Alitherm 300 casement window

Energy Rating B uValue 1.6Wm²k

70mm thermally broken Smart's aluminium

Alitherm 300 Window – Window Energy Rating 'B'

- Open out internally beaded casements and externally beaded fixed panes as standard
- 70mm thermally broken system with ACET619 foam infill to surround
- Flat outer frame and vent as standard
- Square bead as standard
- 13mm stack friction hinge
- Espagnolette with bi-directional locking
- Average U-value 1.6 W/m^{2}K (28mm Clear/Low E 1.2 W/m^{2}K centre pane U-Value) – WER 'B'

Features and Options

- For fully internally beaded windows, use internally beaded dummy sashes to fixed panes
- Finishes available in KL, RAL, Sensation range and dual colour options
- Optional egress hinge with easy clean facility (easy clean subject to sash width)
- Odd leg outer frame available ETC423 - 16mm leg (long leg sizes required for orders/quotations) **note:** extended lead time
- Trickle vents available (fitted into 42mm frame extension)
- 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
- French escape windows are **NOT** available
- Triple glazing is **NOT** available

Size Restrictions

- Large frames with mullions are subject to be split and coupled based on a design wind load of 800pa
- Max frame size will depend on wind loading requirements and style of window
- Outside of the sizes below frame will be subject to **NO** warranty

Top Hung Sashes

- Max width: 1431mm (sash size) (1471mm frame size)
- Min width: 371mm (sash size) (411mm frame size)
- Max height: 1330mm (sash size) (1370mm frame size)
- Min height: 306mm (sash size) (346mm frame size) (mm transom drop)
- Max weight: 40kg

Side Hung Sashes

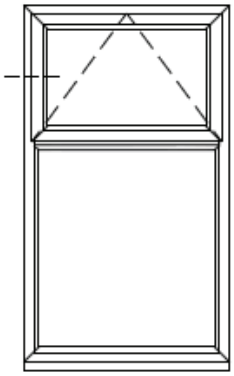
- Max width: 631mm (sash size) (671mm frame size)
- Min width: 331mm (sash size) (371mm frame size)
- Max height: 1431mm (sash size) (1471mm frame size)
- Min height: 371mm (sash size) (411mm frame size)
- Max weight: 24kg
- Egress hinge max sash weight 24kg (subject to sash size)
- Mega egress max sash weight 40kg (subject to sash size)

Weather Performance (BS6375-1)

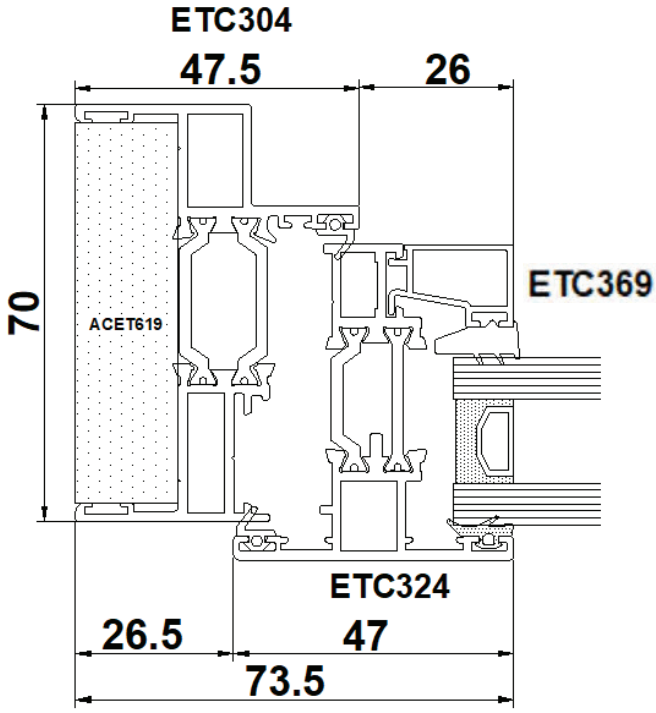
- BS EN 1026: 2000 Air Permeability: Class 4, 600 Pa
- BS EN 1027: 2000 Water tightness: Class E, 1200 Pa
- BS EN 12211: 2000 Resistance to Wind Load: Class AE, 2400 Pa

Cross Sectional Drawings

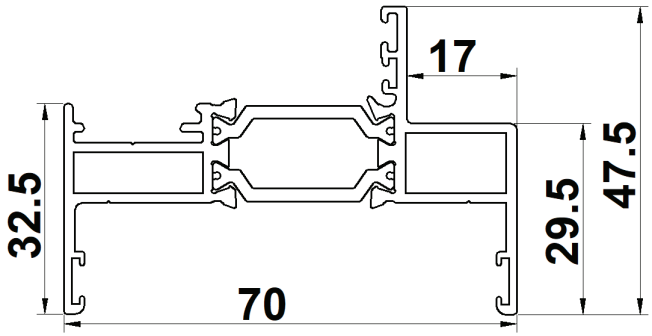
Standard Frame & Sash Detail



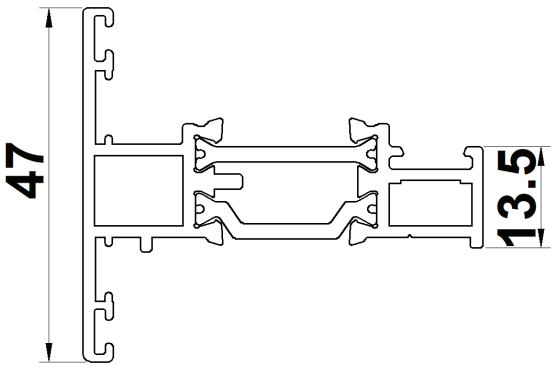
Note:
Check requirements, fixed panes will be externally beaded unless dummy sashes are requested



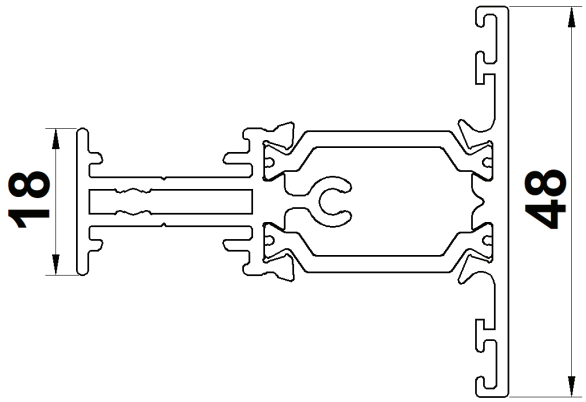
ETC304 Outerframe
Ix value 22.01



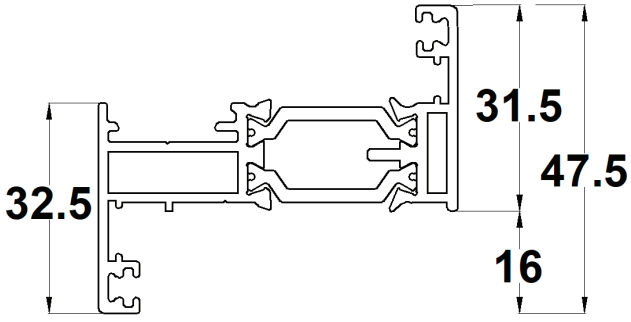
ETC324N Internally beaded sash
Ix value 16.66

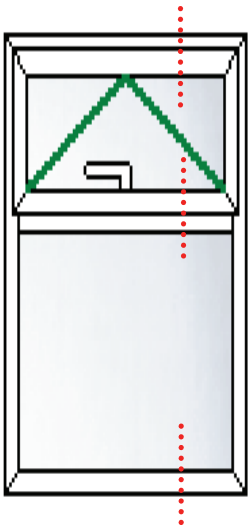


ETC333 Standard Transom/Mullion
Ix value 11.64



ETC423 Odd leg Outerframe
16mm Leg Ix value 14.35
extended lead time





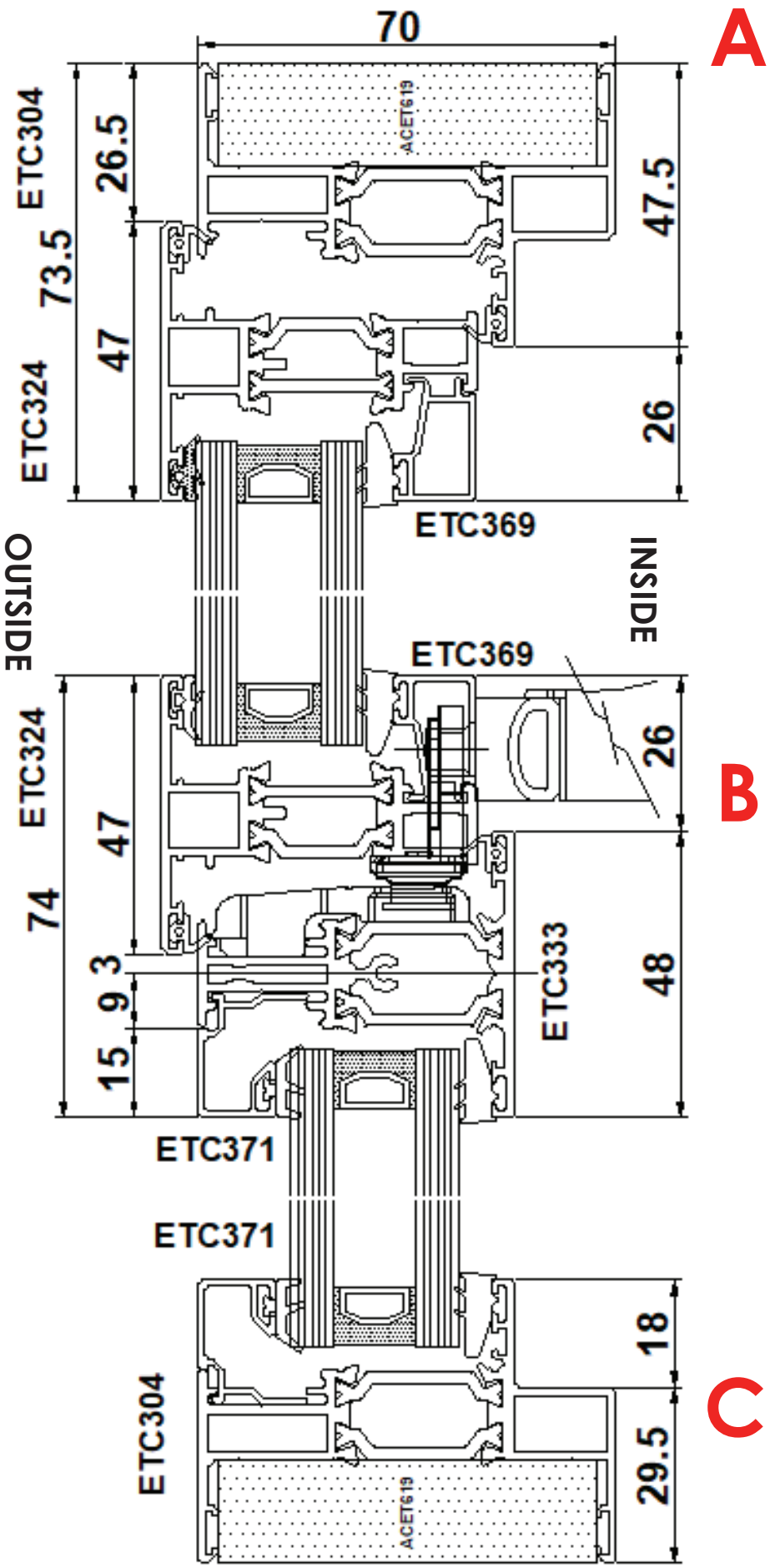
Internally beaded sash over externally beaded fixed pane

Cross section detail of

(A) Head

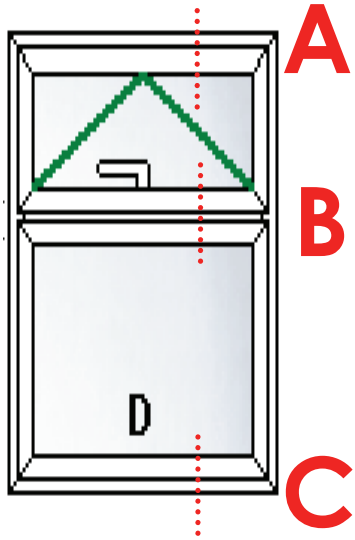
(B) Transom

(C) Cill



OMEGA windows, doors & conservatories

My Ali Framing Solutions
Alitherm 300 Casement Window



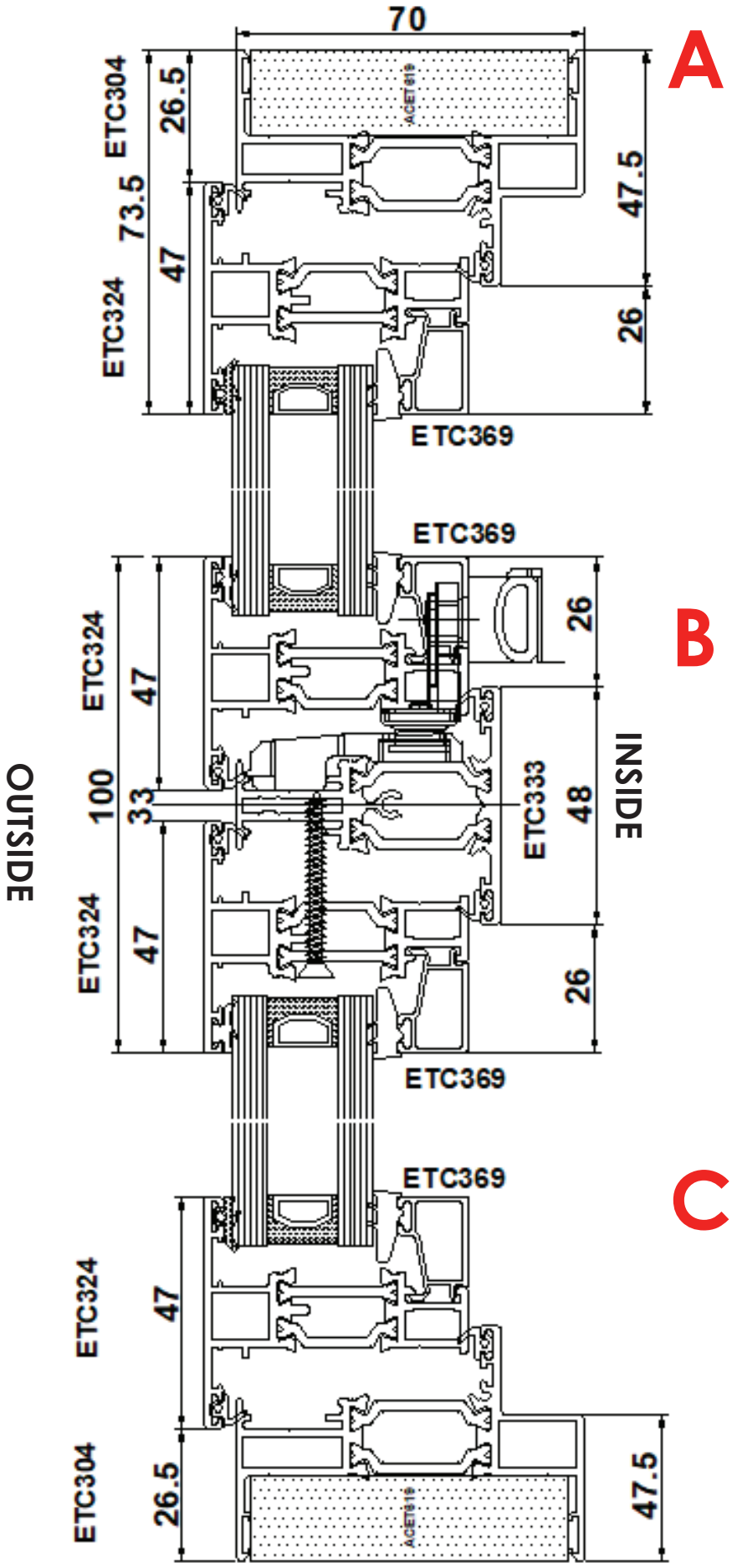
Internally beaded sash over internally beaded dummy sash

Cross section detail of

(A) Head

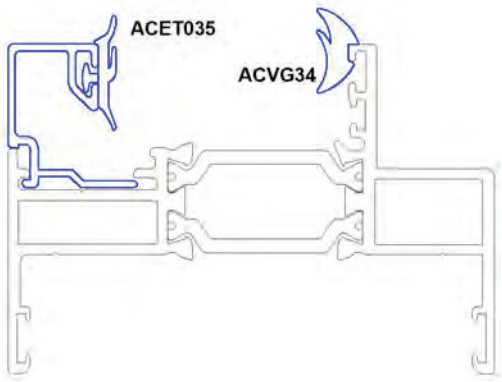
(B) Transom

(C) Cill

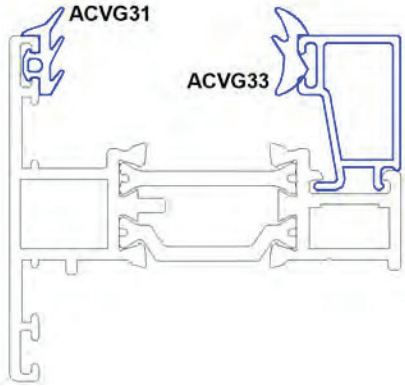


Bead & Gaskets

Externally beaded fixed pane
ETC371 bead 28mm double glazed



Internally beaded sash
ETC369 bead 28mm double glazed

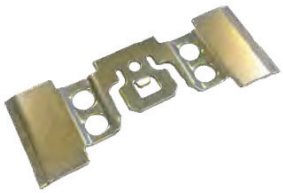


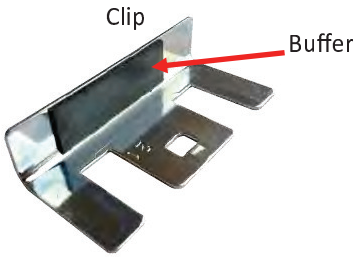
Note:
Check requirements, fixed panes will be externally beaded unless dummy sashes are requested

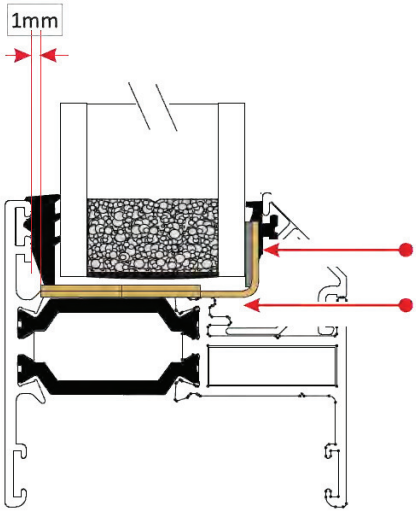
Glaslok Security glazing clip

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.



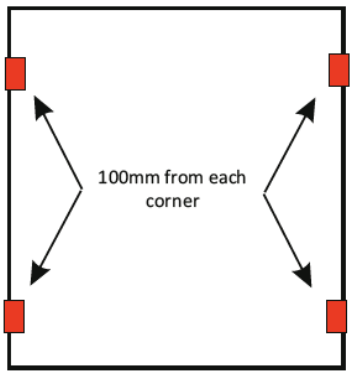




SECURI-CLIP
SC126 for 28mm units

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

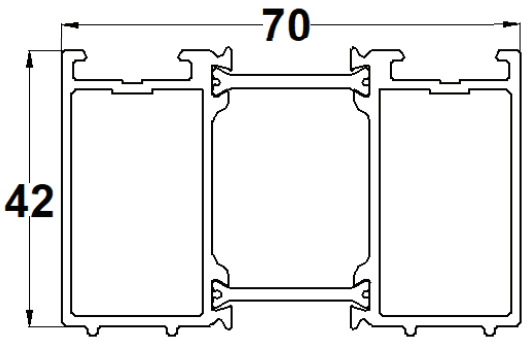
Note: security clips are supplied loose



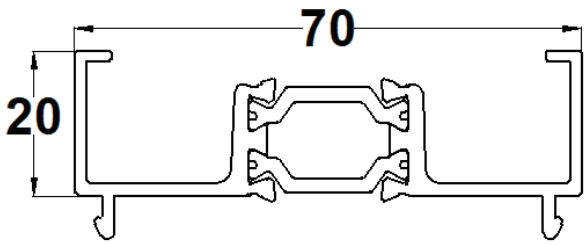
Use same combination for all transoms and mullions with fixed glazed units.
When fixing into Polyamide use a double helix thread screw

Ancillaries

DV515 42mm Frame extension



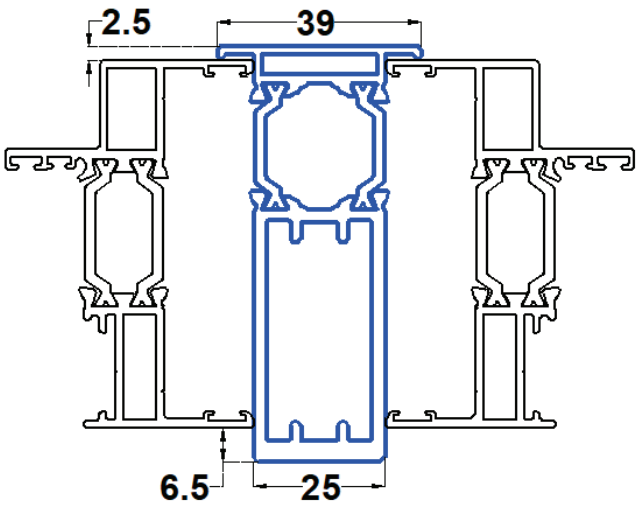
DV559 20mm Frame extension



ETC357 25x79mm coupler

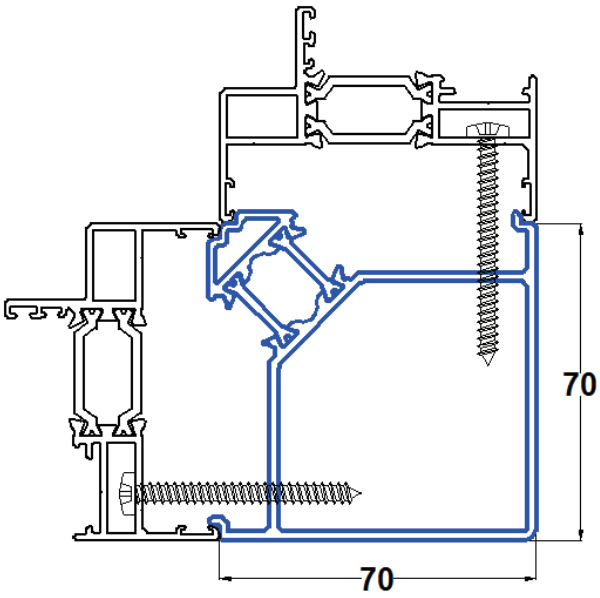
12.5mm deduction each side

Ix value 41.5



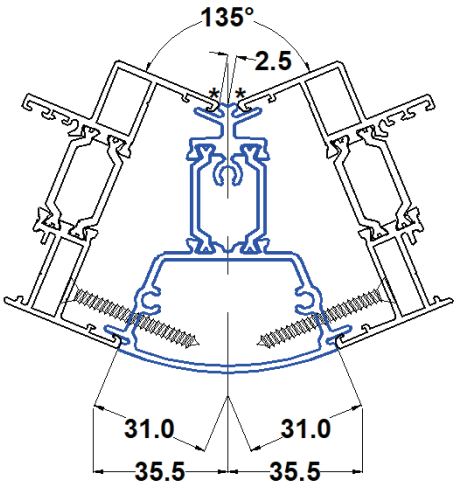
ETC048 Corner Post

0mm Frame deduction



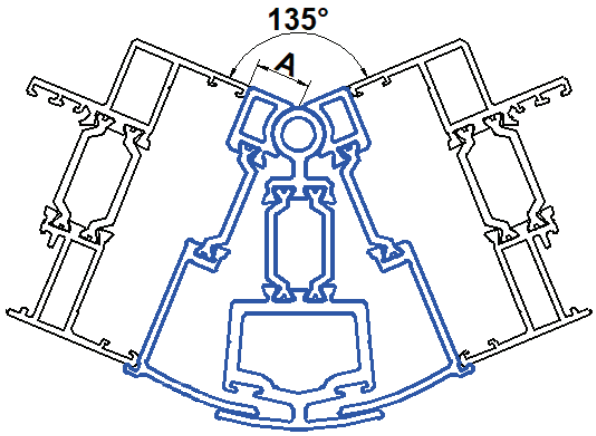
ETC385 135° fixed bay pole

2.55mm deduction each side

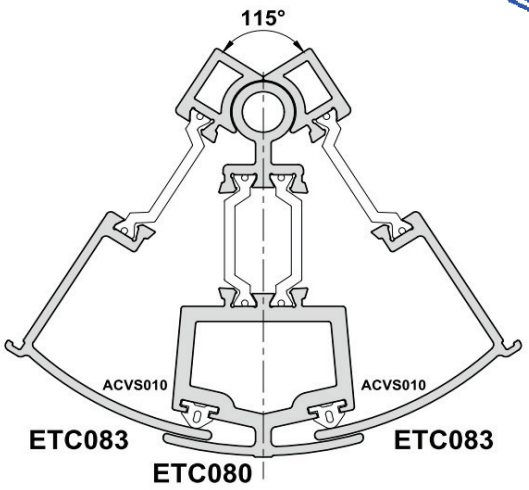


Note: All joints must be adequately sealed

Alitherm 300 - Variable Bay pole 115° - 169°



Note:
All joints must be adequately sealed

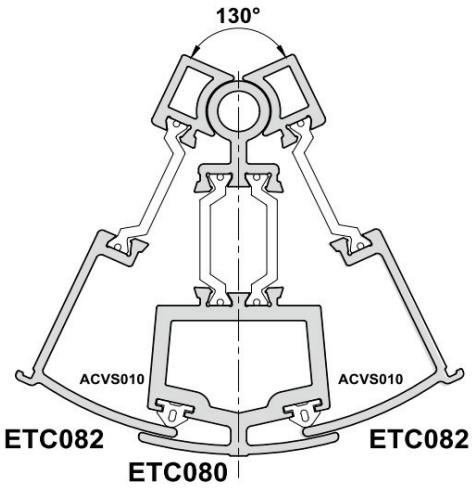


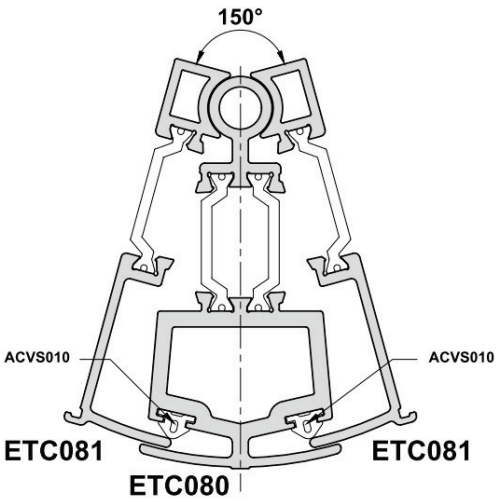
ANGLE	DEDUCTION 'A'
115°	10.5
120°	11
125°	11.5
129°	11.5

Parts
ETC080 Qty 1
ETC083 Qty 2
ACVS010 x 2

ANGLE	DEDUCTION 'A'
130°	11.5
135°	12
140°	12
145°	12.5
149°	12.5

Parts
ETC080 Qty 1
ETC082 Qty 2
ACVS010 x 2





ANGLE	DEDUCTION 'A'
150°	13
155°	13
160°	13.5
165°	13.5
169°	14

Parts
ETC080 Qty 1
ETC081 Qty 2
ACVS010 x 2

Wind Loading – Alitherm 300

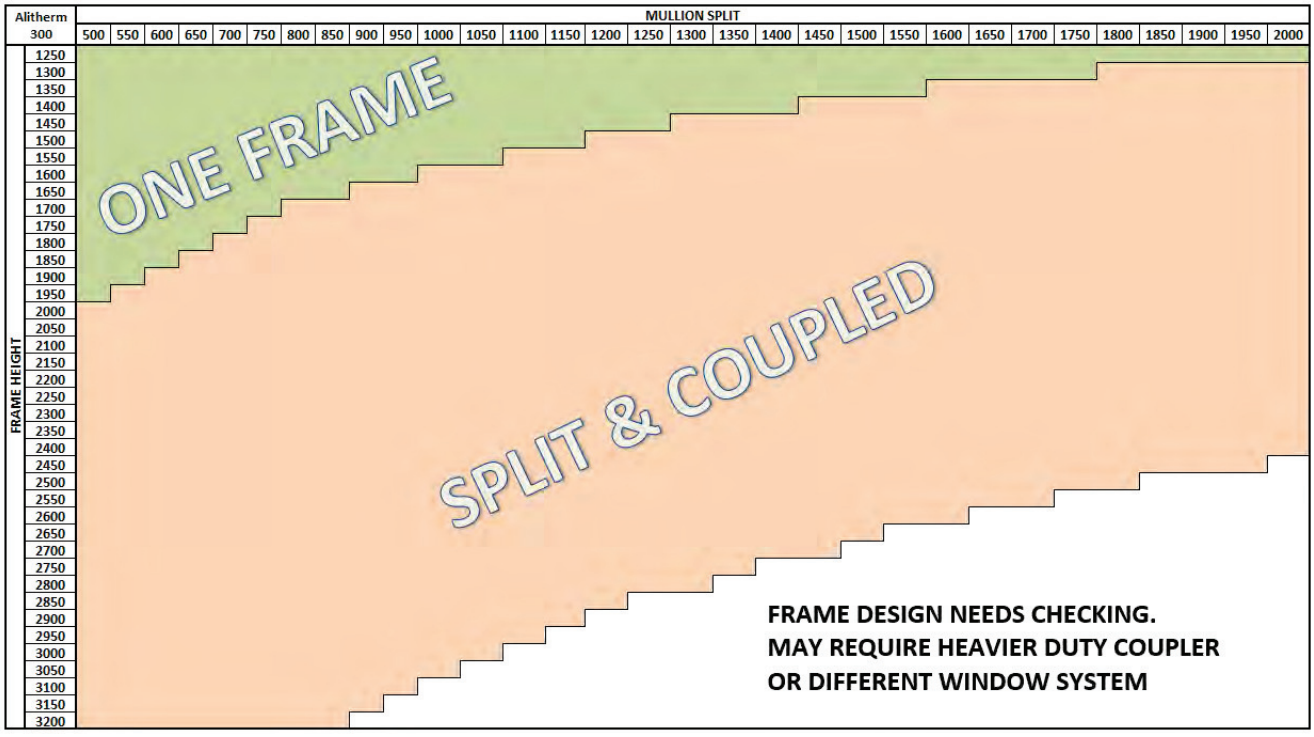
Wind loading calculations based on 800pa, and equal mullion splits.

Mullion ETC333 Ix value of 11.64

Frame ETC304 Ix value 22.01

Coupler ETC357 Ix value 41.5

Coupler and Frame combined Ix value (22.01x2 + 41.5) = 85.52



U Value & Energy ratings

Double Glazed Units

Our standard glass specification is:

- 28mm double glazed units
- 4mm Planilux clear /4mm Planitherm +
- 90% argon gas filled cavity
- 20mm black super spacer bar
- 20kg per m^2

Outer Frame ETC304

with Sash ETC324N and Mullion ETC333

Average U-value of 1.6W/m^2K – WER 'B'

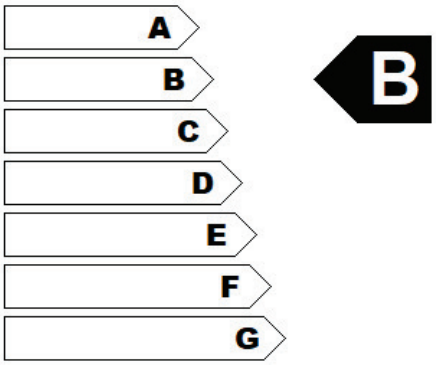
Unit centre pane of 1.2 W/m^2K

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

Company

Project

Date
12 Sep 2019



WER:	Window Energy Rating: 196.74((1-f)xgglass) - 68.5 x (U + (0.0165 xAL))		**-4.0 kWHr/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		
	U Window:	0.609+0.929+0.144	1.7 W/m²K
Frame:	Supplier:	Smart Architectual Aluminium	
	System:	Alitherm 300	
	Outer Frame:	ETC304F (2.110)	
	Vent Frame:	ETC324 (2.825)	
	Transom Mullion:	ETC333 (3.151)	
	Heat Transfer:	2.691 W/m²K x (22.6% Frame)	0.609 W/m²K
Glazing:	Supplier:	SaintGobain	
	Specification:	28mm double Clear/Planitherm - Argon Filled	
	Centre Pane, g Value:	1.20 W/m²K, 0.73	
	Heat Transfer:	1.20 W/m²K x (77.4% Glass)	0.929 W/m²K
Spacer:	Supplier:	Edgetech	
	Spacer Bar:	SuperSpacer Premium	
	Heat Transfer:	0.035 W/mK x (4.124m/m²)	0.144 W/m²K
U Value:	Window U Value: Calculation to BS EN 14351-1		**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 4.0 (0102)