4.0 (0078)

U-values for Triple Glazed Units

Our standard glass specification is:

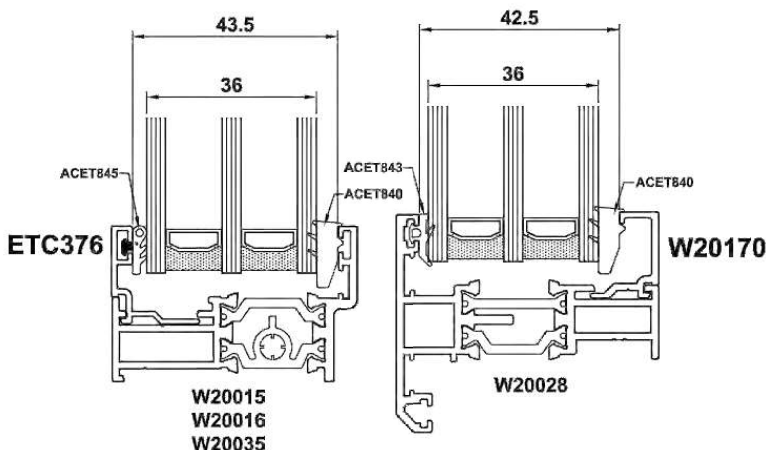
- 36mm double glazed units
- 4mm Planilux clear /4mm Planitherm +/4mm Planitherm +
- 90% argon gas filled cavity
- 12mm Black super spacer bar
- 30kg per m²

Outer Frame W20015

with Sash W20028 and Mullion W20035

Average U-value of 1.4 W/m²K - WER 'A'

Unit centre pane of 0.8 W/m²K



WER: Window Energy Performance Certificate

WER Window Energy Rating - In accordance with Approved Document L 2013

Company	
Project	
Date	27 Mar 2018
WER Rating	A
Thermal Transmittance	1.4 W/m ² K
Frame	Supplier: Smart Architectural Aluminium System: Alitherm 47 Heritage Outer Frame: W20015 (3.091) Vent Frame: W20025 (3.553) Transom Mullion: W20035 (3.392) Heat Transfer: 3.385 W/m ² K x (18.6% Frame) 0.629 W/m ² K
Glazing	Supplier: SaintGobain Specification: 36mm triple clear/planitherm/planitherm Centre Pane, g Value: 0.80 W/m ² K, 0.63 Heat Transfer: 0.80 W/m ² K x (81.4% Glass) 0.651 W/m ² K
Spacer	Supplier: Edgetech Spacer Bar: Super Spacer Premium Heat Transfer: 0.035 W/m ² K x (4.223m ²) 0.148 W/m ² K
U Value	Window U Value: Calculation to BS EN 14351-1 1.4 W/m ² K

WER:	Window Energy Rating: 196.74((1-f _g glass) - 68.5 x (U + (0.0165 x AL)))	2.5 kWh/m ² /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 U Window: 0.629+0.651+0.148	1.4 W/m ² K
Frame:	Supplier: Smart Architectural Aluminium System: Alitherm 47 Heritage Outer Frame: W20015 (3.091) Vent Frame: W20025 (3.553) Transom Mullion: W20035 (3.392) Heat Transfer: 3.385 W/m ² K x (18.6% Frame)	0.629 W/m ² K
Glazing:	Supplier: SaintGobain Specification: 36mm triple clear/planitherm/planitherm Centre Pane, g Value: 0.80 W/m ² K, 0.63 Heat Transfer: 0.80 W/m ² K x (81.4% Glass)	0.651 W/m ² K
Spacer:	Supplier: Edgetech Spacer Bar: Super Spacer Premium Heat Transfer: 0.035 W/m ² K x (4.223m ²)	0.148 W/m ² K
U Value:	Window U Value: Calculation to BS EN 14351-1	1.4 W/m ² K

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 4.0 (0078)