

5000 Window

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The IKON 5000 Commercial Window System

Thermally broken window system for fixed light and outward opening casement windows. It has been designed for new build, and refurbishment applications and designed to allow for fixing direct to brickwork, or into timber or PVC-U sub-frames.

Direct Fix:

70 mm outer frame to accept 28 mm glazing and developed to fix directly to brickwork,

Equal Leg:

45 mm outer frame to accept 28 mm glazing and designed specifically for commercial applications.

Odd Leg:

45 mm outer frame to accept 28 mm glazing for commercial or residential applications.

Material:

Aluminium profile is extruded from aluminium alloy HE9TF complying with the recommendation of BS 1474: 1972.

Thermal Break Technology:

Aluminium is both a good conductor of heat and therefore also cold. Cold temperatures externally can be conducted to the inside (conductive transfer) where temperatures are higher. This may result in condensation forming on cold surfaces, which over time may cause damage to internal finishes and lead to mould growth. As a result of this it is necessary for a thermal barrier to be introduced to prevent this transfer.

The creation of a pour and de-bridge thermal barrier in aluminium window profile begins at the design stage. Our systems are designed to accept a specially formulated polyurethane insulating polymer (resin fill).

Once assembled there is no aluminium-to-aluminium contact, eliminating temperature transfer and thus creating an effective thermal barrier.

Gaskets:

Gasket systems are thermoplastic elastomer compounds designed to meet the requirements of BS 7412: 1991, for glazing gaskets (Class A) and weather-strips (Class B).

Finishes:

Window systems are available in bar length in a variety of finishes including mill (non-thermally broken), anodised, and most commonly in polyester powder coated finishes. We work closely with all of our coating applicators to ensure that quality and service are constantly maintained. Unique to our offer is a 25-year paint guarantee as standard (please contact our customer services with regard to marine applications), and a range in excess of 250 stocked colour lines. All finishes meet the relevant prevailing UK standards. A complete listing of available paint finishes is detailed further on.

Performance:

The window system has been weather tested to BS 6375: Part 1:1989 with test results cross-referenced by BS 5368: Part 1:1976, Part 2: 1980 and Part 3: 1978. The system is watertight at 600 pa and achieved category C air permeability.

Thermal simulation testing has been undertaken using Therm 2.1a and Window 4.1 according to prEN ISO 10077-2 using the alternative edge method as described in ISO 15099 achieving a u-value performance of 2.2 W/m²K.

Accessories:

IKON stock a comprehensive range of window hardware and accessories including friction stays, handles, & restrictors together with a comprehensive range of gaskets.

Ventilation:

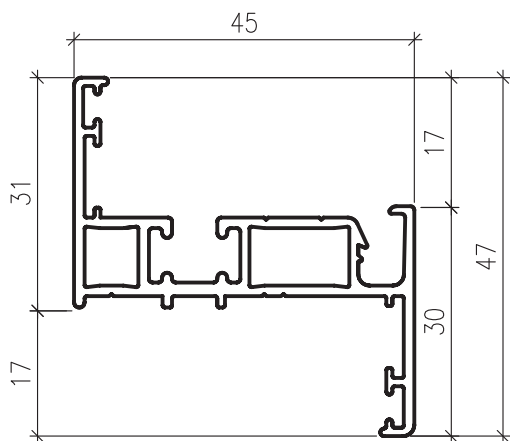
Part F of the building regulation requires that all new build work and refurbishment that requires planning permission includes provision for background trickle ventilation. IKON are manufacturers and distributors of the NVS (Natural Ventilation Systems) range of window ventilators and louvre systems. Please contact our customer services for information on this range of products.

Maintenance:

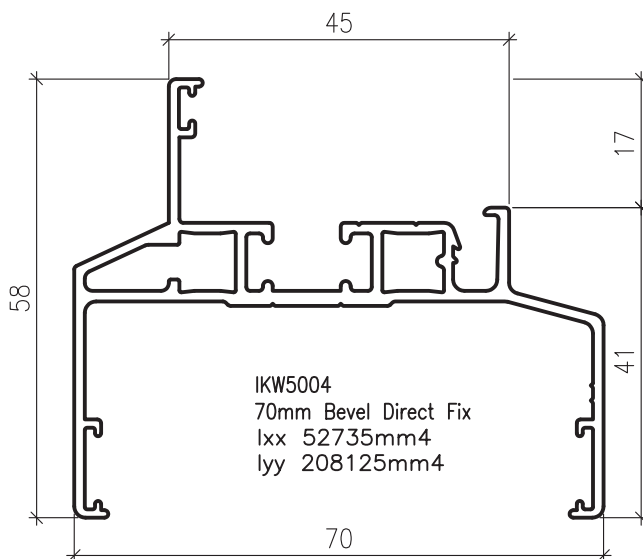
To ensure the correct operation of the product we recommend that hinges are oiled on a 6-monthly basis and surfaces wiped clean with warm soapy water every 3-6 months.

FULL SIZE SECTIONS
OUTER FRAME OPTIONS

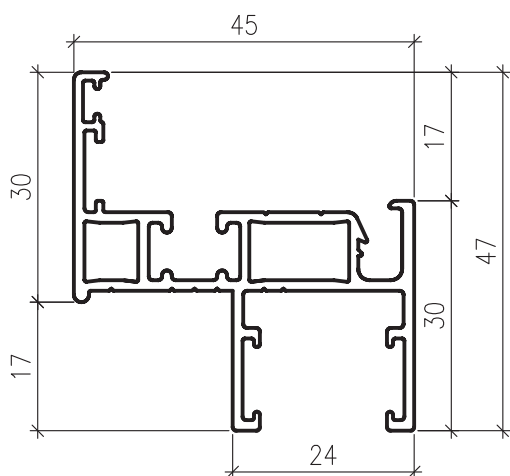
5000 SERIES WINDOWS



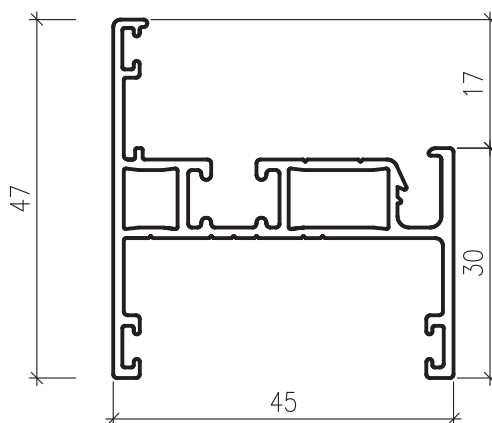
IKW5001
45mm Odd Leg
Ixx 21037mm⁴
Iyy 66403mm⁴



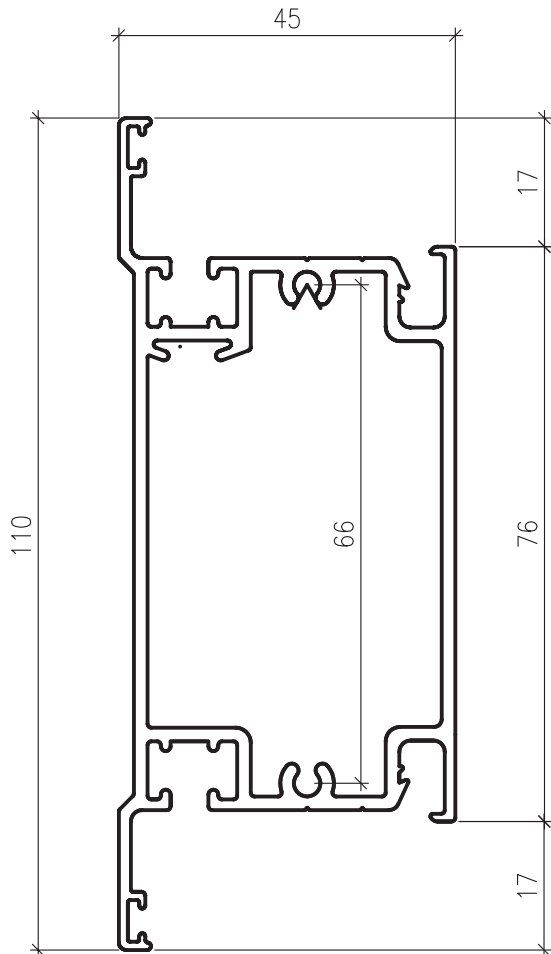
IKW5004
70mm Bevel Direct Fix
Ixx 52735mm⁴
Iyy 208125mm⁴



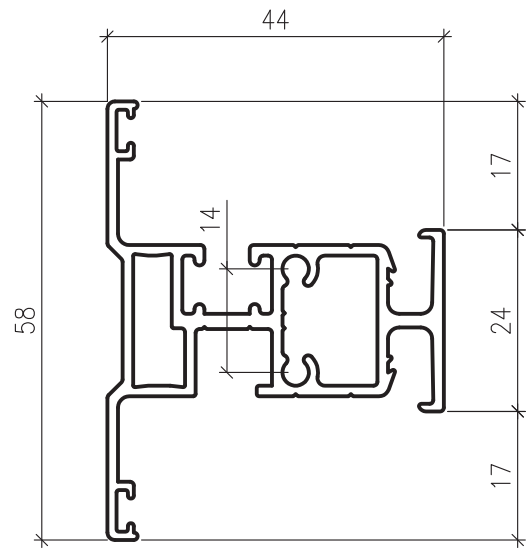
IKW5020
Curtain Wall Outer
Ixx 27607mm⁴
Iyy 67204mm⁴



IKW5003
Equal Leg Outer
Ixx 28456mm⁴
Iyy 79324mm⁴



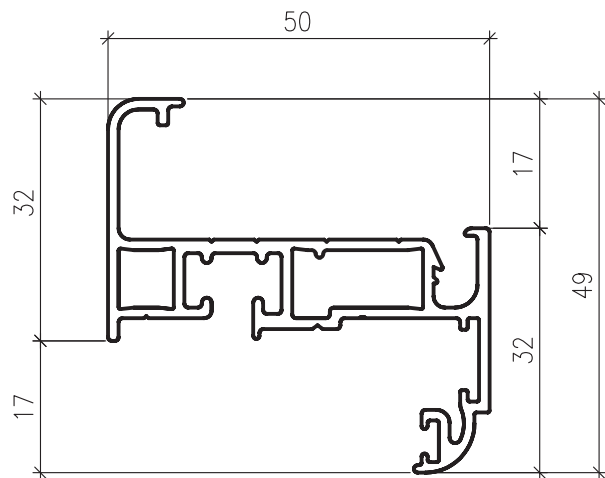
IKW5006
110mm Transom
Ixx 558290mm⁴
Iyy 173389mm⁴



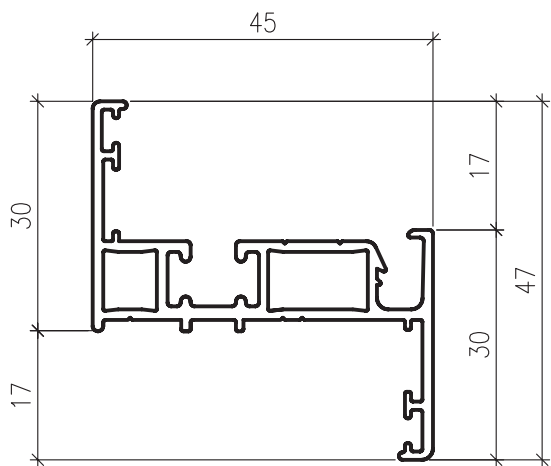
IKW5005
Transom
Ixx 39989mm⁴
Iyy 78919mm⁴

FULL SIZE SECTIONS
VENT FRAME & BEAD OPTIONS

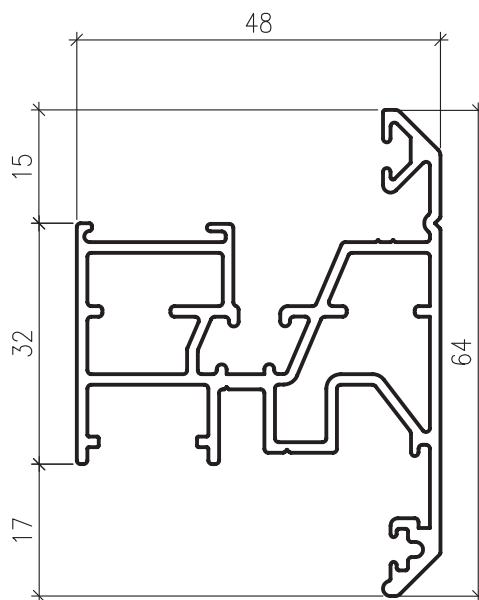
5000 SERIES WINDOWS



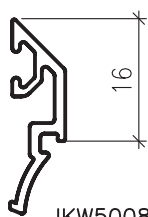
IKW5002
Ovolo (Espagnolette) Vent
lxx 33884mm⁴
lyy 97713mm⁴



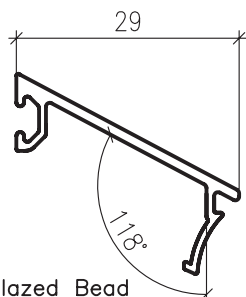
IKW5001
Cockspur Vent
lxx 21037mm⁴
lyy 66403mm⁴



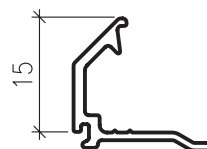
IKW5018
Bevel Internal Vent
lxx 87367mm⁴
lyy 102821mm⁴



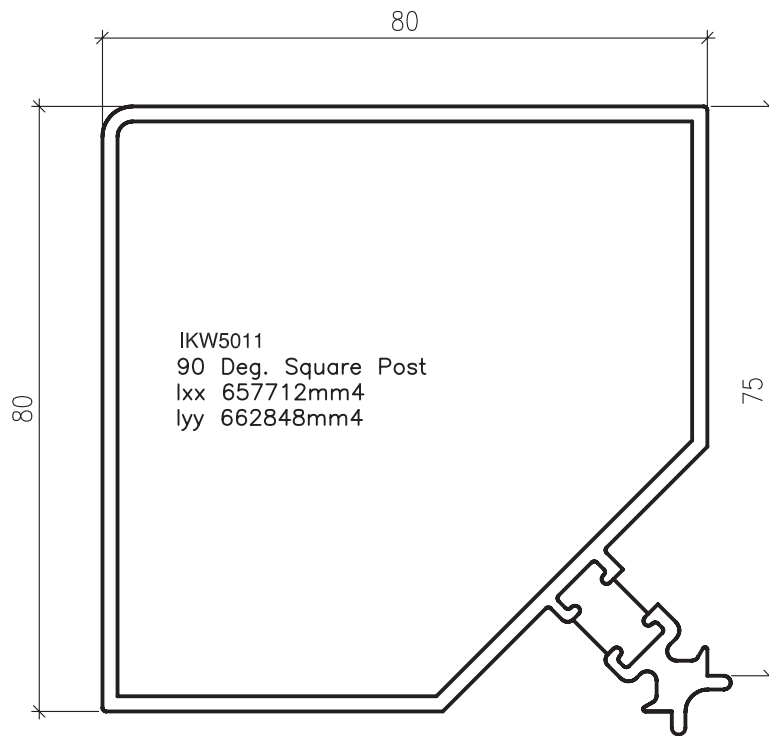
IKW5008
28mm Bead



IKW5023
Single Glazed Bead

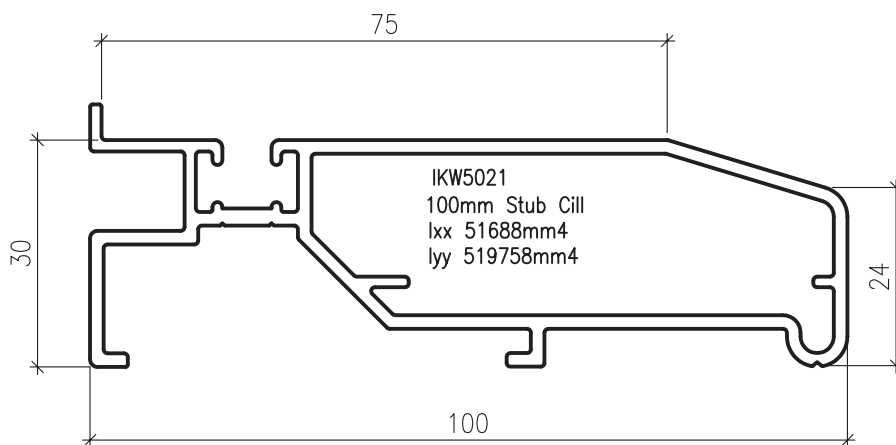
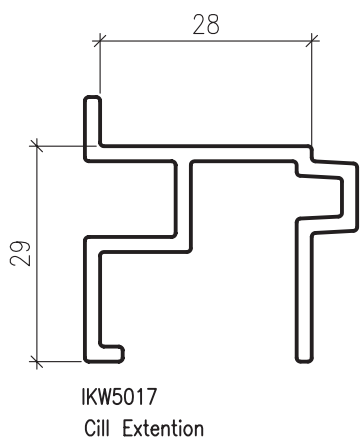
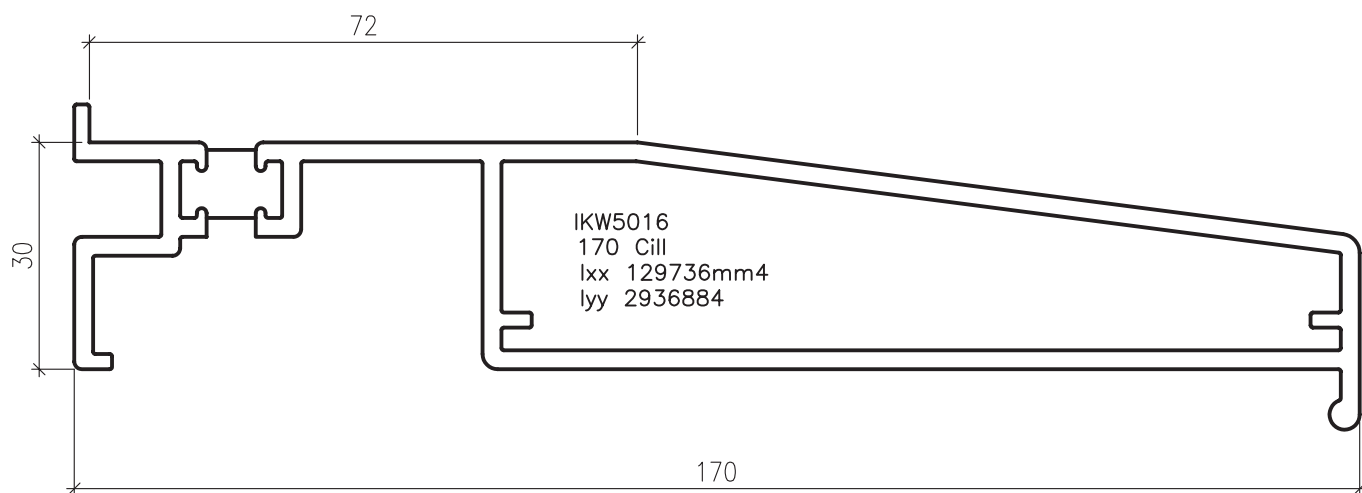
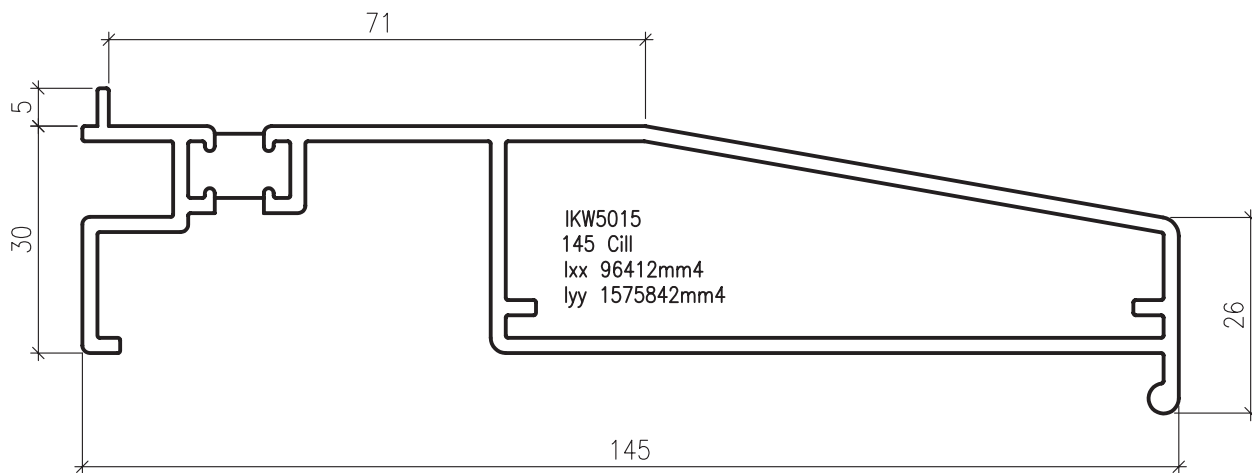


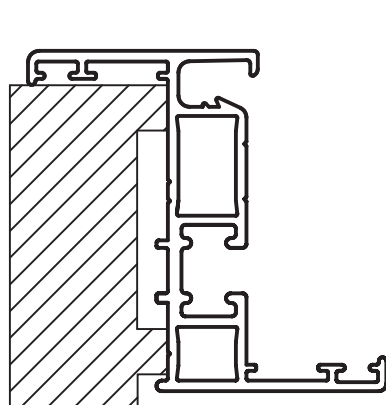
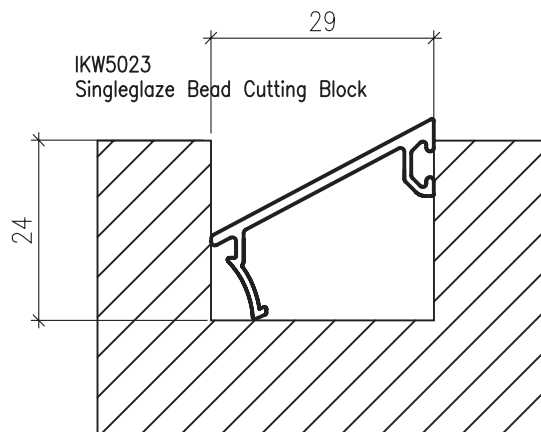
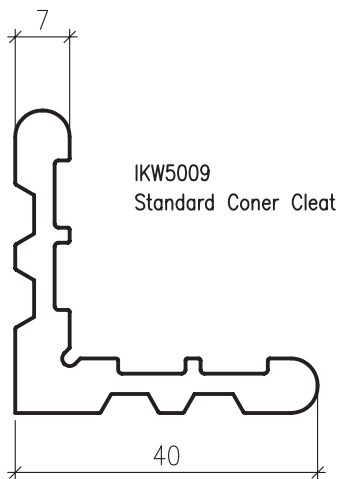
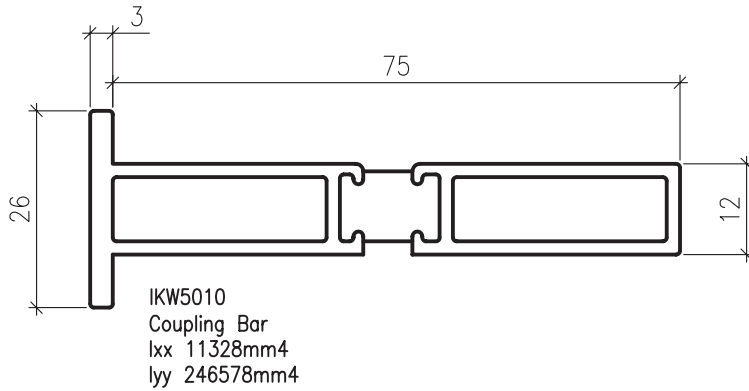
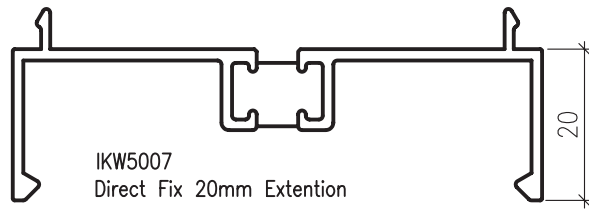
IKW5019
28mm Bevel Internal Vent Bead



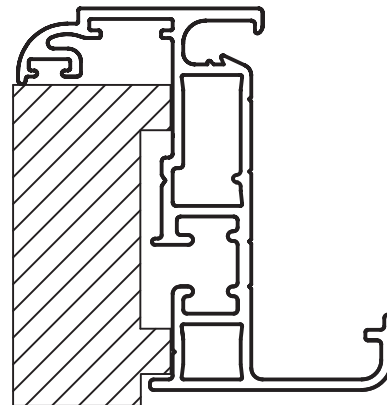
FULL SIZE SECTIONS
CILL OPTIONS

5000 SERIES WINDOWS



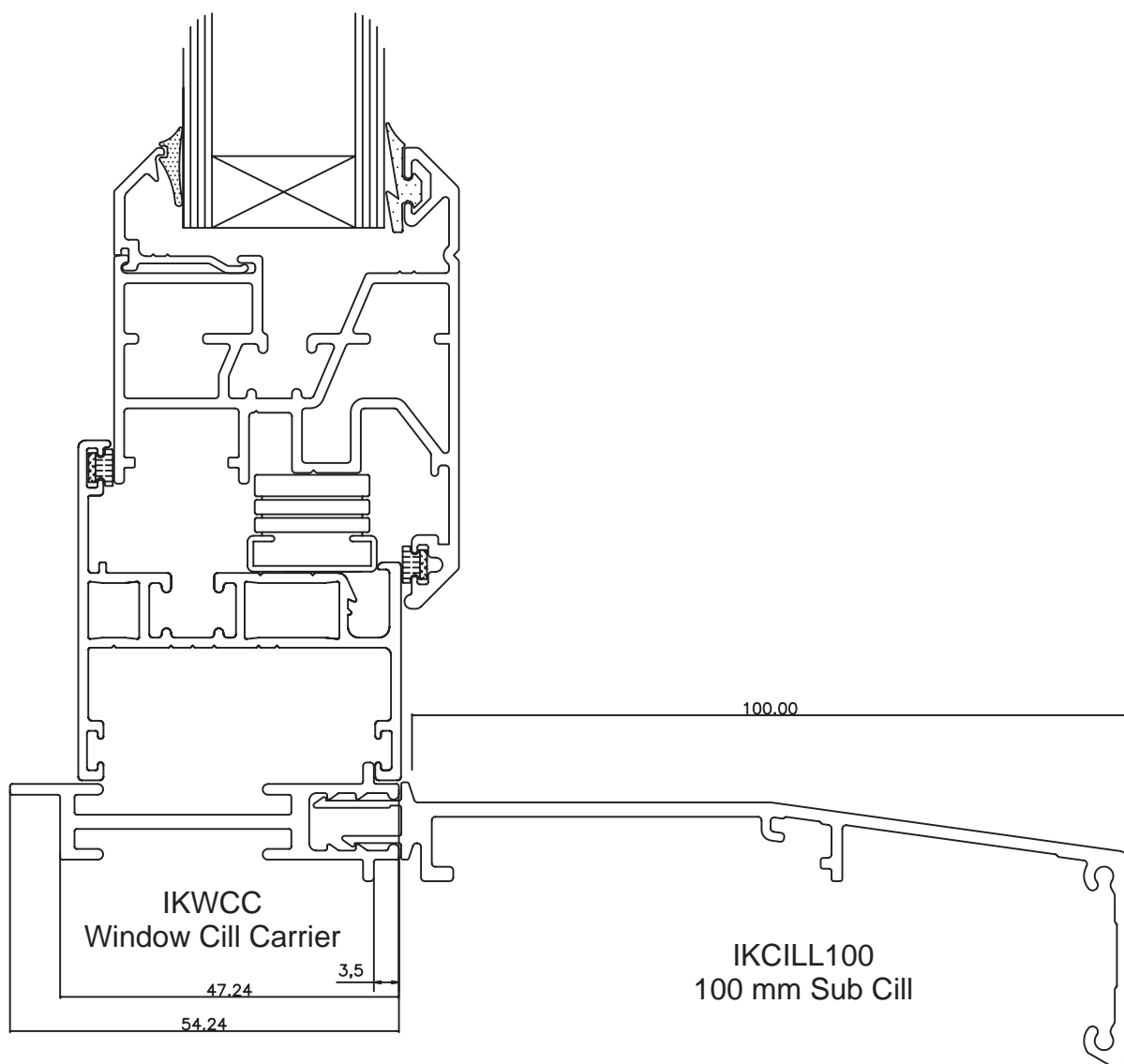


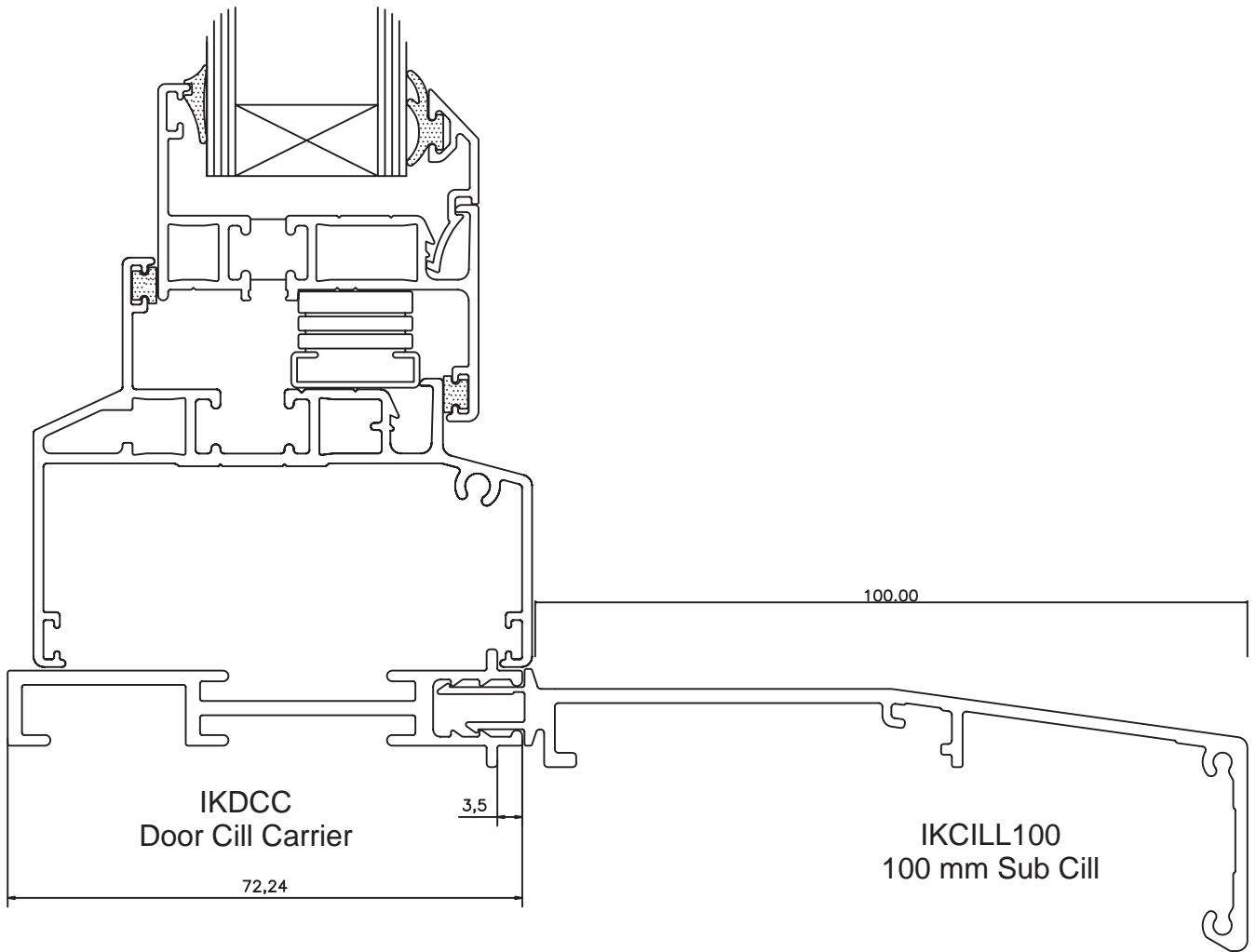
Outer & Vent Cutting Block



GENERAL ARRANGEMENTS
WINDOW CILL (TYPICAL)

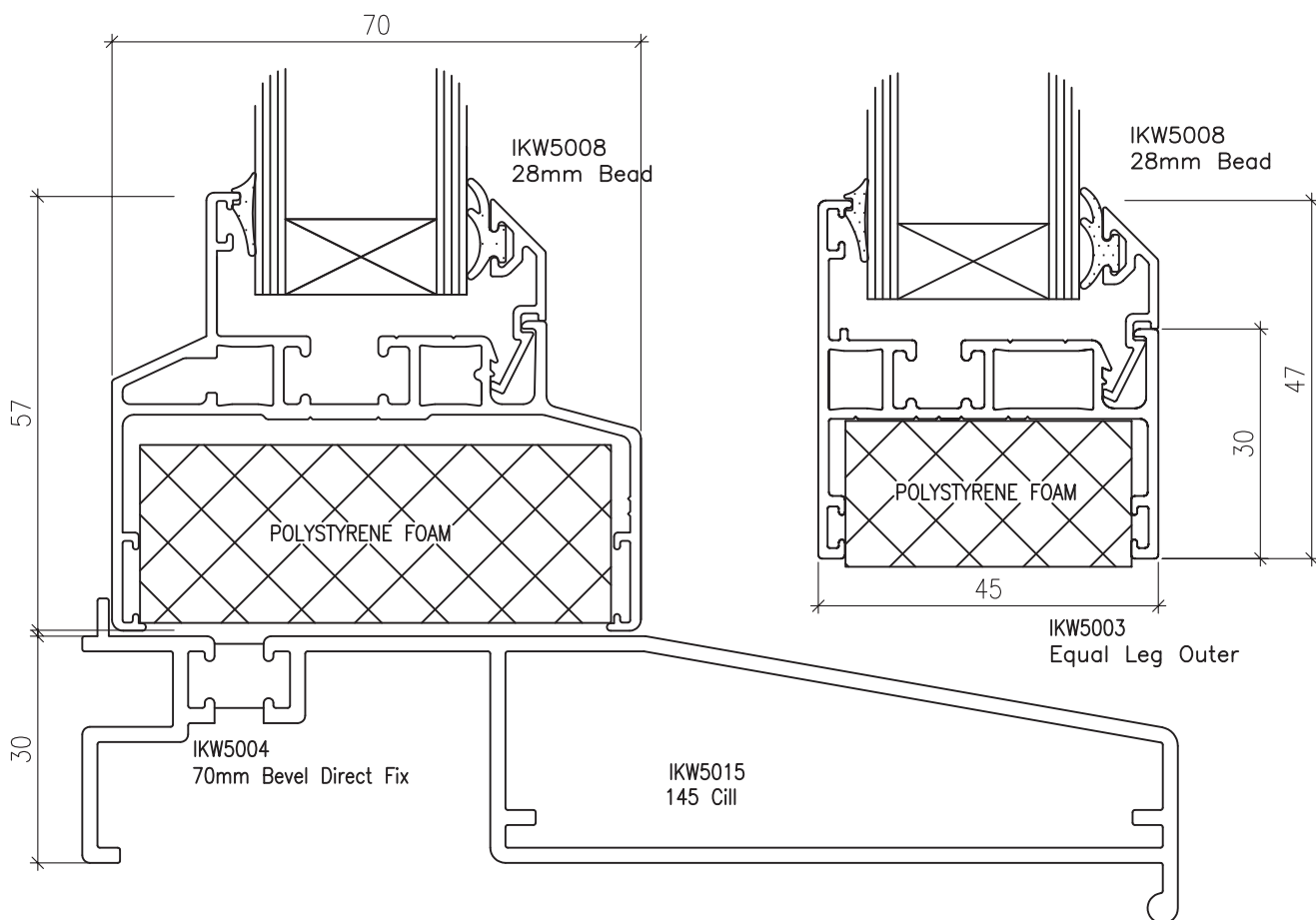
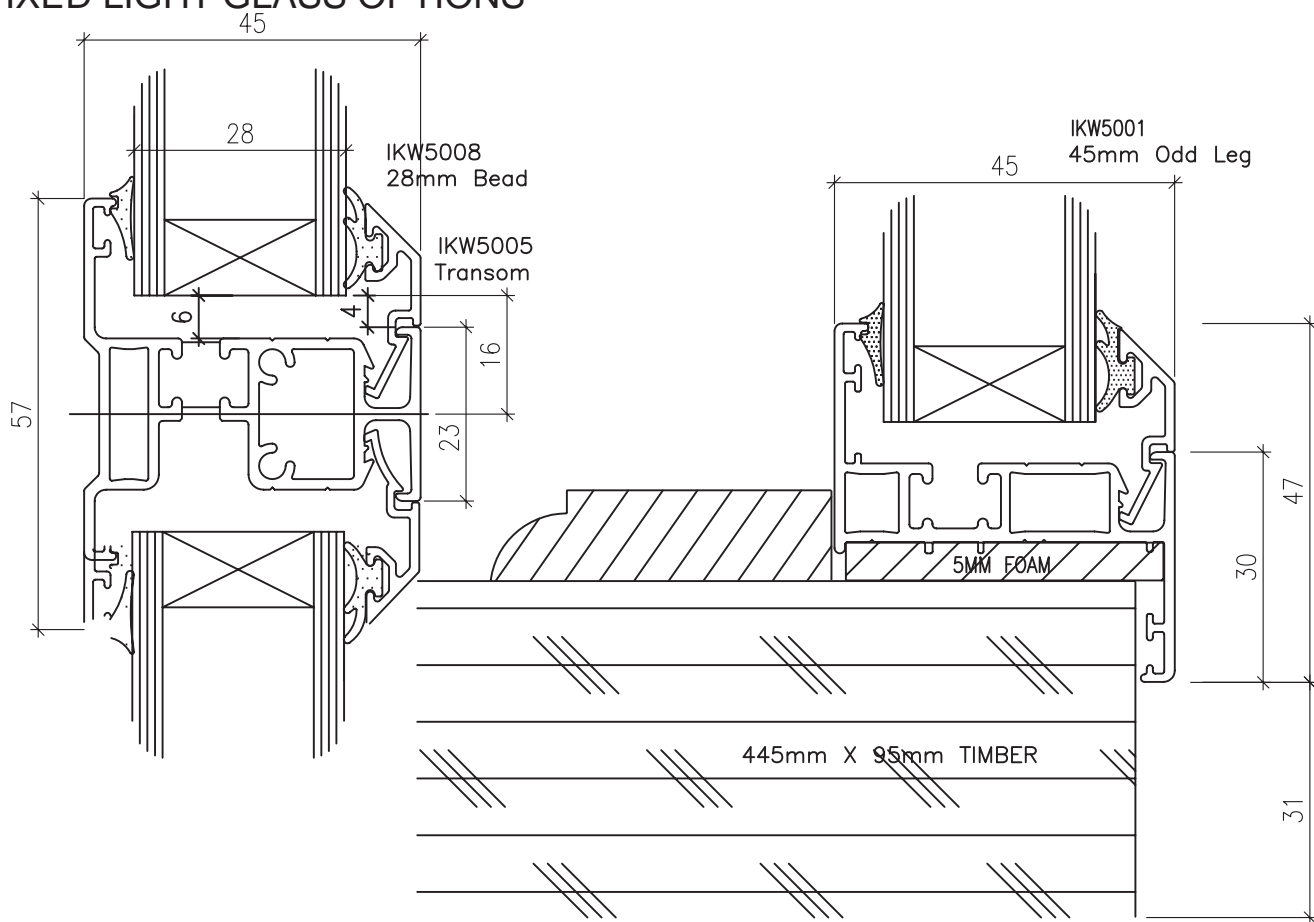
5000 SERIES WINDOWS





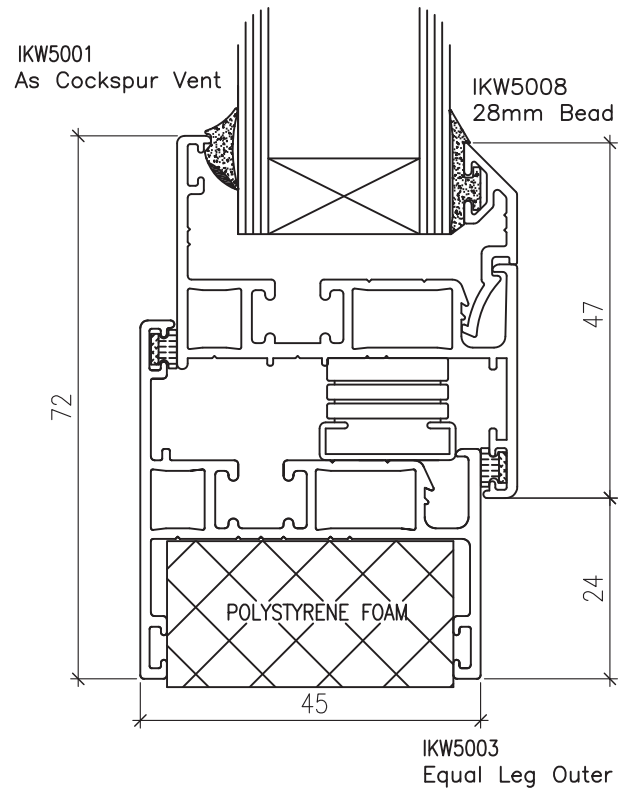
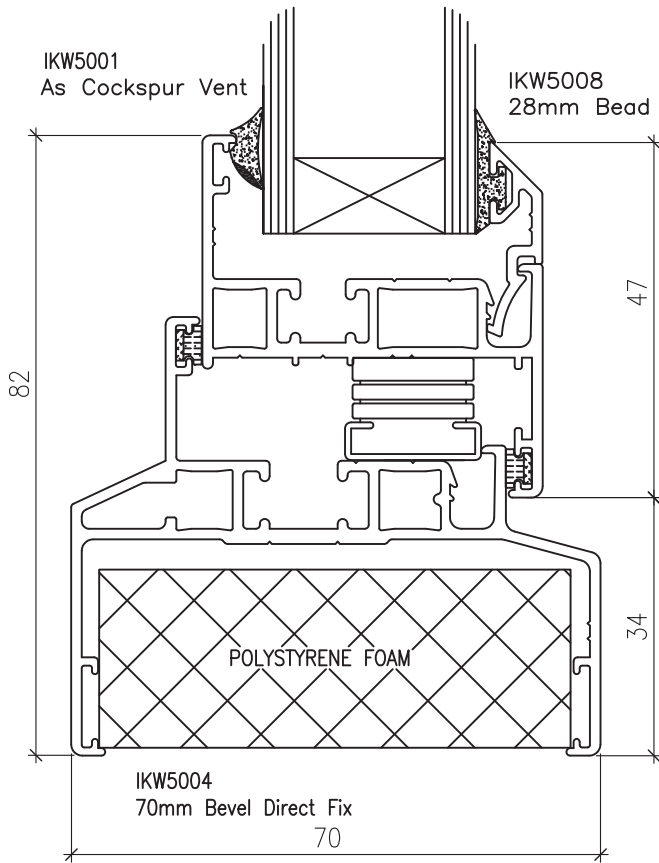
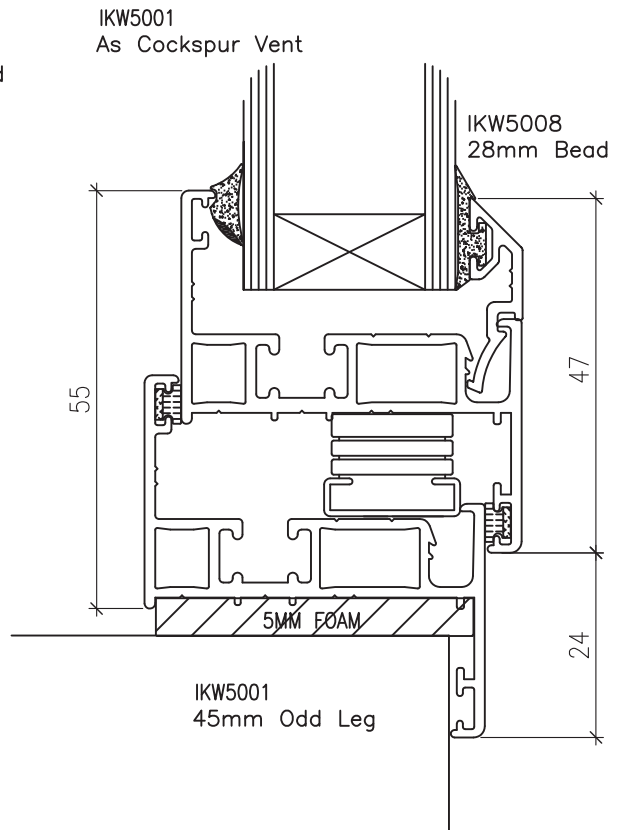
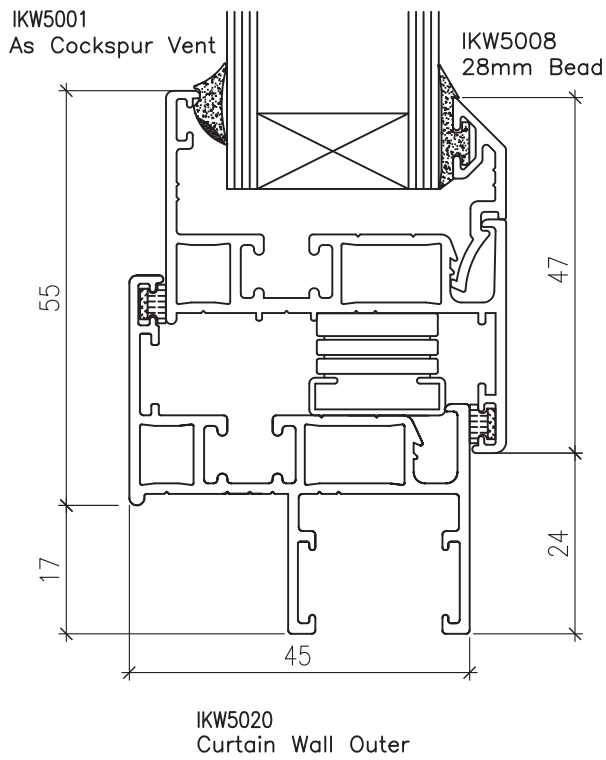
GENERAL ARRANGEMENTS FIXED LIGHT GLASS OPTIONS

5000 SERIES WINDOWS



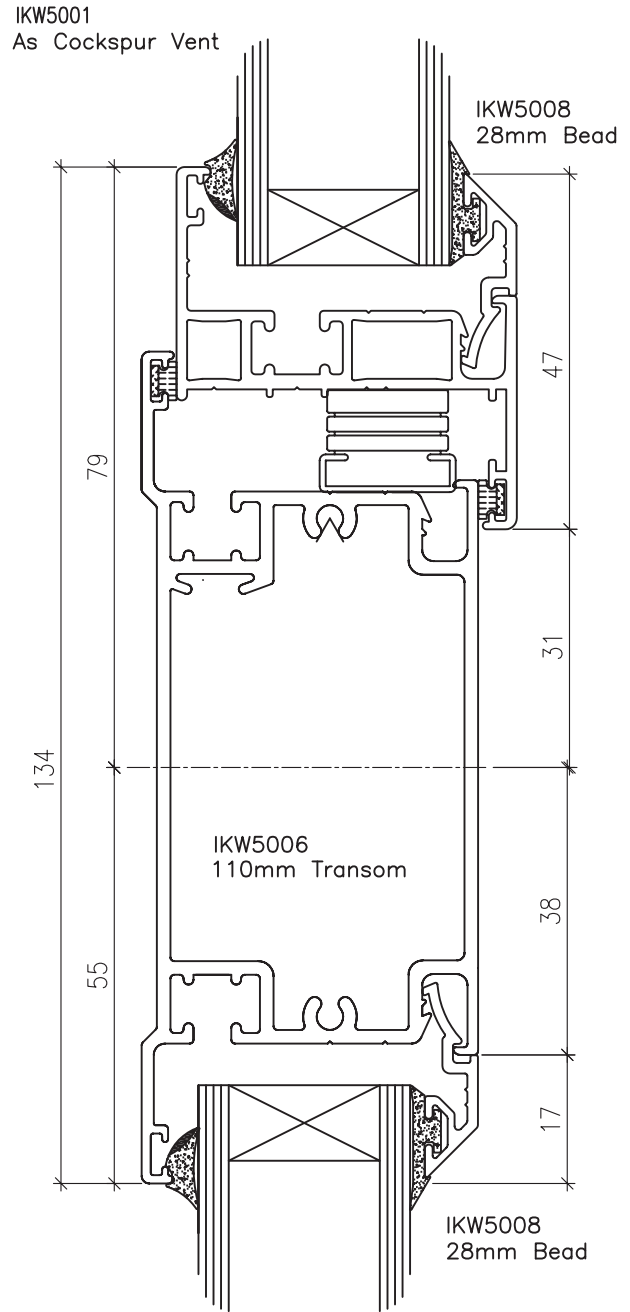
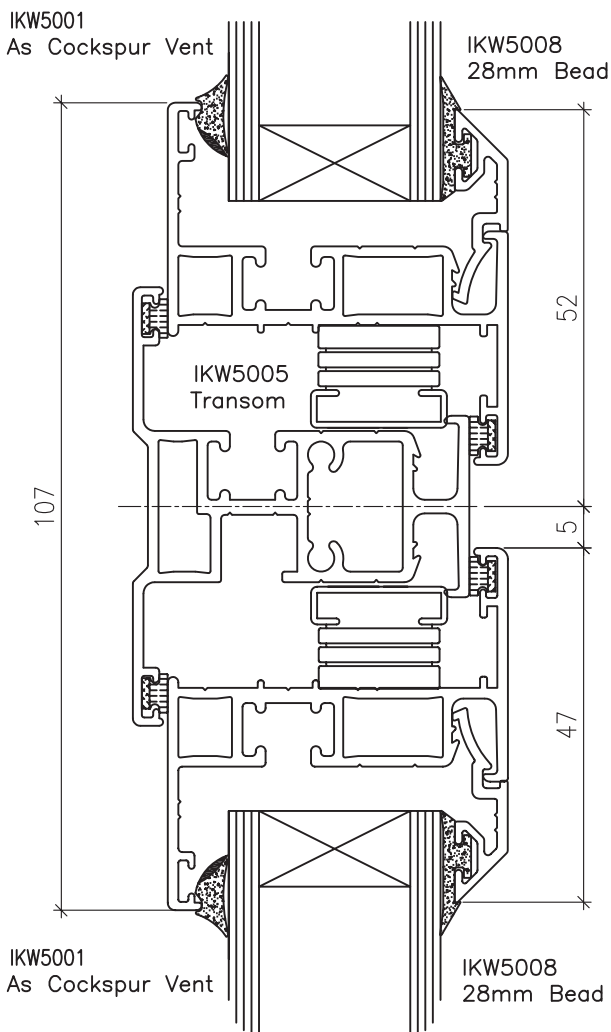
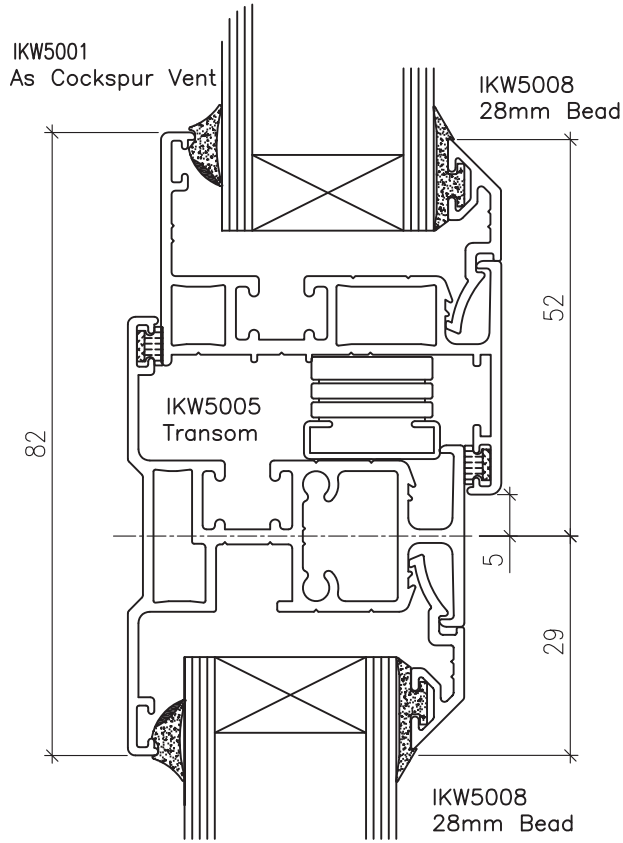
5000 SERIES WINDOWS

GENERAL ARRANGEMENTS OUTER TO COCKSPUR VENT



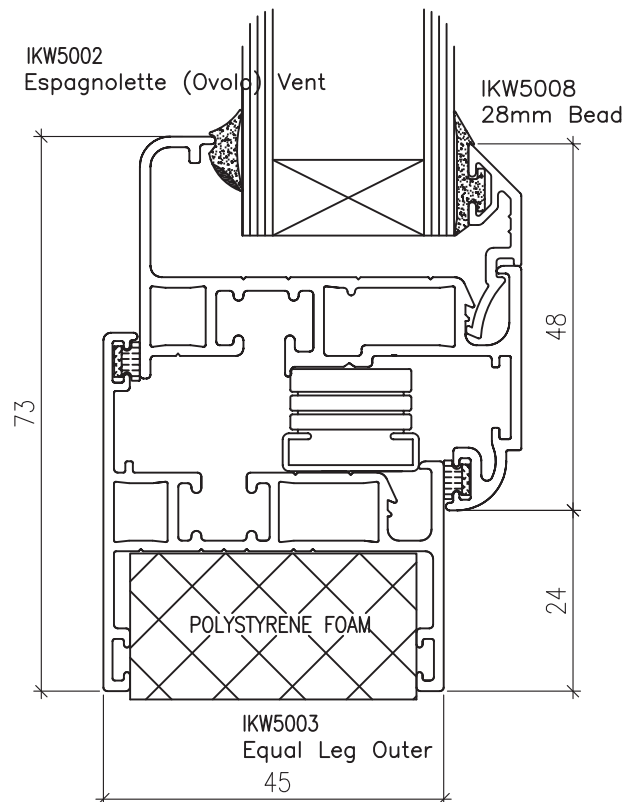
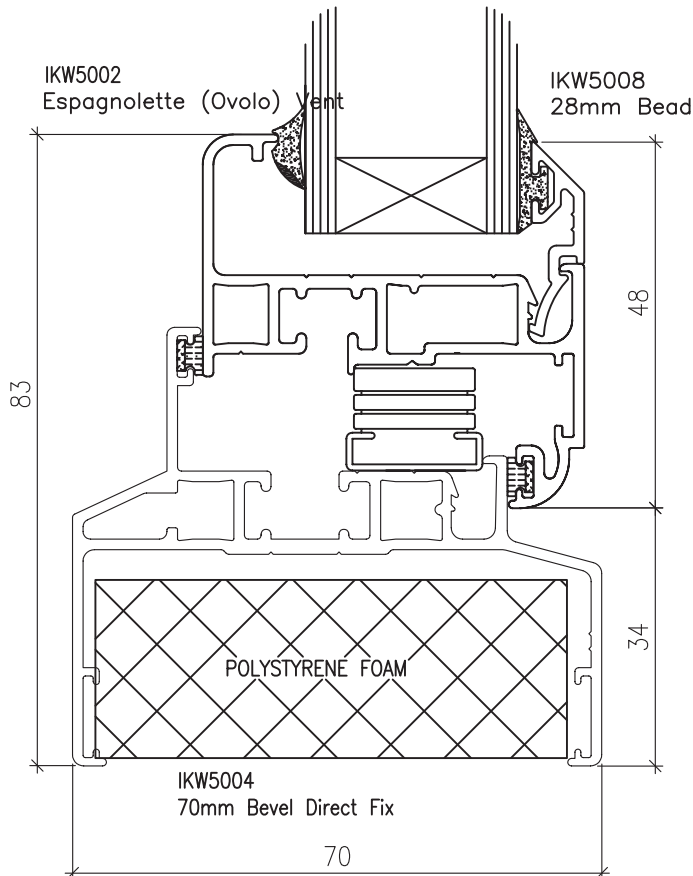
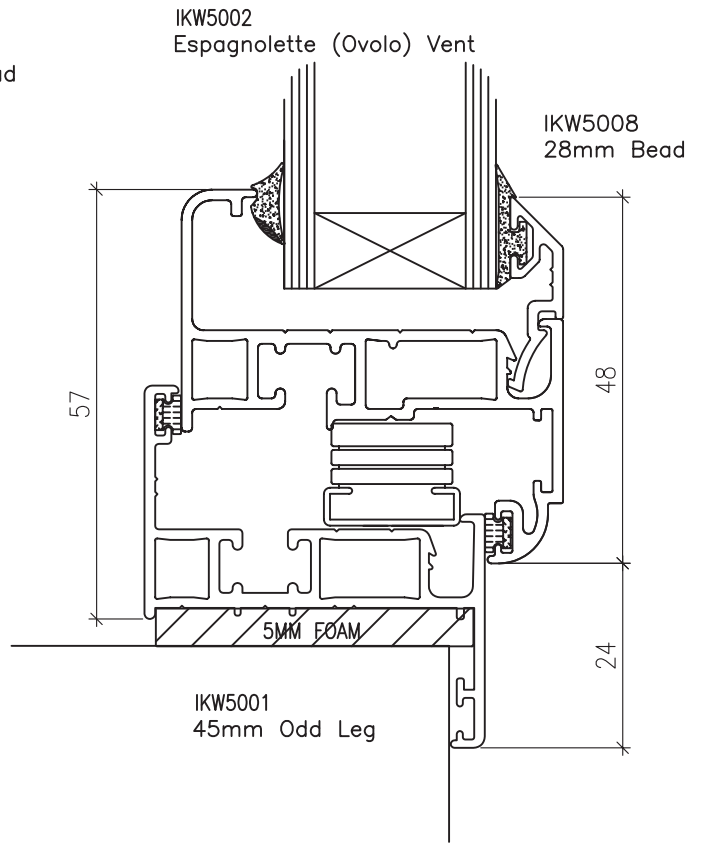
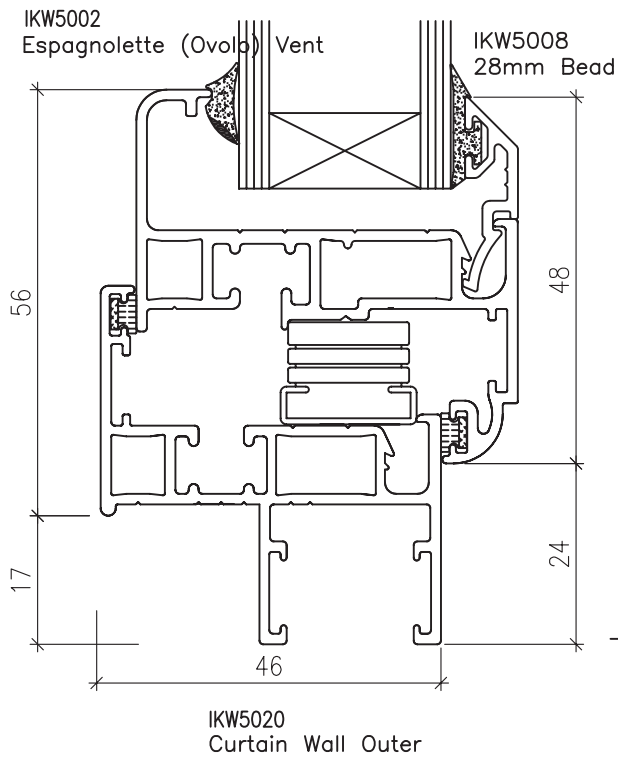
GENERAL ARRANGEMENTS TRANSOM/MULLION TO COCKSPUR VENTS

5000 SERIES WINDOWS



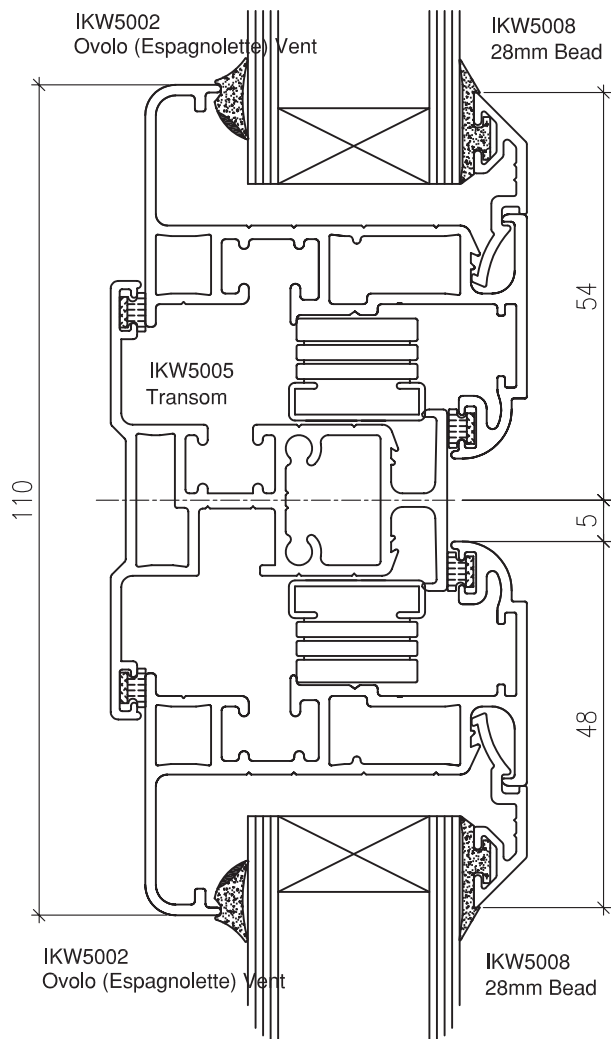
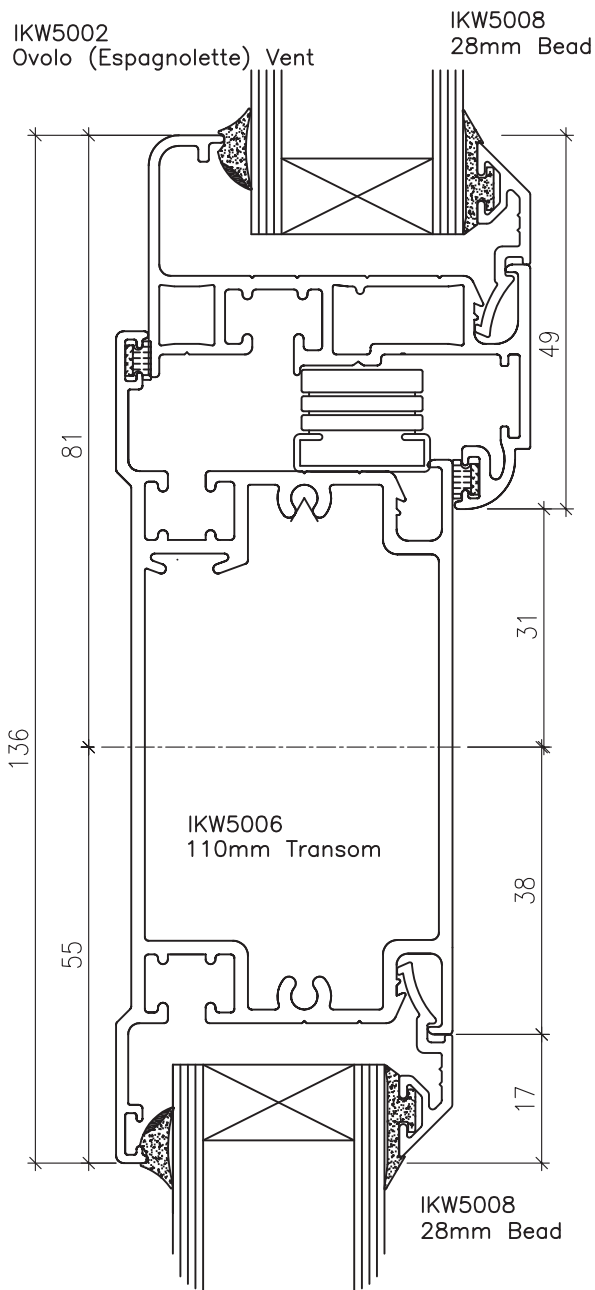
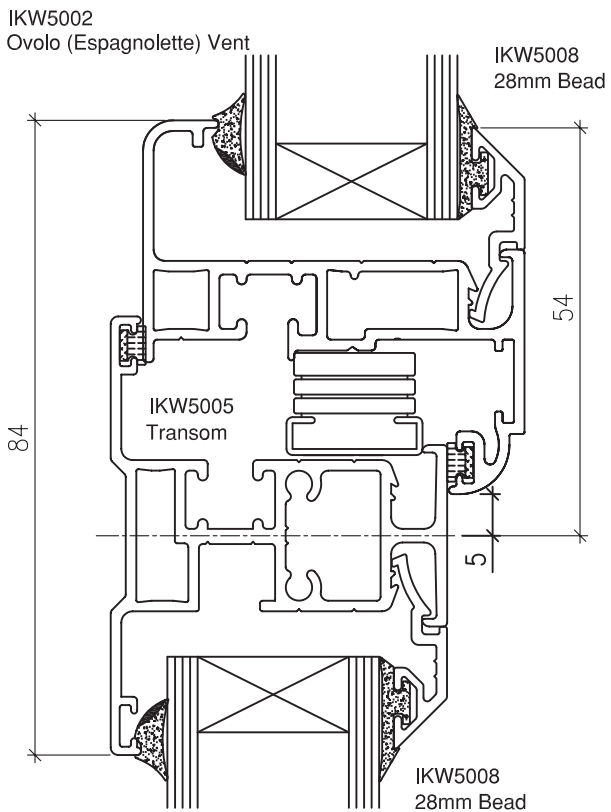
5000 SERIES WINDOWS

GENERAL ARRANGEMENTS OUTER TO COCKSPUR VENT



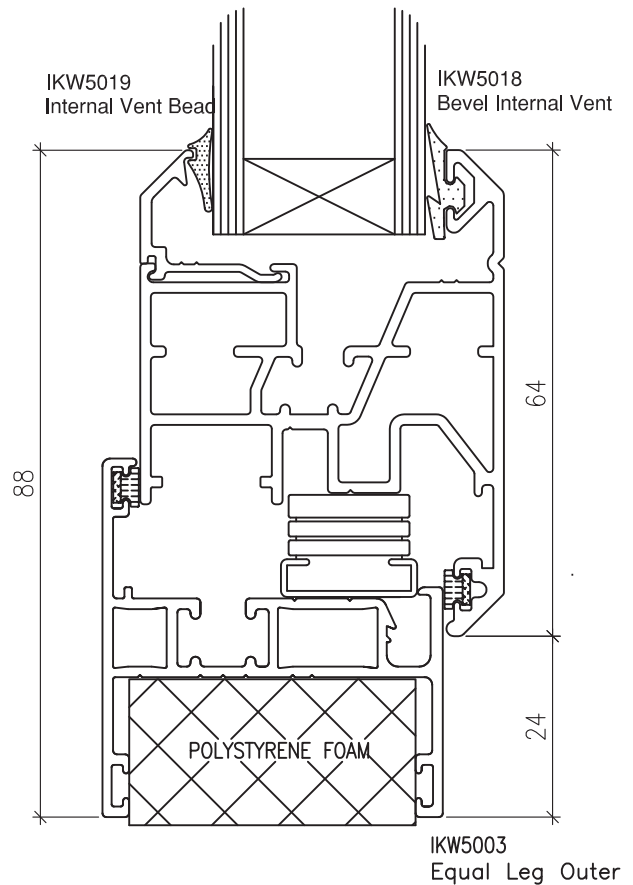
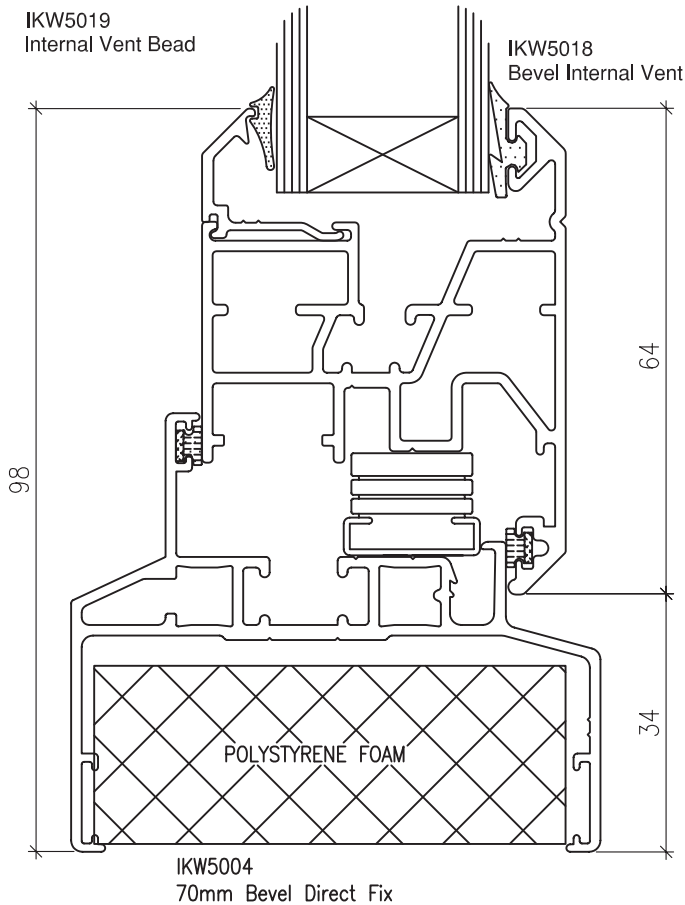
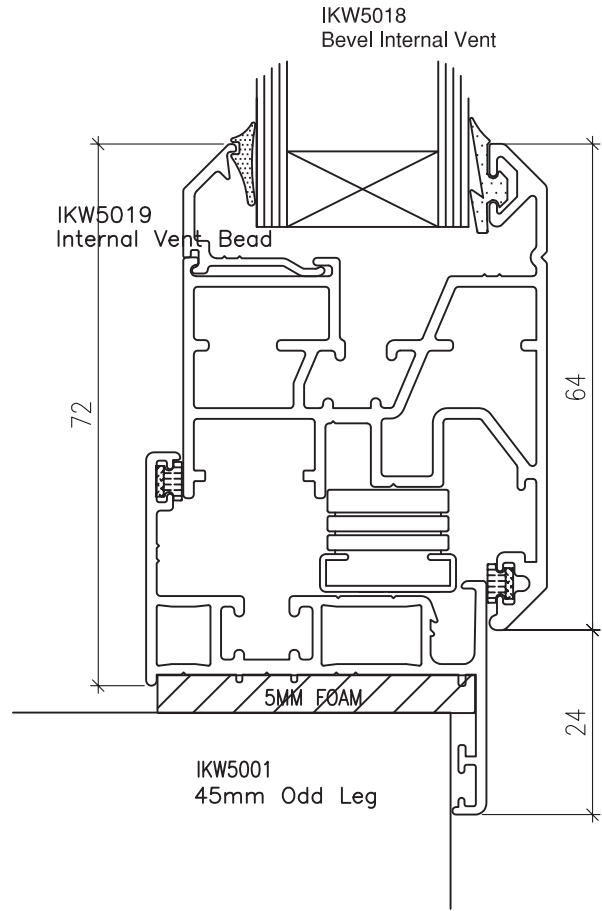
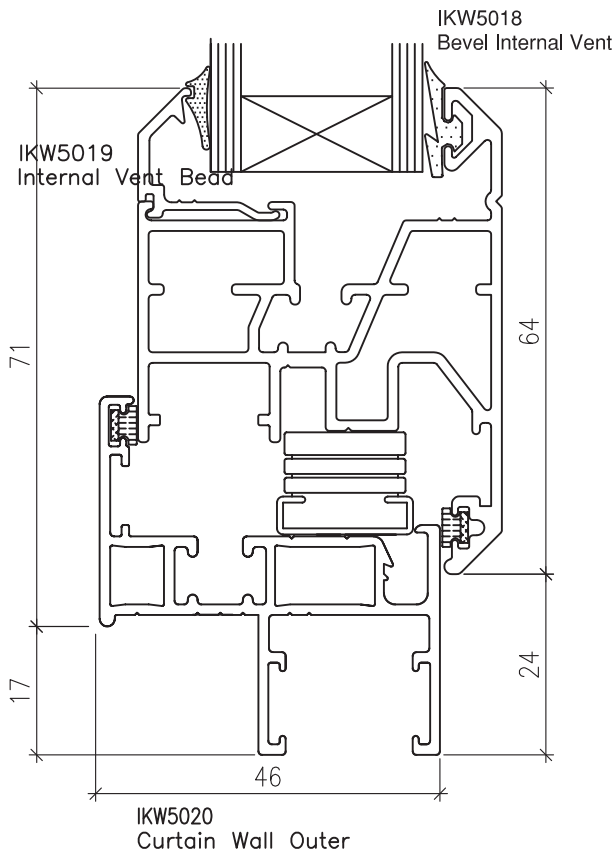
GENERAL ARRANGEMENTS TRANSOM/MULLION TO ESPAGNOLETTE ("OVOLLO") VENTS

5000 SERIES WINDOWS



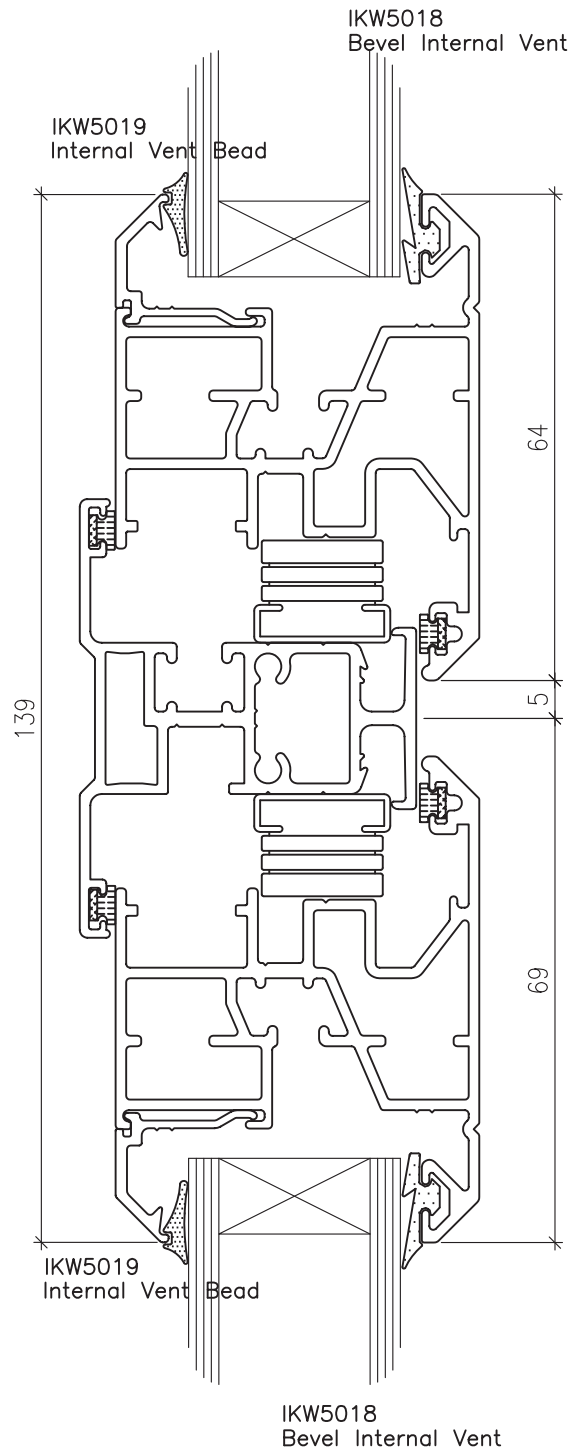
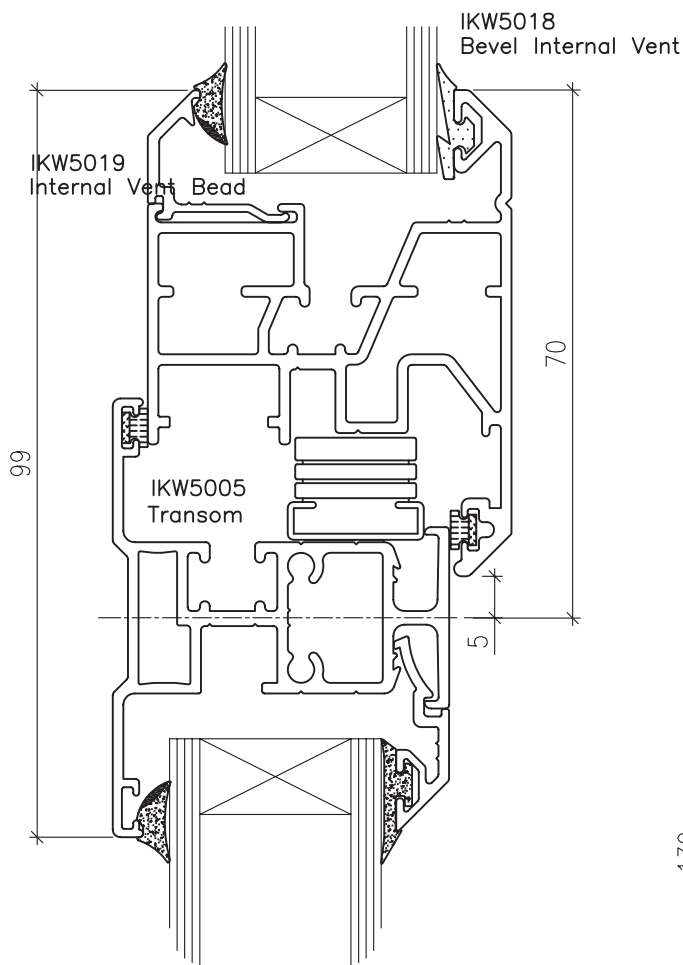
5000 SERIES WINDOWS

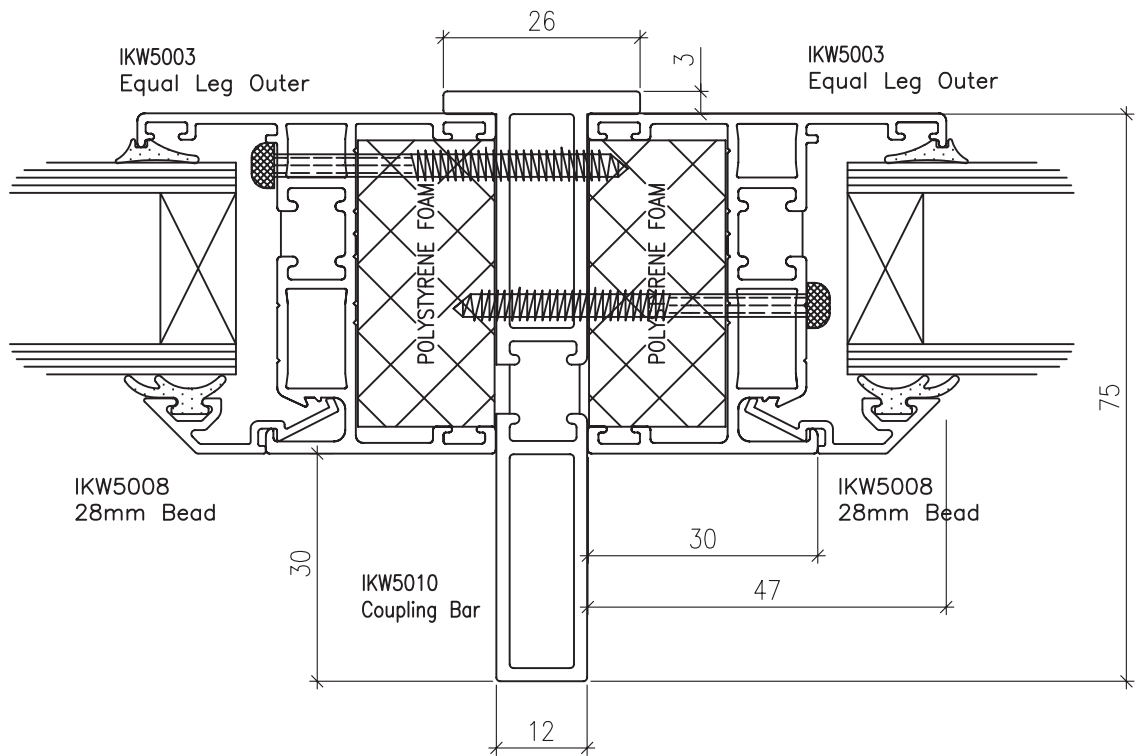
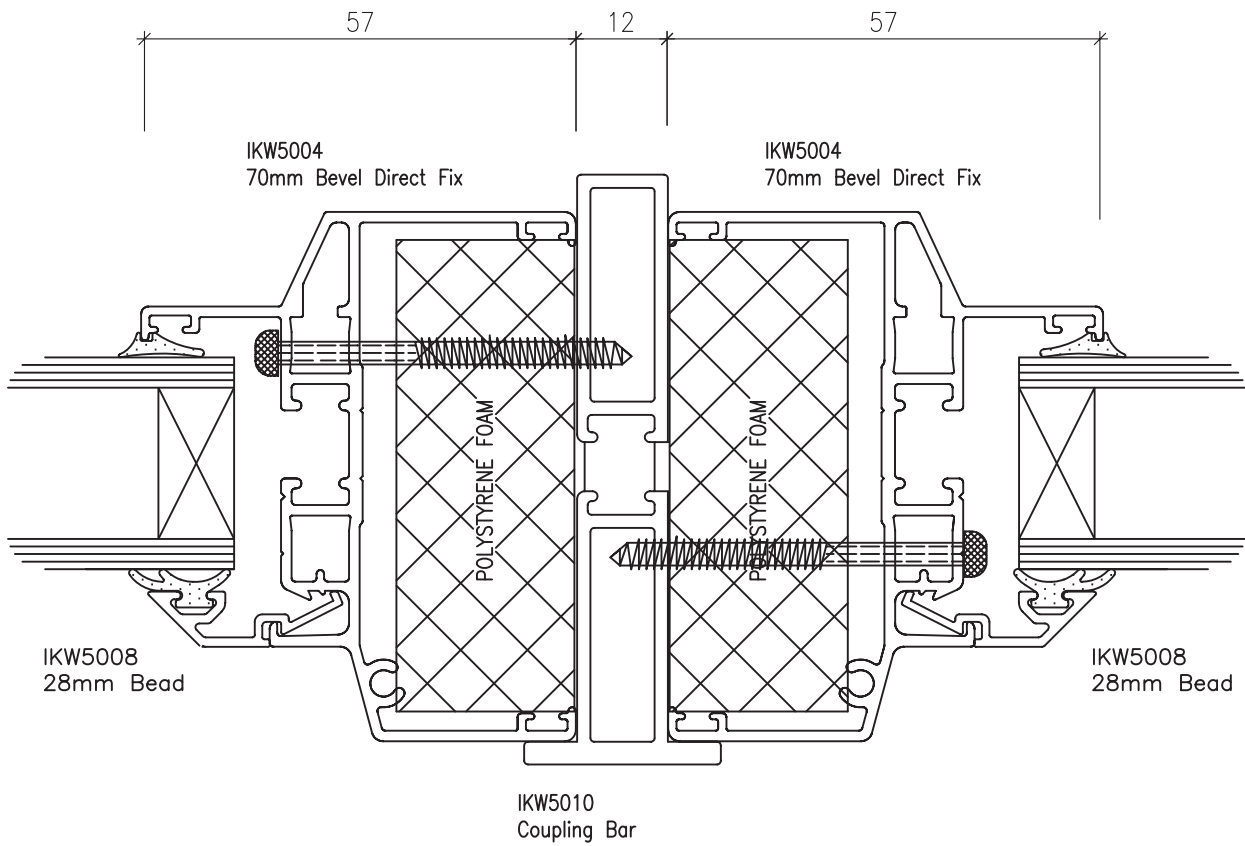
GENERAL ARRANGEMENTS OUTER TO INTERNAL GLAZED VENT

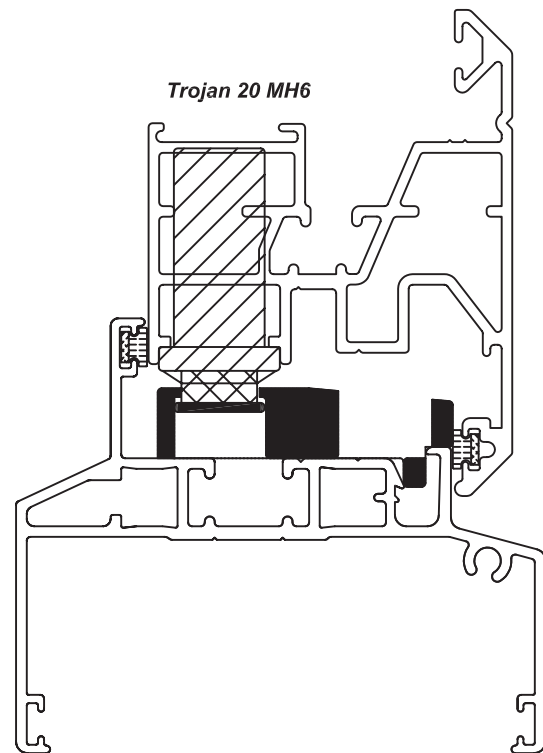
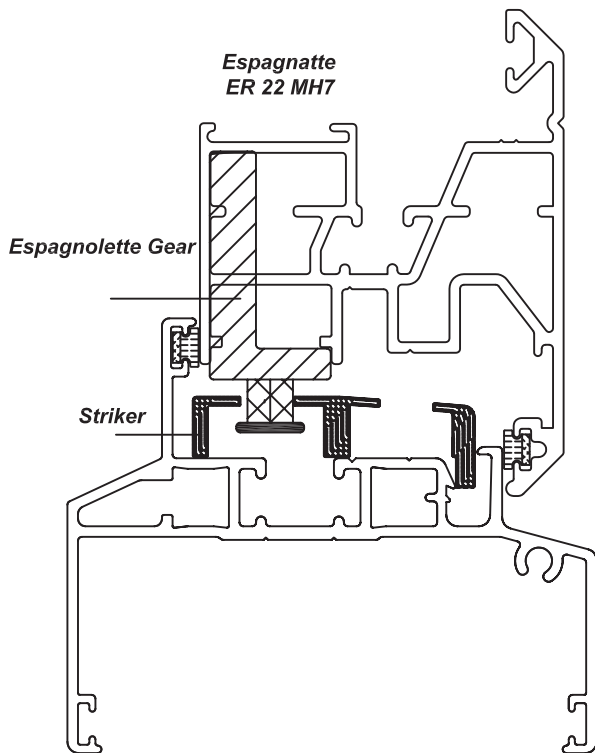


GENERAL ARRANGEMENTS TRANSOM/MULLION TO INTERNAL GLAZED VENTS

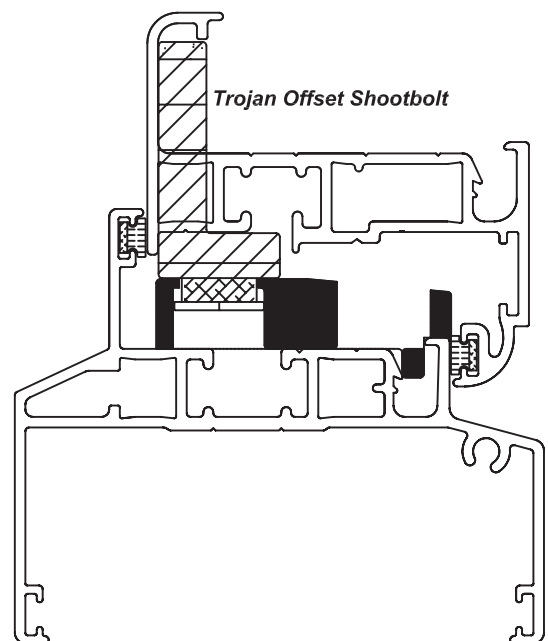
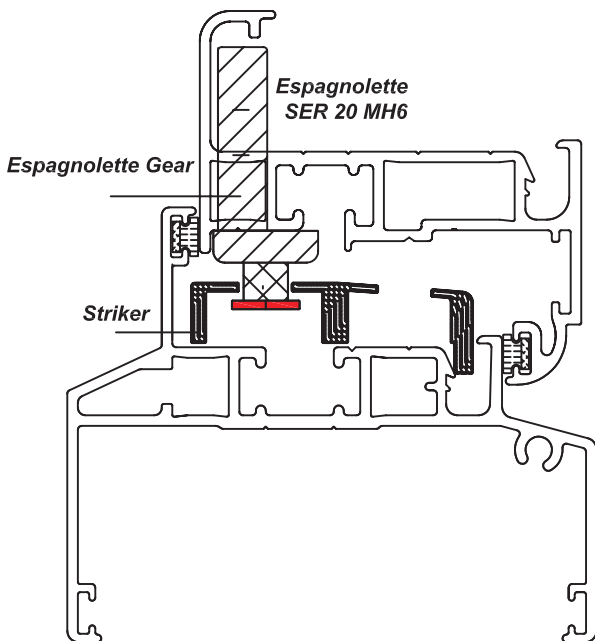
5000 SERIES WINDOWS





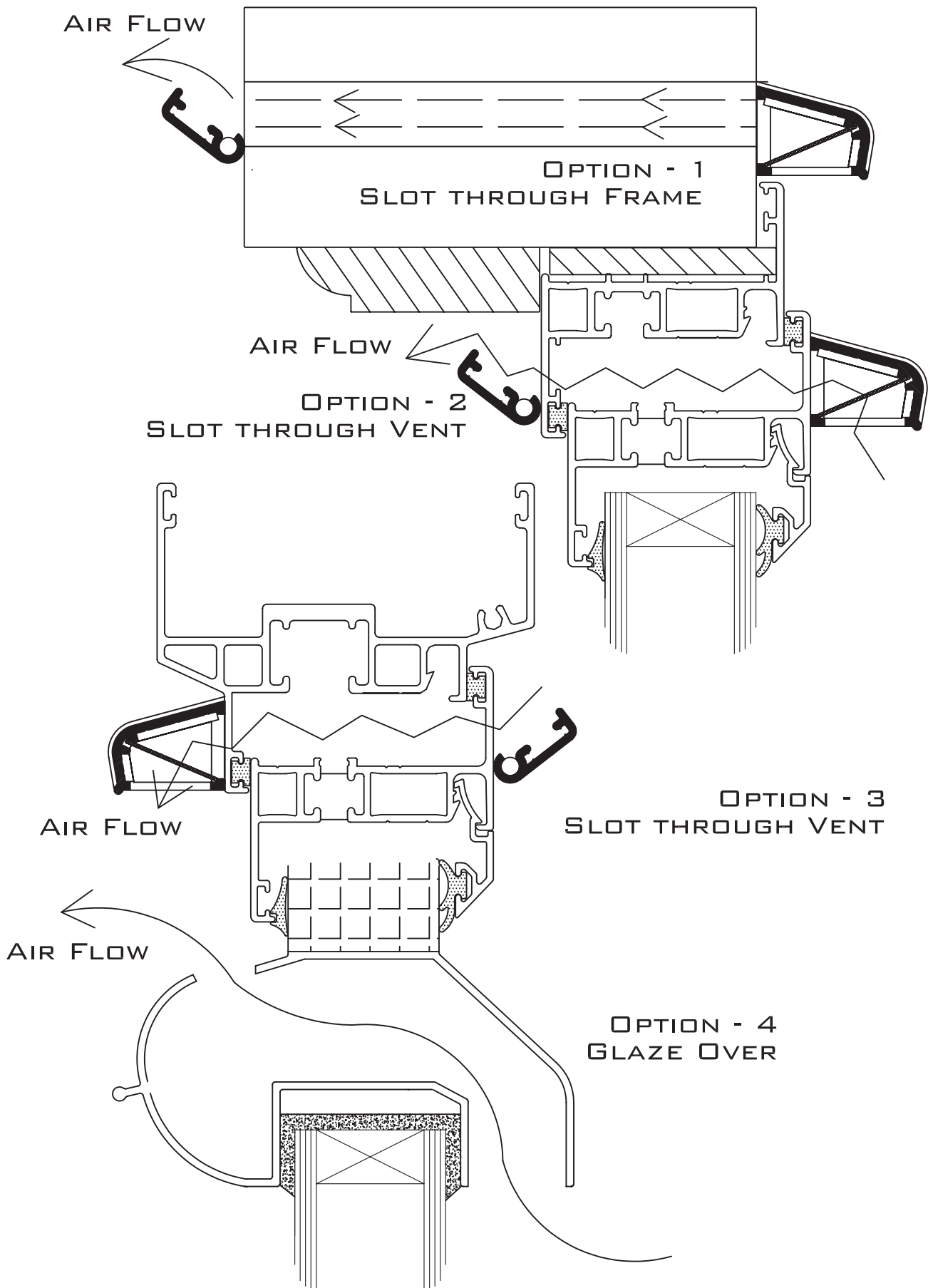


DIRECT FIX OUTER TO INTERNAL GLAZED VENT



DIRECT FIX OUTER TO ESPAGNOLETTE ("OVOLLO") VENT

These details apply to any frame configuration or can be locked with cockspur handle.

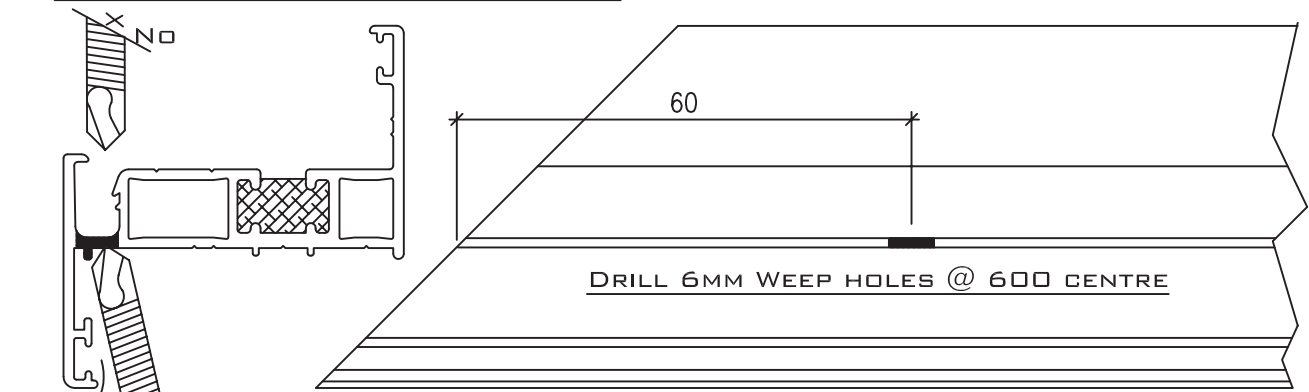


TECHNICAL DATA
DRAINAGE SLOT ARRANGEMENT

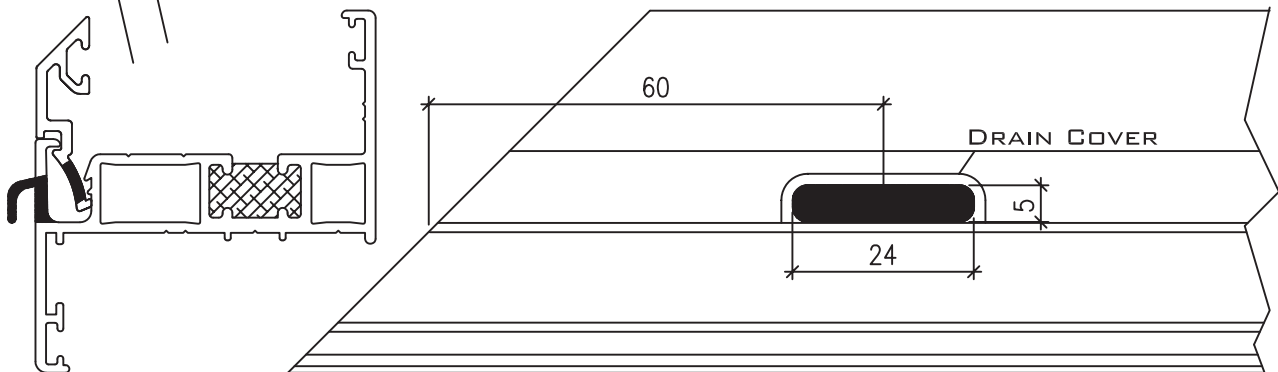
5000 SERIES WINDOWS



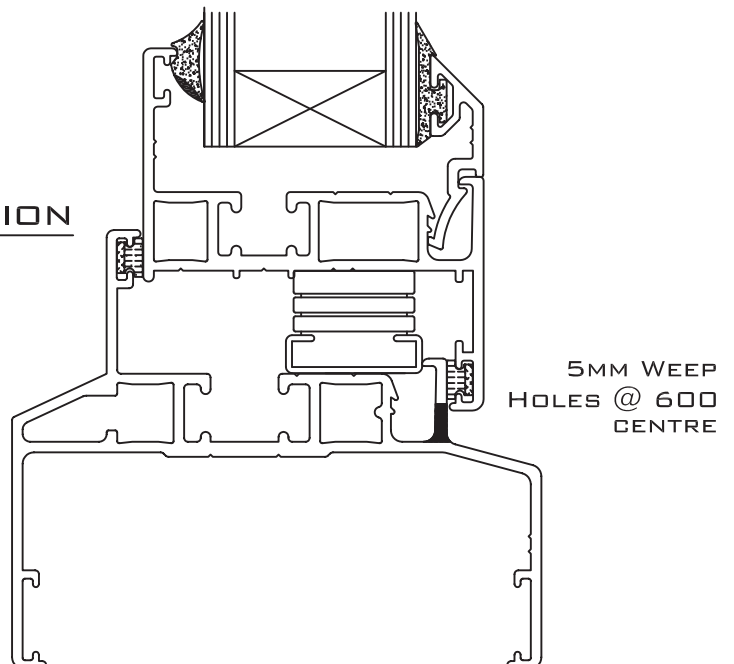
VENT SECTION : OPTION 1

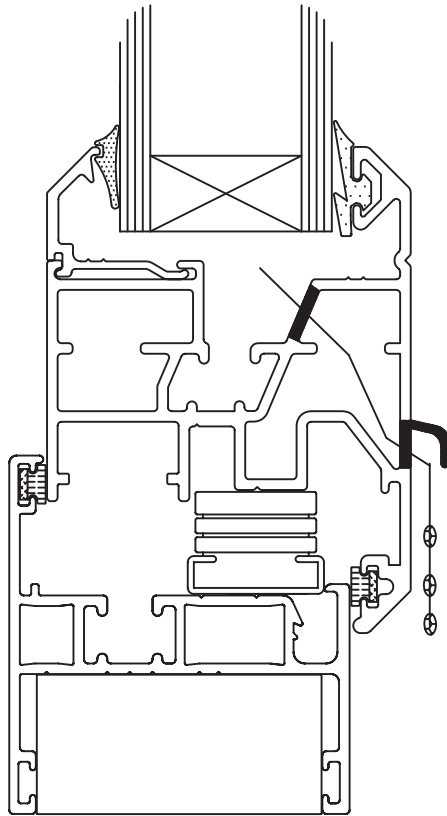


VENT SECTION : OPTION 2 OR OUTER FIXED LIGHT



OUTER FRAME - VENT POSITION





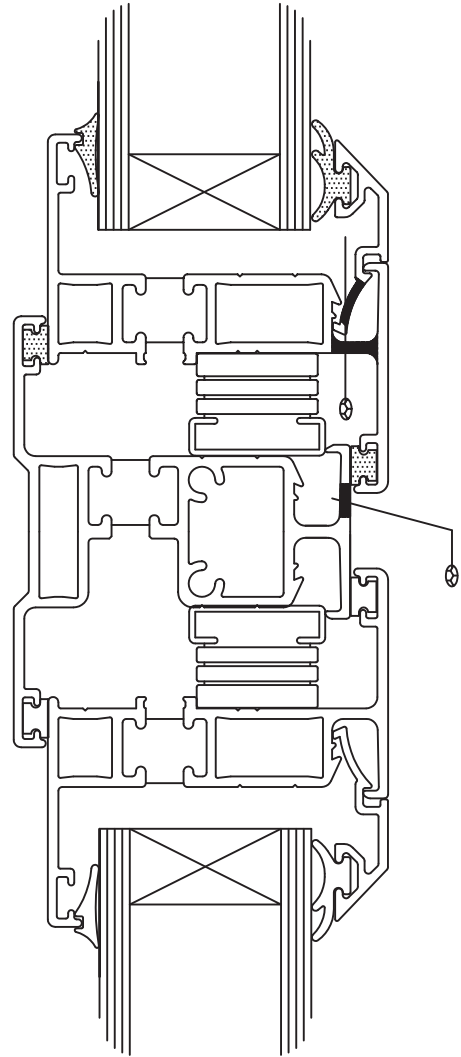
Drainage path can be created by various way as illustration. Use the path which ever is convinient and ensure they are not obstructed by fixings.

Seal Corners and Cill Joints to ensure that a watertight joint is created on inside of frame.

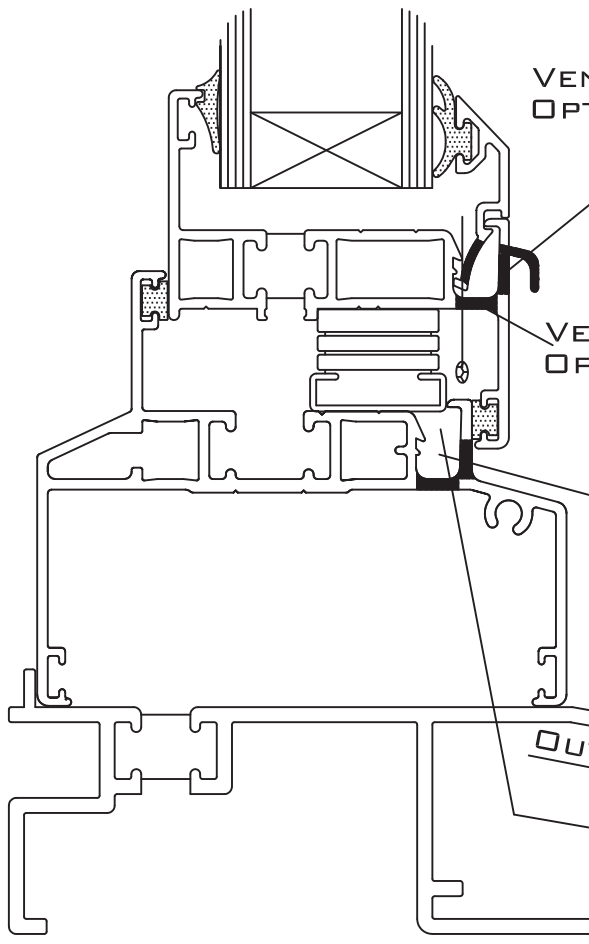
Use Vent Raising block to ensure vent do not drop over the water outlet.

Drainage provision should always be machined slotted rather than drilled holes. A slot of 5 mm x 25mm is recommended.

INTERNAL
VENT
OPTION



DRAINAGE @ TRANSOM



VENT SECTION
OPTION 2

VENT SECTION :
OPTION 1

OUTER FRAME : OPTION 1

OUTER FRAME : OPTION 2

TEST No 1107A

TEST 1:

AIR PERMEABILITY

Laboratory Air Temp: 19 °C

TEST PRESSURE (Pascal)	BLANK READING (m3/h)	TOTAL AIR FLOW (m3/h)	MAXIMUM AIR LEAKAGE (m3/h)	TOTAL RATE OF PERMEABILITY (m3/h/m)
50	3.2	5.2	2	0.64
100	5.0	8.1	3.1	1
150	6.3	11.0	4.7	1.51
200	7.2	12.5	5.3	1.7
250				
350	8.6	15	6.4	2.05
450				
550	10.5	18	7.5	2.4
650				
700	12.2	20	7.8	2.5
750				
800	13.9	22	8.1	2.6
850				
900				
950				
1000				
OPENING PERIMETER = 3.12m		FIXED PERIMETER = 3.12m		

BS 6375: Pt 1 Requirements: -

Opening Lights — see Fig. 1 overleaf

Fixed Lights — Air Permeability not greater than 1 m³/h/m at test pressure.

TEST No 1107A

TEST 2:

WATER PENETRATION

Spraying Method N° 2

TEST PRESSURE (Pascal)	DURATION (mins)	GROSS LEAKAGE YES/NO
0	15	NO
50	5	NO
100	5	NO
150	5	NO
200	5	NO
300	5	NO
400	5	NO
500	5	NO
600	5	NO
1000		
1250		

BS 6375: Pt 1:1989 Requirements: — No gross leakage at test pressure.

TEST 3:

WIND LOADING

Both directions:
+ve Pressure
-ve Suction

GUSTING PRESSURE (Pascal)	MAXIMUM DEFLECTION (mm) Mullion	
1200	0.8	
1600	1.9	
2000	3.6	
2400	-	
-1200	0.7	
-1600	1.8	
-2000	3.6	
-2400		
	Span/125	Span/175
Mullion Span =1050 mm	mm	mm
Span =	mm	mm

BS 6375: Pt 1 1989 Requirements: - The deflection of members such as couplings, glazing bars or meeting rails, shall be limited to Span/125 and, in addition, such members retaining an insulating glass unit shall not deflect more than Span/175 over the length or height of the glass unit.

TEST No 1107A

TEST 4: REPEAT AIR PERMEABILITY

TEST PRESSURE (Pascal)	MAXIMUM AIR LEAKAGE (m ³ /h)	RATE OF AIR PERMEABILITY (m ³ /h/m)
50	2.1	0.67
100		
150		
200		
250		
300	6.4	2.05
350		
400		
450		
500		
550		
600	8.1	2.7

BS 6375: Pt 1 1989 Requirements: - Performance level for Air Permeability does not increase by more than 1 m³/h/m for initial values up to 5 m³/h/m or by more than 2 m³/h/m for initial values above 5 m³/h/m, based on Test 1 results. The performance level is up to the pressure class required.

TEST 5: REPEAT WATER PENETRATION Spraying Method N° 2

TEST PRESSURE (Pascal)	DURATION (Mins)	GROSS LEAKAGE YES/NO
0	15	NO
50	5	NO
100	5	NO
150	5	NO
200	5	NO
300	5	NO
400	5	NO
500	5	NO
600	5	NO
1000		
1250		

BS 6375: Pt 1: 1989 Requirements: — Performance level must not be below Test 2 requirements.

THERMAL SIMULATION REPORT

Report Number 041
Prepared For: Ikon Stayfix Ltd.
System Identifier: New Equal Leg. Timber Fix
Fixed Outer Frame I.D. NewOF01
Vent Frame I.D. NewOFV01
Transom / Mullion I.D. TTVAir
Glazing System 4-20-4 K glass + Air
Spacer Bar Warmlight 19.5mm
Notes De-bridge width for Outer and Transom/Mullion sections should be => 5mm.
De-bridge width for Sash/Vent should be =>5.5mm.
Insulation foam should be used in all sides of Outer Frame.
Report refers to Timber Fix Only.

Simulation Configuration:- Domestic (L1 – Dwellings)

Results

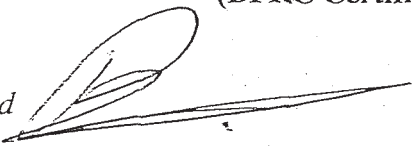
Window Component	U_{frame} (W/m ² K)	U_{edge} (W/m ² K)
Fixed Outer Frame	2.4267	2.2604
Vent Frame	2.8306	2.3298
Transom / Mullion	3.6989	2.2564

Glazing System Centre Pane Conductivity = 1.74 (W/m²K)


Overall Window Result

Thermal Conductivity = 2.2 W/m²K

Report Prepared By Philip Davies Technical Standards Engineer
(BFRC Certified Simulator No. 03)

Signed  Date 15/07/02

Report Checked By Dr Gary Morgan Works Manager
(BFRC Certified Simulator No. 02)

Signed  Date 15/7/02

This simulation was performed using Therm 2.1a and Window 4.1 according to prEN ISO 10077-2 using the alternative "edge" method as described in ISO 15099.

THERMAL SIMULATION REPORT

Report Number 042
Prepared For: Ikon Stayfix Ltd.
System Identifier: New Equal Leg. Timber Fix
Vent Frame I.D. NewOFV01
Glazing System 4-20-20 K glass + Air
Spacer Bar Warmlight 19.5mm
Notes De-bridge width for Outer and Transom/Mullion sections should be => 5mm.
De-bridge width for Sash/Vent should be =>5.5mm.
Insulation foam should be used in all sides of Outer Frame.
Report refers to Timber Fix Only.

Simulation Configuration:- Commercial (L2 – Non-Dwelling)

Results

Window Component	U_{frame} (W/m ² K)	U_{edge} (W/m ² K)
Vent Frame	2.8306	2.3298

Glazing System Centre Pane Conductivity = 1.74 (W/m²K)

Overall Window Result

Thermal Conductivity = 2.2W/m²K

Report Prepared By Philip Davies Technical Standards Engineer
(BFC Certified Simulator No. 03)

Signed



Date 15/07/02

Report Checked By Dr Gary Morgan Works Manager
(BFC Certified Simulator No. 02)

Signed



Date 15/7/02

This simulation was performed using Therm 2.1a and Window 4.1 according to prEN ISO 10077-2 using the alternative "edge" method as described in ISO 15099.

THERMAL SIMULATION REPORT

Report Number 071
Prepared For: Stayfix Ltd
System Identifier: Double Door
Fixed Outer Frame I.D. 115519
Top/Btm Rail I.D. 110750
Hinge/Lock Style I.D. 113315
Meeting Rail I.D. 113896/113089
Glazing System 4-20-4 K glass + Argon
Spacer Bar Warmlight 19.5mm
Notes Foam fill all round outer frame and hollow boxes in all sections.
De-bridge for Outer Frame => 7.00mm
De-bridge all other sections => 6.00mm

Simulation Configuration:- Domestic & Commercial (L1 & L2)

Results

<i>Door Component</i>	$U_{frame} (W/m^2K)$	$U_{edge} (W/m^2K)$
<i>Fixed Outer Frame</i>		
<i>Top/Btm Rail</i>	See Attached Therm2.1a Documents for Individual Frame & Edge Values.	
<i>Hinge/Lock Style</i>		
<i>Meeting Rail</i>		

Glazing System Centre Pane Conductivity = 1.53 (W/m²K)

Overall Window Result

Thermal Conductivity = 2.2 W/m²K

Report Prepared By Philip Davies Technical Standards Engineer
(BERC Certified Simulator No. 03)

Signed



Date 11/10/02

Report Checked By Dr Gary Morgan Works Manager
(BERC Certified Simulator No. 02)

Signed



Date 14/10/02

THERMAL SIMULATION REPORT

Report Number 070
Prepared For: Stayfix Ltd
System Identifier: Single Door
Fixed Outer Frame I.D. 115519
Top/Btm Rail I.D. 110750
Hinge/Lock Style I.D. 113315
Meeting Rail I.D. N/A
Glazing System 4-20-4 K glass + Argon
Spacer Bar Warmlight 19.5mm
Notes Foam fill all round outer frame and hollow boxes in all sections.
De-bridge for Outer Frame => 7.00mm
De-bridge all other sections => 6.00mm

Simulation Configuration:- Domestic & Commercial (L1 & L2)

Results

Door Component	U_{frame} (W/m ² K)	U_{edge} (W/m ² K)
Fixed Outer Frame	See Attached Therm2.1a Documents for Individual Frame & Edge Values.	
Top/Btm Rail		
Hinge/Lock Style		
Meeting Rail		

Glazing System Centre Pane Conductivity = 1.53 (W/m²K)

Overall Window Result

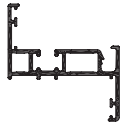
Thermal Conductivity = 2.2 W/m²K

Report Prepared By Philip Davies Technical Standards Engineer
(BIFRC Certified Simulator No. 03)

Signed  Date 11/10/02

Report Checked By Dr. Gary Morgan Works Manager
(BIFRC Certified Simulator No. 02)

Signed  Date 14/10/02



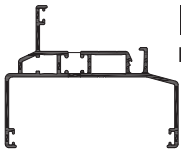
IKW5001
VENT FRAME OR
ODD LEG OUTER



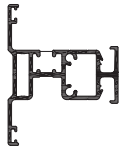
IKW5022
ESPAG VENT



IKW5003
EQUAL LEG OUTER



IKW5004
DIRECT FIX OUTER



IKW5005
TRANSOM



IKW5006
110mm TRANSOM



IKDCC
DOOR CILL CARRIER



IKWCC
WINDOW CILL CARRIER



IKCILLCA
CURTAINWALL SUB CILL CARRIER



IKCILL050
55mm Sub Cill



IKCILL90
80mm Sub Cill



IKCILL100
100mm Sub Cill



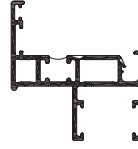
IKCILL180
180MM INSERT CILL



IKW5019
28mm I/G BEAD



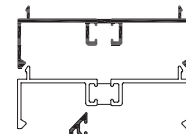
IKW5018
INTERNAL GLAZED
VENT FRAME



IKW5020
C/W INSERT FRAME



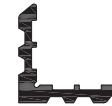
IKW5023
SINGLE GLAZE BEAD



IKW5007
20mm CILL EXTENDER



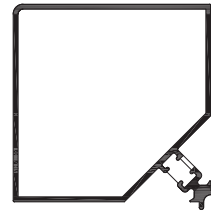
IKW5008
28mm BEAD



STD CORNER CLEAT



IKW5010
T COUPLING BAR

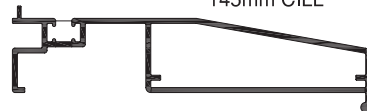


IKW5011
90deg SQUARE POST

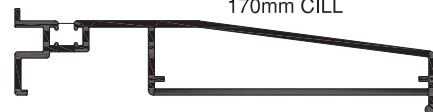
IKW5021
100mm STUB CILL



IKW5015
145mm CILL



IKW5016
170mm CILL



IKW5017
CILL EXTENSION

