



Eco-Futural Tilt & Turn

Energy Rating C uValue 1.6Wm²k

Eco Futural Tilt & Turn – Offers U-values as low as 1.1 W/m²K

- Flat outer frame and flat vent
- Internally beaded open in sashes and fixed panes
- Square bead
- PAS 24 Chrono safe hidden gearing to BS7950 (not secure by design)
- Average U-value 1.6 W/m²K (28mm with 1.2 centre pane) – WER ‘C’
- Average U-Value 1.3 W/m²K (36mm with 0.8 centre pane) - WER ‘B’
- Average U-value 1.1 W/m²K (44mm with 0.6 centre pane) – WER ‘A’

Features and Options

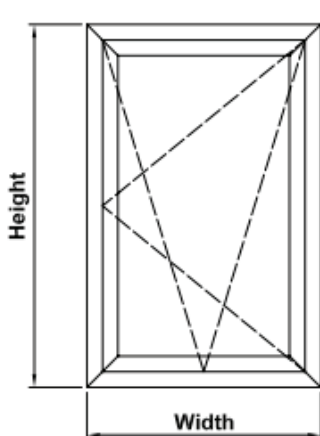
- Handles – white, black, satin anodised and colour matched
- Pivot window system available

Weather Performance (BS6375-1)

- BS EN 1026: 2000 Air Permeability: Class 4 600 Pa
- BS EN 1027: 2000 Water tightness: Class E 900 Pa
- BS EN 12211: 2000 Resistance to Wind Load: Class AE 2400 Pa

Sashes

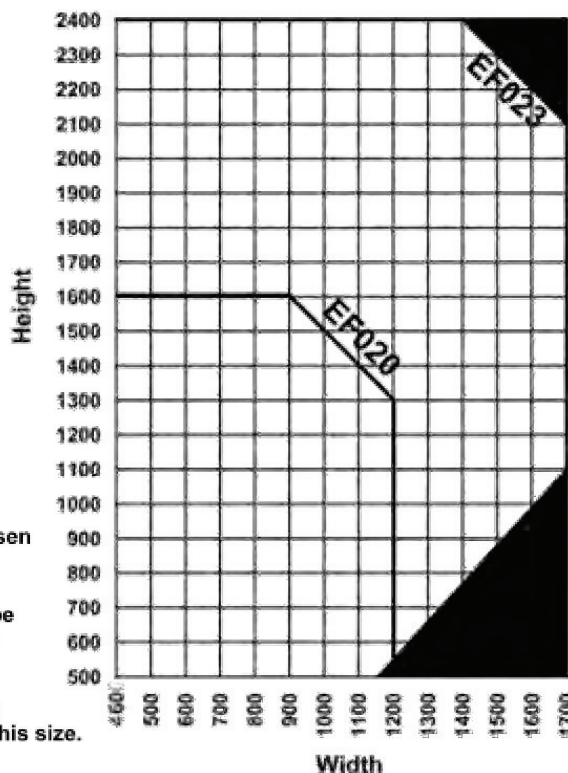
- Max width: 1700mm (sash size)
- Min width: 460mm (sash size)
- Max height: 2400mm (sash size)
- Min height: 500mm (sash size)
- Max Weight: 90kg
- As per chart larger sizes may have to be done in heavier duty sash profile (EF023)



Important Notes:

1. The size limitations of the chosen tilt & turn hardware must be adhered to
2. The width of the sash cannot be more than 1.5 times the height
3. Maximum sash weight = 90kg.

■ Hatched area indicates it is not possible to make tilt & turn at this size.



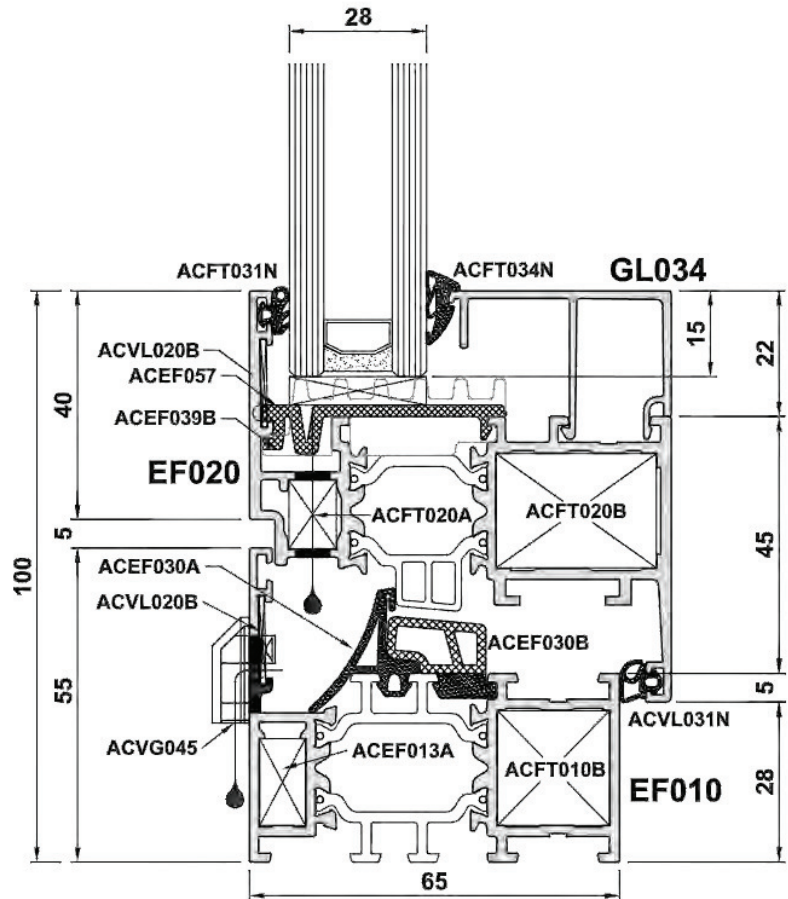
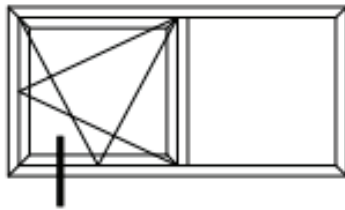
Please Note

At 1700mm wide the max height is 2100mm

At 2400mm high the max width is 1400mm

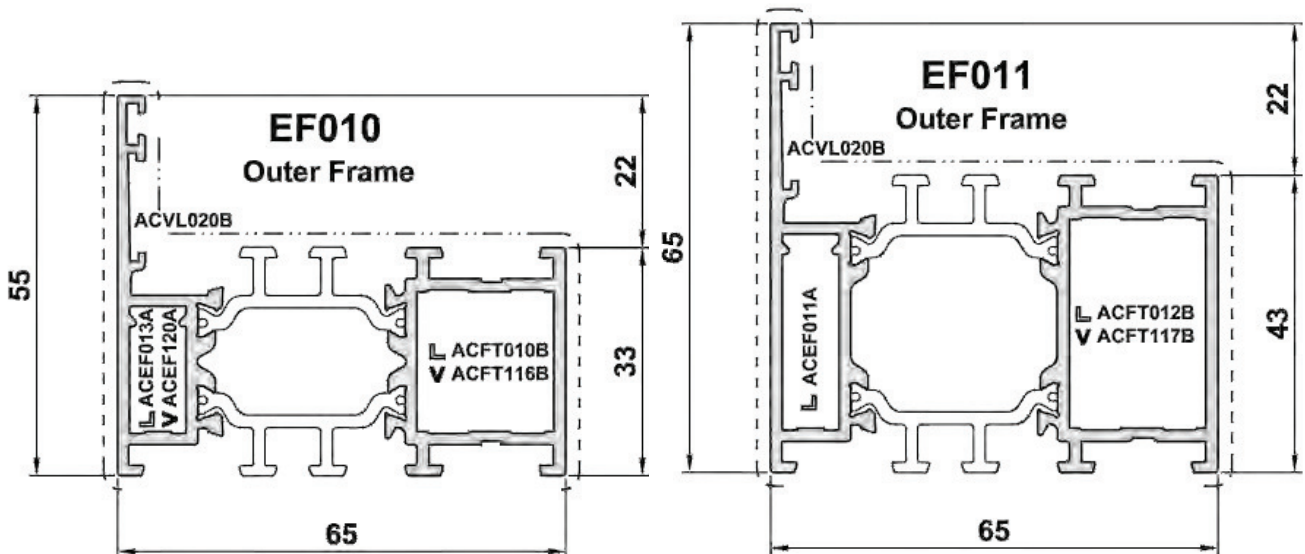
Cross Sectional Drawings

Standard Frame & Sash Detail



Standard Outer Frame
lx value 25.1

Large Outer Frame option
lx value 29.52



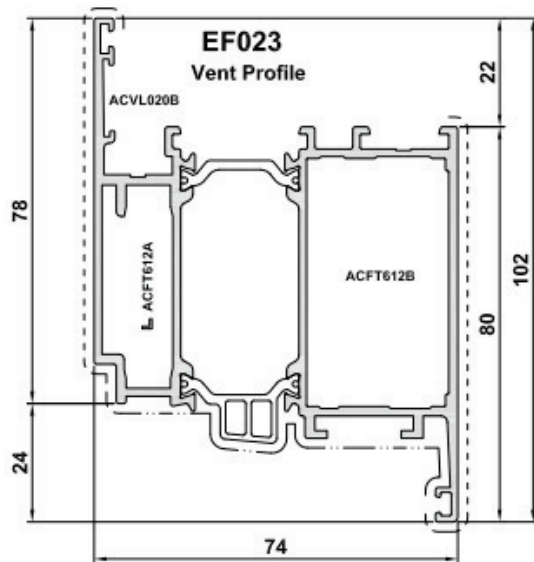
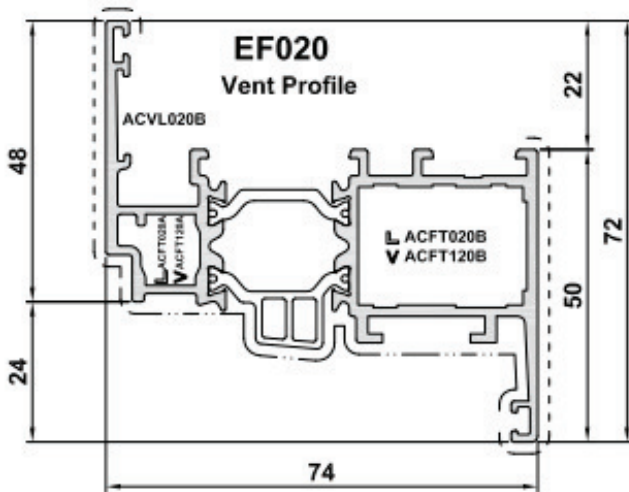
so you think all **window** companies are the same...**think again!**



My Ali Framing Solutions Eco-Futural Tilt & Turn and Pivot

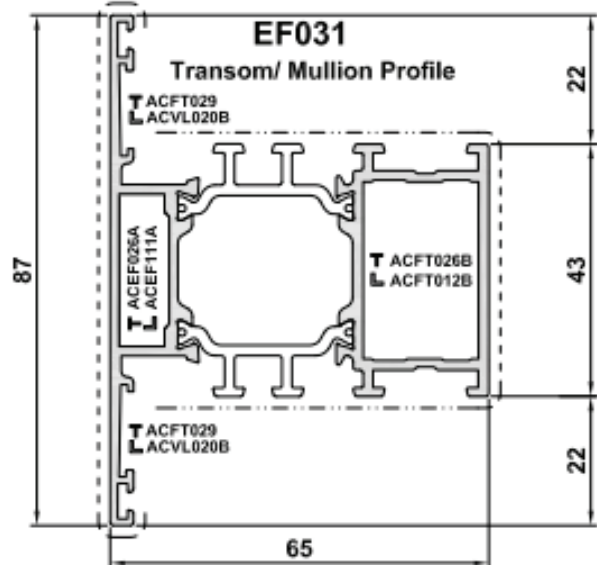
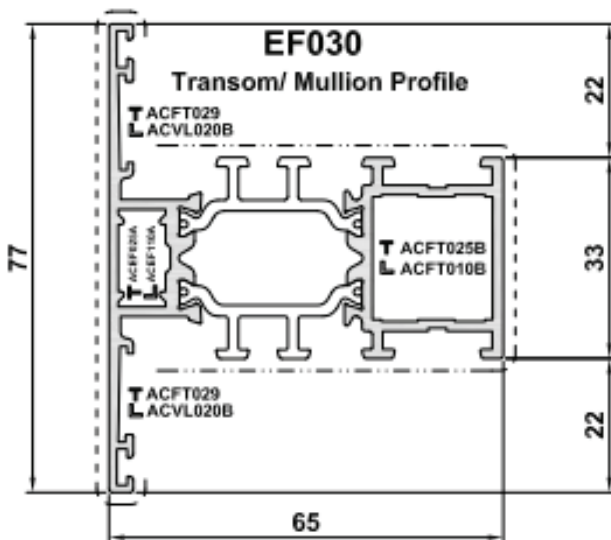
Standard Sash

Large Sash – Automatically selected
subject to sash size



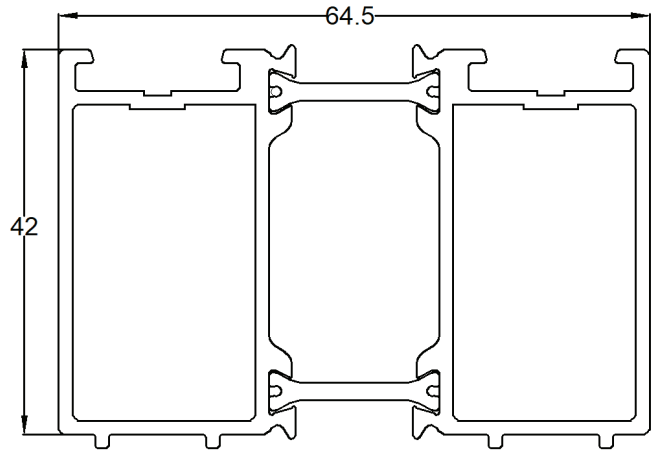
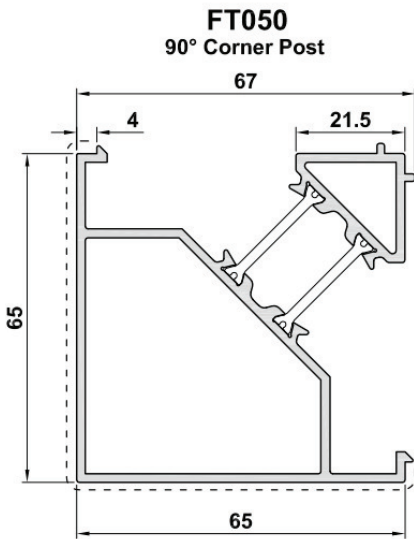
Standard Transom/Mullion
lx value 10.93

Large Transom/Mullion
lx value 32.15



90° Corner Post FT050

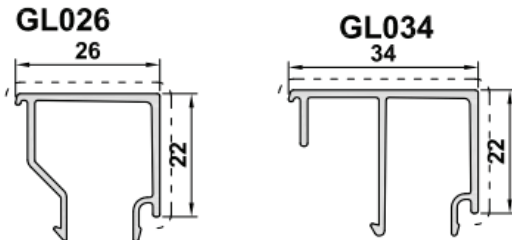
EF955 64.5mm x 42mm Extension



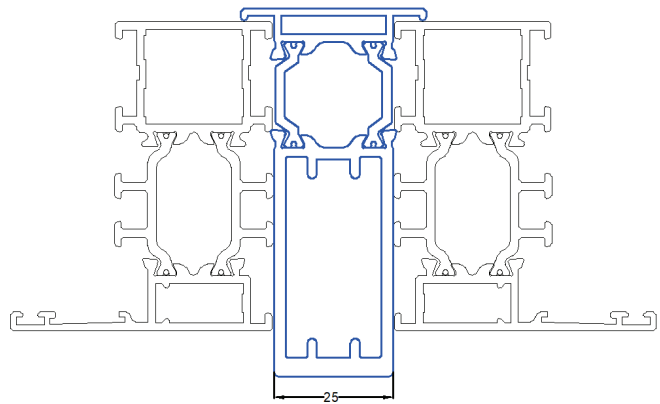
Bead for 28mm Double Glazed
Fixed Pane – GL026 – gasket internal
ACVG33N, external ACGV31N
Opening Sash – GL034 – gasket internal
ACVG34N, external ACGV31N

ETC357 25x79mm coupler

12.5mm deduction each side
lx value 41.5



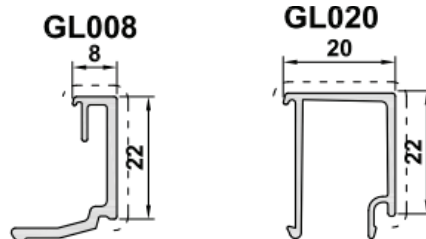
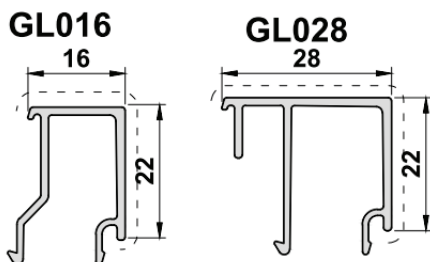
Inside



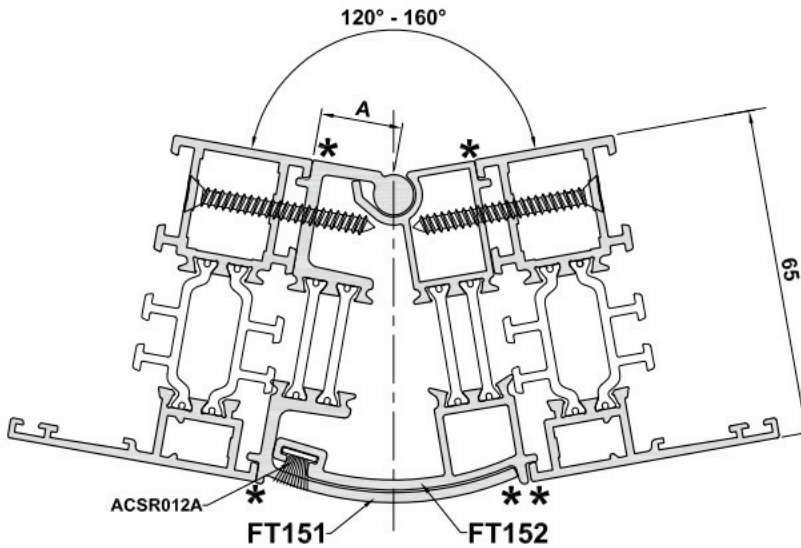
Outside

Bead for 36mm Triple Glazed
Fixed pane – GL016 – gasket internal
ACVG340N, external ACGV31N
Opening sash – GL028 – gasket internal
ACVG32N, external ACGV31N

Bead for 44mm Triple Glazed
Fixed pane – GL008 – gasket internal
ACVG340N, external ACGV31N
Opening sash – GL020 – gasket internal
ACVG32N, external ACGV31N

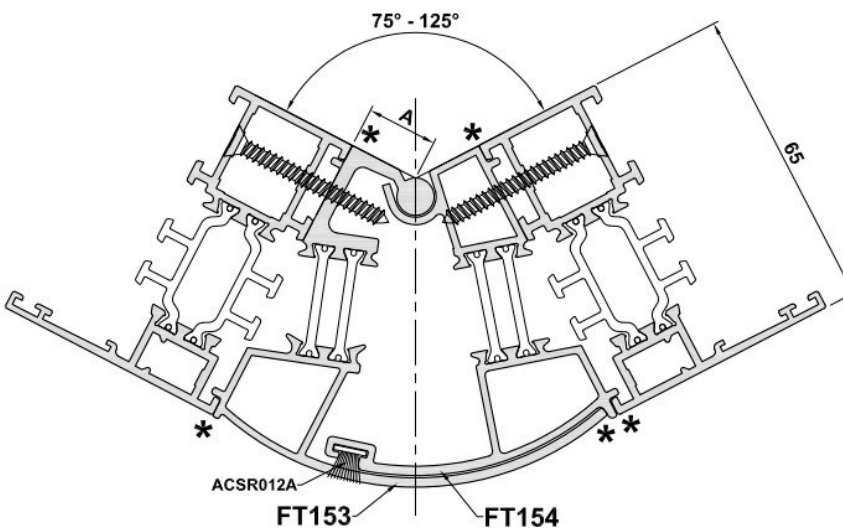


FT151/ FT152 120° - 160° Bay Pole



ANGLE	DEDUCTION 'A'
120°	14.5
125°	15
130°	15
135°	15.5
140°	15.5
145°	15.5
150°	16
155°	16
160°	16.5

FT153/ FT153 75° - 125° Bay Pole



ANGLE	DEDUCTION 'A'
75°	12.5
80°	13
85°	13
90°	13.5
95°	14
100°	14
105°	14.5
110°	14.5
115°	15
120°	15
125°	15

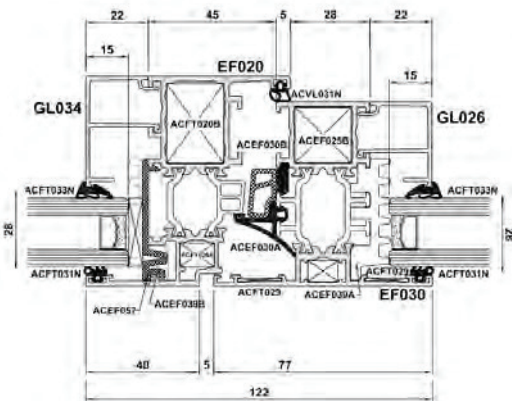
Note: All joints must be adequately sealed

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
- 20mm Black super spacer bar
- 20kg per m²

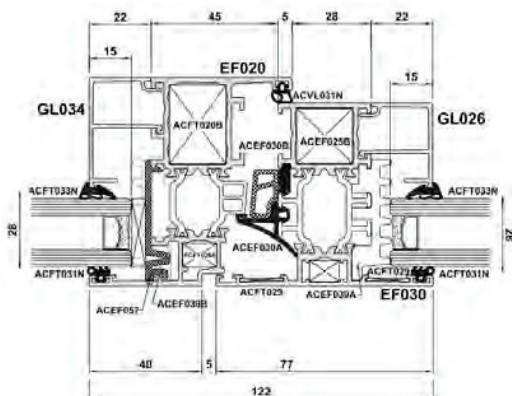
Standard Frame EF010
with Sash EF020 and Mullion EF030
Average U-value of 1.6 W/m²K - WER 'C'
Unit centre pane of 1.2 W/m²K



Our standard glass specification is:

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

Standard Frame EF010
with Sash EF020 and Mullion EF030
Average U-value of 1.3 W/m²K - WER 'B'
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 28 Mar 2018	

A

B

C

D

E

F

G

C

WER:	Window Energy Rating: 196.74((1-f)xgglass) - 68.5 x (U + (0.0165 xAL))	-13.5 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 U Window: 0.683+0.835+0.139	1.7 W/m²K
Frame:	Supplier: Smart Architectural Aluminium System: EcoFutural Outer Frame: EF010 (2.393) Vent Frame: EF020 (2.247) Transom Mullion: EF030 (2.116) Heat Transfer: 2.248 W/m ² K x (30.4% Frame)	0.683 W/m²K
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 (69.6% Glass)	0.835 W/m²K
Spacer:	Supplier: Edgetech Spacer Bar: Super Spacer Premium Heat Transfer: 0.035 W/m ² K x (3.950m ²)	0.139 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

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

Company _____	
Project _____	
Date 28 Mar 2018	

A

B

C

D

E

F

G

B

WER:	Window Energy Rating: 196.74((1-f)xgglass) - 68.5 x (U + (0.0165 xAL))	-8.1 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 U Window: 0.683+0.557+0.139	1.4 W/m²K
Frame:	Supplier: Smart Architectural Aluminium System: EcoFutural Outer Frame: EF010 (2.393) Vent Frame: EF020 (2.247) Transom Mullion: EF030 (2.118) Heat Transfer: 2.248 W/m ² K x (30.4% Frame)	0.683 W/m²K
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 (69.6% Glass)	0.557 W/m²K
Spacer:	Supplier: Edgetech Spacer Bar: Super Spacer Premium Heat Transfer: 0.035 W/m ² K x (3.950m ²)	0.139 W/m²K
U Value:	Window U Value: Calculation to BS EN 14351-1	1.3 W/m²K

Calculated in accordance with UK Building Regulations Document L and BR443
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Calculation of thermal transmittance. Part 2. Numerical method for frames

U-values for Triple Glazed Units

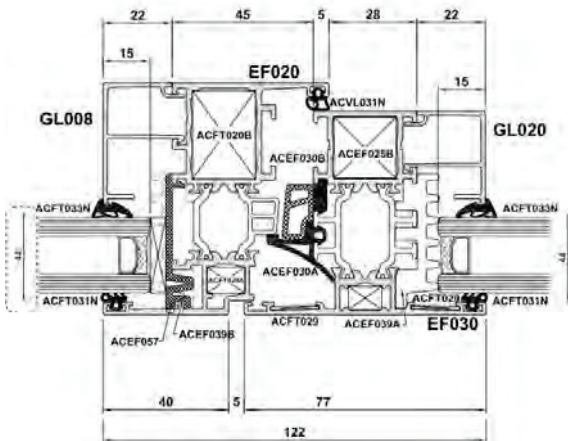
Our standard glass specification is:

- 44mm triple glazed units
- 4mm Planilux clear + /4mm Planitherm + /4mm Planitherm +
- 90% argon gas filled cavity
- 16mm Black super spacer bar
- 30kg per m²

Standard Frame EF010

with Sash EF020 and Mullion EF030

Average U-value of 1.1 W/m²K - WER 'A'
Unit centre pane of 0.6 W/m²K



WER: Window Energy Performance Certificate

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

	Company
	Project
	Date
	28 Mar 2018

WER:	Window Energy Rating: 196.74((1-f)xgglass) - 68.5 x (U + (0.0165 xAL))	1.3 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 U Window: 0.683+0.418+0.139 1.2 W/m²K	
Frame:	Supplier: Smart Architectural Aluminium System: EcoFutural Outer Frame: EF010 (2.393) Vent Frame: EF020 (2.247) Transom Mullion: EF030 (2.118) Heat Transfer: 2.246 W/m ² K x (30.4% Frame) 0.683 W/m²K	
Glazing:	Supplier: SaintGobain Specification: 44mm triple glazed - Clear/Plan/Plan - Argon filled Centre Pane, g Value: 0.60 W/m ² K, 0.63 Heat Transfer: 0.60 W/m ² K x (69.6% Glass) 0.418 W/m²K	
Spacer:	Supplier: Edgetech Spacer Bar: Super Spacer Premium Heat Transfer: 0.035 W/m ² K x (3.958m ²) 0.139 W/m²K	
U Value:	Window U Value: Calculation to BS EN 14351-1 1.1 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 (0076)