Uniclass	L413:P7114
CI/SfB	(31.4)Xn6

Specifiers Guide

KÖMMERLING®

► Corporate Profile

Kömmerling is part of profine GmbH, along with the KBE and Trocal brands, with the group headquarters in Troisdorf, Germany. Collectively we have over 3,000 employees in 29 locations in 22 countries, with a production capacity of 450,000 tons annually of high-quality PVCu profiles.

Today, PVC-u is the most successful window material and its market share is constantly growing. In residential construction, the replacement market share is currently over 80% and PVC-u is also the preferred material choice of many specifiers. Kömmerling offers a large number of window and door systems each designed with impressive technical innovations and manufactured with our exclusive lead-free Greenline compound.

Efficiency, design, function, physical properties, environmental protection and responsible handling of raw material resources meet the highest requirements. These elements provide benefits for the client, specifiers and fabricators through the availability of high performance and proven systems.

Our C70 and O70 Gold systems are highly energy efficient and are available in over 40 colours and with the AluStar system we can offer a near limitless number of RAL colours on the aluminium outside face. We also have an 88mm system which is Passivhaus certified and can reach U-values as low as 0.6 W/m2K. The C70 Gold® systems is also available in hot climate material and therefore can be used in geographical areas of extreme temperatures across the world.

With the Kömmerling brand, we face the challenges of the future with confidence, honesty and transparency. Enabling us to continue our position as Europe's most innovative profile systems company.

► Contents

► Environment - Greenline

For more than a century Kömmerling has invested in research and innovation, improving quality of life to the benefit of each and every one of us. Controlled technology has enabled the brand to offer products of an exceptional quality particularly in terms of PVC-u profiles for windows.

Today, our position as one of the leading PVC-u suppliers requires us to go even further to anticipate the inherent responsibilities of an industry that is faced with the challenge of preserving a balanced and harmonious environment.

The PVC-u industry made a voluntary commitment to the EU Environment Commission to eliminate the use of lead stabilisers from PVC-u profiles by 2010, extended to 2015. This was welcomed as the "Vinyl 2010" initiative and profine undertook this change in 2003 / 2004 making the move to calcium-zinc and completely eliminating lead from the extrusion process.

These changes were undertaken at no cost to our clients and became Greenline, the most environmentally friendly profile available. In addition to this proactive environment initiative we also seek to collect fabricator off cuts and recycle this material into the extrusion system.

Greenline is a concept that has been perfected to preserve the natural resources by working in three convergent directions:

- Ensuring the ongoing improvement of the window system's performance providing thermal insulation which reduces on energy consumption and improves sound insulation.
- Recycling the basic raw materials (PVC-u, glass and steel) by reusing them in the production cycle – thus improving efficiency by using less raw materials and energy.
- Optimising the use of raw material components; the end product is more refined which ensures longevity and increases the life-span of the PVC profiles.

Environment - Recycline ◄

Recycline, an initiative to reduce PVC-u waste by 100%, provides a complete service for Kömmerling fabricators to ensure window profiles are efficiently recycled. Using the latest processing technology and a full integrated collection and distribution system, fabricators and their customers can enjoy sustainable windows with minimal disruption.

The European PVC-u industry, Vinyl 2010 initiative, actively encourages members to invest and realise the advantages of recycling and Recycline does exactly that. Recycline, a profine Group recycling initiative, directly tackles many environmental and legislative issues whilst delivering a cost effective service to all fabricators.

Due to its unique properties, PVC-u is widely recognised as one of the best and most fit-for-purpose materials for windows and doors. Durable for 50 years or more PVC-u can tolerate all weather conditions and extreme temperatures. PVC-u once discarded, however, may last for hundreds of years without degrading in landfill. Rather than dispose of a valuable and durable material, Recycline endeavours to recycle PVC-u, significantly reducing the burden on landfill sites.

The Recycline Process

- Partners of the Recycline initiative dispose of all off-cuts and other profile waste produced in allocated cages, which are located onsite.
- Once the cages are full with profile waste, they are collected and emptied by Recycline lorries.
- Recyline lorries then transport the waste to the processing plant where both the PVC-u and rubber is ground into granules.
- The granules are then put through a sortex machine which separates the PVC-u granules from the rubber.
- PVC-u granules are then transported back to Germany to be reprocessed into PVC-u.

► Energy Efficiency

Consumers, specifiers and legislators are increasingly focusing on the energy efficiency of building products. To respond to the challenge of raised expectations, the British Fenestration Rating Council (BFRC), in conjunction with the UK glazing industry and European partners has designed a window rating system to meet this need for simple and accurate information.

The BFRC provides third party certification for the total thermal performance of windows using a 'fair, accurate and credible' assessment scheme, as does Certass with their Thermal Rating Register (TRR). Windows are rated using the familiar A to G scale on the basis of their total energy efficiency, where an A-rated window is more energy efficient than a G-rated window. Consumers and specifiers can quickly and easily choose the most suitable window for their needs. Government inspectors and agencies can quickly and easily see if the window meets the legal requirements and energy agencies can see if the window meets their criteria for support.

The Window Energy rating assesses the whole window energy performance and covers the frame material, the frame design, the glass type and all the other components that make up the window. The rating is carried out by computer simulation and gives a single number that can be used to compare the energy performance of a window simply and quickly.

Window Energy Ratings (WERs):

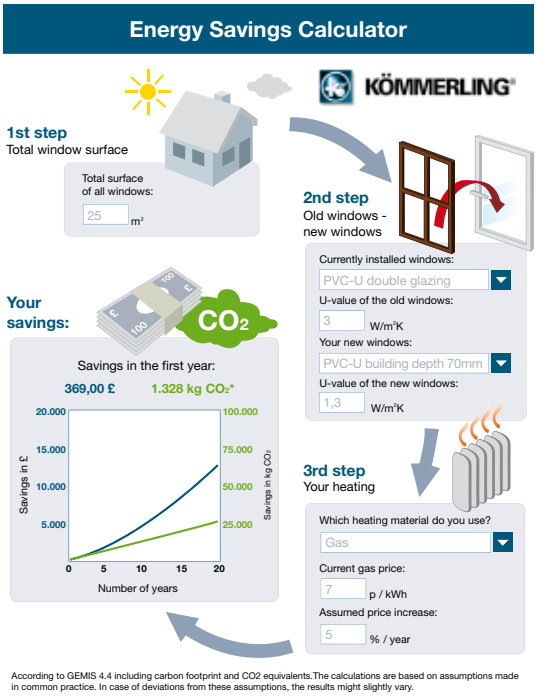
- allow consumers to rapidly compare the energy efficiency of competing products
- allow specifiers to select windows based on a validated performance figure.
- allow legislators and others to ensure that fitted windows meet the legal requirements.
- allow energy agencies to direct support to energy efficient products.
- provide a method to link thermal window performance to other thermal assessment systems.

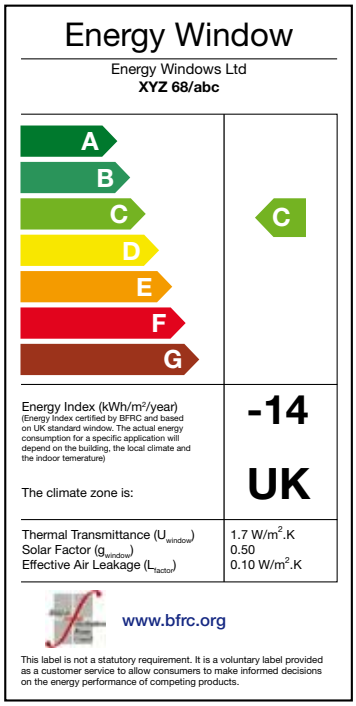
Kömmerling window systems are capable of achieving 'A' to 'C' ratings depending upon window configuration and glass type and we now have our own in-house assessors. Please contact the Kömmerling technical department for further information.

'U-values'

'U-values' are now also part of the latest Building Regulations which come into effect on 1st October 2010, where it is stated that any installed window must be a 'C' rating under the WERs or have a 'U-value' of 1.6. 'U-values' are widely used across Europe as a means to assess the thermal performance of building products and this includes the UK new build and refurbishment markets.

Kömmerling has a wide range of products that can achieve 'U-values' to meet any specification including Passivhaus and that includes our impressive 88 Plus system and a number of aluminium/pvc composite systems.





► Passivhaus

Passivhaus buildings provide a high level of occupant comfort while using very little energy for heating and cooling. They are built with meticulous attention to detail and rigorous design and construction according to principles developed by the Passivhaus Institute in Germany, and can be certified through an exacting quality assurance process. Our KBE System 88 product already carries Passivhaus Certification.

According to the Passivhaus Trust, a body that profine UK Ltd is part of, to achieve the Passivhaus Standard in the UK typically involves:

- very high levels of insulation
- extremely high performance windows with insulated frames
- airtight building fabric
- thermal bridge free' construction
- a mechanical ventilation system with highly efficient heat recovery

With pan-European brands including Kömmerling, the German-based profine Group has considerable experience in such projects both for the commercial and one-off residential applications. Within the Kommerling portfolio are a number of products that can achieve Passivhaus standards including the KBE System 88 and the new lift and slide PremiDoor 88.

As one of Europe's most innovative window and door systems company, you can be assured that the quality of our products is equally matched by the standards we work to both in the UK and all across Europe. We carry extensive accreditations and our test report is further evidence of our commitment and ability to deliver the very best environmentally sensitive window and door systems.

As a Group we carry ISO 9001:2008 and most recently the ISO 50001 standard for the energy management system we operate in Pirmasens, Germany. Profine has reorganised its energy management, set itself binding energy targets and has consistently expanded its present energy management system.

These energy targets include a specific saving in extrusion energy of at least 3.5% in the first year. At present, the company is heading in the right direction supported by the latest pumping technology, with other technical improvements planned for the future. These also address personnel awareness, above all in the electricity intensive fields.

DIN EN ISO 9001:2008 Cert no. FM 601076

KM51959 BS7950/BS EN 12608
KM 56435 BS7950/BS EN 12608

KM 13356 BS EN 12608
KM 27876 BS EN 12608

Secured by Design certification is available from a number of our manufacturers. Please contact us for further details.

► Test Certificates

Many PVC-u profile extrusion companies boast of the quality of their product. This section is dedicated to those organisations that wish to discover the sheer extent of the uncompromising quality of Kömmerling window systems and the evidence to prove it.

One of several case studies undertaken shows that Kömmerling PVC-u profiles do indeed stand the test of time. The below case study provides real-life examples that confirm Kömmerling's position as Europe's most dynamic brand for PVCu window and door profiles.

Case Study: Fifteen years of exposure to the extreme climate and temperature fluctuations of Bernina in Switzerland - the perfect environment to test the longevity of any window installation and the ideal platform to provide solid evidence of the durability of Kömmerling profiles.

The Albergo Ospizio Bernina, situated at a height of 2,309 metres, was fitted in 1976 with Kömmerling PVC-u windows. In 1991 two of the fifteen year-old windows were removed and tested.

The uniqueness of the region, which is continuously exposed to long periods of hard frost, violent storms, an inhospitable climate and increased radiation, provides the perfect opportunity for a thorough examination of the windows durability.

The results of the tests carried out on the windows showed that they were in excellent condition, both visually and technically. The sash rebate seal still functions correctly and has suffered no impairment. The pivoting point, which is subject to the greatest wear, is still fully intact and all the metal components are free of any corrosion.

Test Results:

1966-1996 Test Report NO. E59063199
1969-1984 Test Report NO. 6921185
1969-1986 Test Report NO. 20292/87-1
1976-1991 Test Report NO. 136 066

Combined with the resources of the group, Kömmerling is able to provide a comprehensive range of commercial support to all fabricators, installers and specifiers.

The following elements provide an example of what we can offer to Kömmerling fabricators and specifiers:

- Approved Lists
- Accreditations
- CAD drawings inc section details
- Literature
- Partnering / Procurement
- Performance achievements
- Recycling
- Site surveys
- Specifications
- Structural calculations inc load bearings
- Sustainability
- Any other technical questions

These matters are actioned by an experienced team who have considerable expertise in the PVC-u market. Our technical department is fully equipped to deal in all matters pertaining to technical support including Window Energy Ratings (WERs) and is there to assist you in a variety of ways.

Fabricator Network

We have an experienced nationwide network of fabricators and installers who specialize in commercial projects in all forms from small projects in the hotel and leisure industry to large public sector projects.

By working closely with Kömmerling, our customers are able to better meet the needs of architect, building contractor and specifier.

► C70 Gold® Maximum Sizes

In order to perform within given design criteria, it is necessary to observe the following chart with reference to maximum permitted manufacturing sizes.

Width and Height are given in millimetres.**When making calculations, the figure for square area shall supersede width and height figures.**

White Profiles	Width	Height	Area	Weight	
7581					
Top Hung	1200	1200	1.0m²	40kg	
Side Hung	900	1600	1.2m²	40kg	
7582, 7512					
Top Hung	1200	1200	0.8m²	40kg	
Side Hung	900	1600	1.0m²	40kg	
395					
Tilt and Turn	1450	2100	2.0m²	100kg	
7584, 7585					
Single Door	1000	2250	2.1m²	150kg	
Single Door	1100	2350	2.3m²	150kg	With corner joint No: 185
Double Door	800	2250	1.7m²	90kg	
Double Door	900	2350	2.0m²	90kg	With corner joint No: 185

Non White Profiles	Width	Height	Area	Weight	
7581					
Top Hung	1200	1200	1.0m²	40kg	
Side Hung	900	1600	1.2m²	40kg	
7582, 7512					
Top Hung	1200	1200	0.8m²	40kg	
Side Hung	900	1600	1.0m²	40kg	
395					
Tilt and Turn	1450	2100	2.0m²	100kg	
7584, 7585					
Single Door	1000	2250	2.1m²	150kg	
Single Door	1100	2350	2.3m²	150kg	With corner joint No: 185
Double Door	800	2250	1.7m²	90kg	
Double Door	900	2350	2.0m²	90kg	With corner joint No: 185

1. Additional Information

1.1 Maximum permitted size for white elements, 6m.

1.2 Maximum permitted size for non white elements, 4m.

1.3 No profile length shall exceed 4m for white elements, 2.5m for non white.

1.4 No profile length shall exceed 3m for white fixed frames, 2.5m for non white.

1.5 All information given can only be valid provided system specific reinforcing has been adhered to.

1.6 All recommendations are subject to hardware specific requirements.

In order to perform within given design criteria, it is necessary to observe the following chart with reference to maximum permitted manufacturing sizes.

Width and Height are given in millimetres. **When making calculations, the figure for square area shall supersede width and height figures.**

White Profiles	Width	Height	Area	Weight	
2917					
Top Hung	1200	1200	1.0m²	40kg	
Side Hung	900	1600	1.2m²	40kg	
2910					
Tilt and Turn	1450	2100	2.0m²	100kg	
2915, 2916					
Single Door	1000	2250	2.1m²	150kg	
Single Door	1100	2350	2.3m²	150kg	With corner joint No: 185
Double Door	800	2250	1.7m²	90kg	
Double Door	900	2350	2.0m²	90kg	With corner joint No: 185
2910					
Tilt and Slide	1300	2100	2.5m²	100kg	
2915					
Tilt and Slide	1500	2300	3.0m²	100kg	

Non White Profiles	Width	Height	Area	Weight	
2917					
Top Hung	1000	1000	1.0m²	40kg	
Side Hung	900	1500	1.0m²	40kg	
2910					
Tilt and Turn	1300	1900	1.8m²	100kg	
2915, 2916					
Single Door	1000	2100	2.0m²	150kg	
Single Door	1100	2250	2.1m²	150kg	With corner joint No: 185
Double Door	800	2100	1.6m²	90kg	
Double Door	900	2250	2.0m²	90kg	With corner joint No: 185
2910					
Tilt and Slide	1200	2100	2.5m²	100kg	
2915					
Tilt and Slide	1500	2100	3.0m²	100kg	

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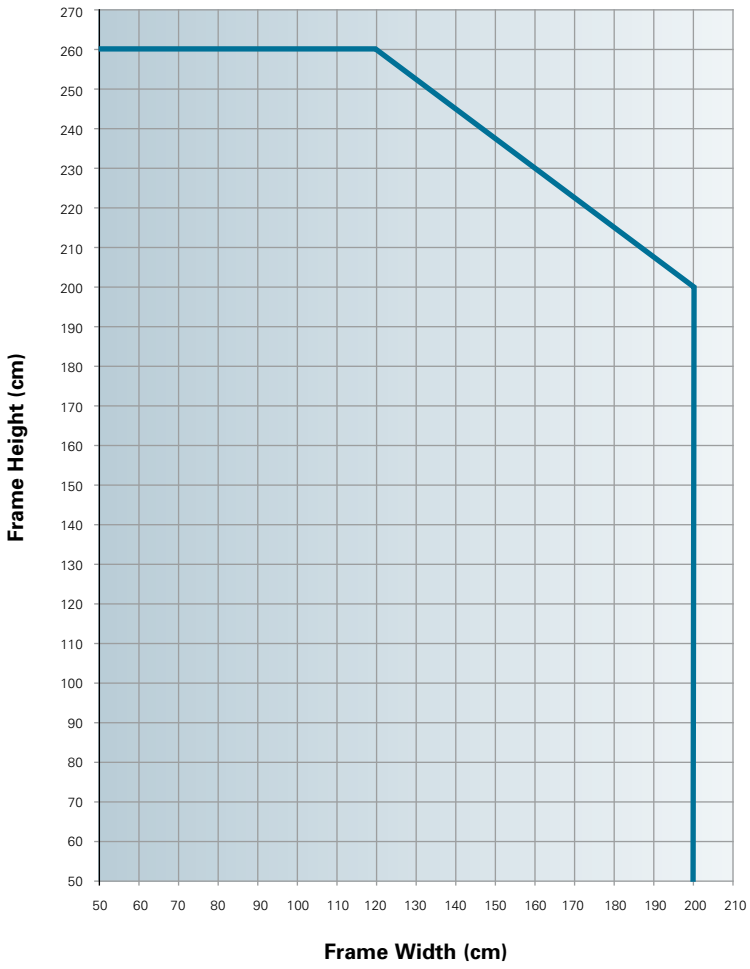
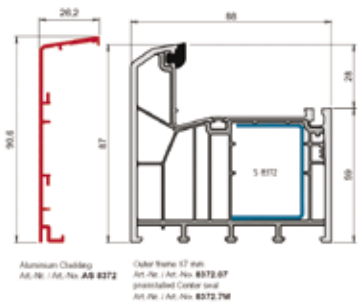
► KBE System 88 Maximum Sizes



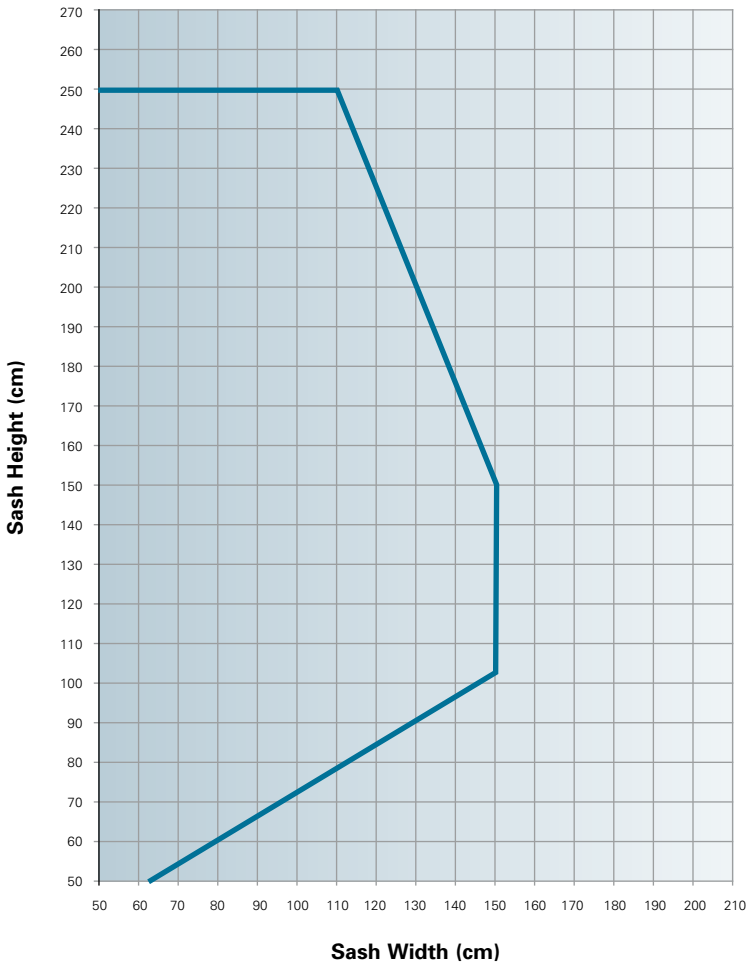


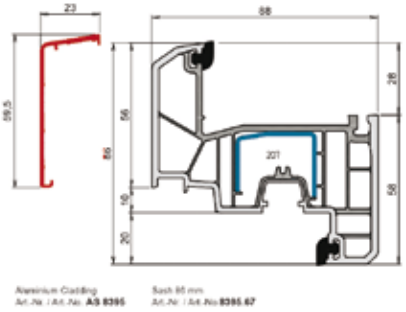
Notes on side- and centre-hung windows

The listed sash sizes were selected on the basis of the hardware and permitted total weight. The sash width must not be greater than the sash height by more than 25%.

Overlarge windows from 235 cm require the approval of the hardware manufacturer.

KBE System 88 Maximum Sizes ◄



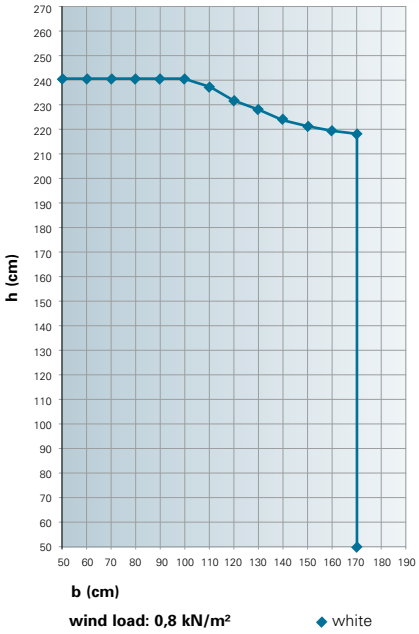


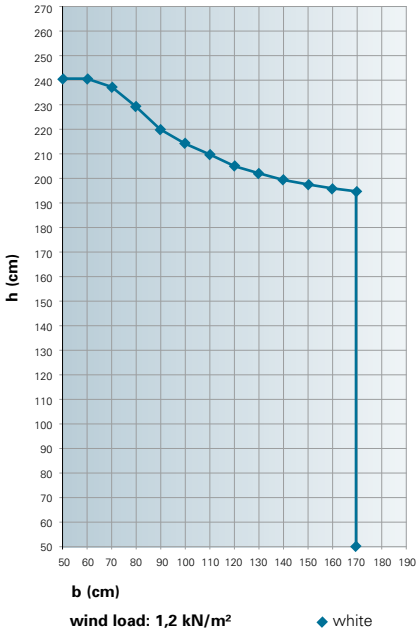
Notes on side- and centre-hung windows

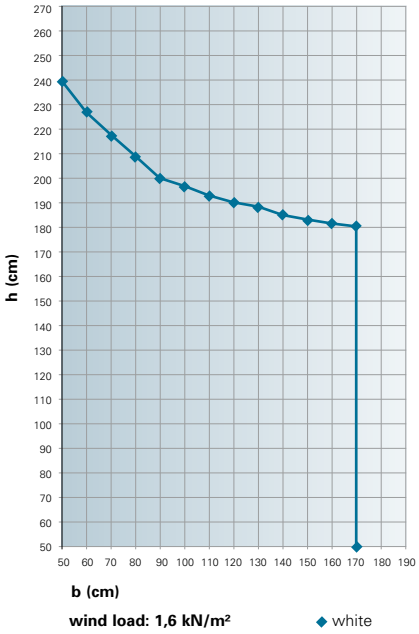
The listed sash sizes were selected on the basis of the hardware and permitted total weight. The sash width must not be greater than the sash height by more than 25%.

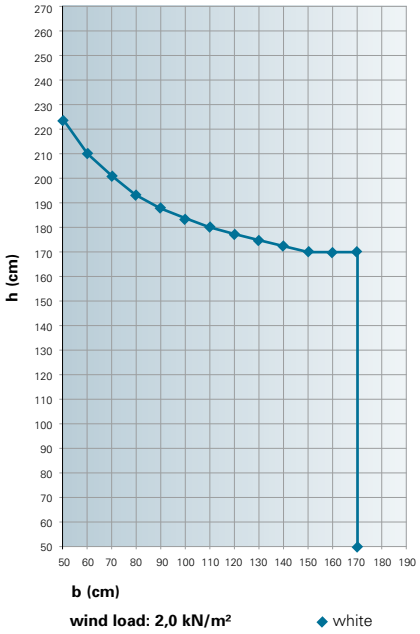
Overlarge windows from 235 cm require the approval of the hardware manufacturer.

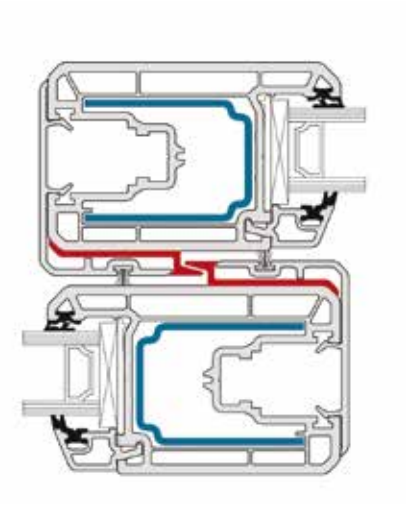
► PremiLine Maximum Sizes











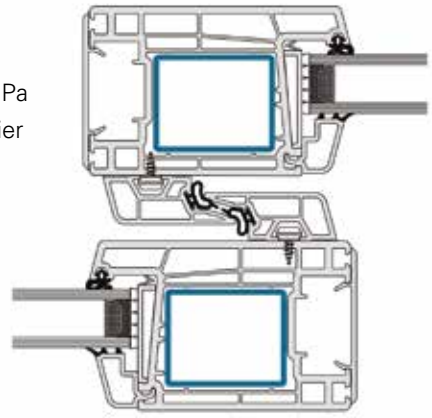
for art. no. 6041 in conjunction with reinforcement art. no. V 106 with pull art. no. 9C58

The sash width must not be greater than the sash height by more than 25%!
The sash graphs apply to a max glass weight _< 80 kg.
For 80–130 kg the max sizes must be reduced by 20%.

(This reduction can be obtained with Pos.1 - bonding or replacing rebate angles; first consult the application technology division.)

Sash sizes

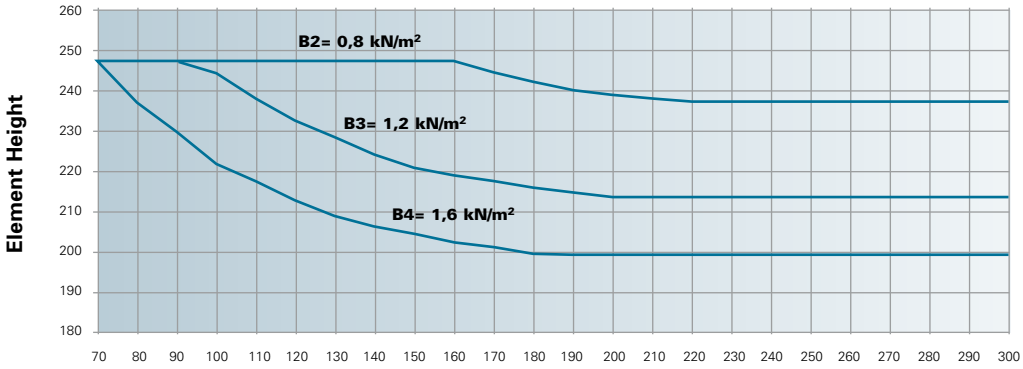
f perm. =	L/200
wind load as per DIN EN 12210	B2 800 Pa / B3 1200 Pa / B4 1600 Pa
min sash width	based on hardware type and supplier
max sash weight	350 kg
max element size	in non-white colours 500 x 240 cm



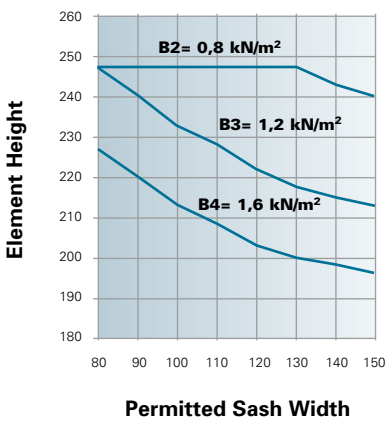
IMPORTANT

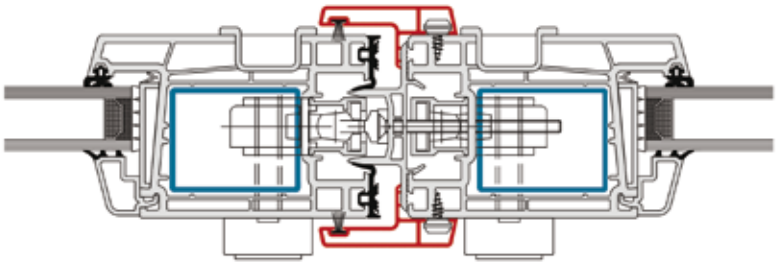
Glass weight and sash size depend on the hardware's loading capacity.

Standard centre section Systems A, D, K, G

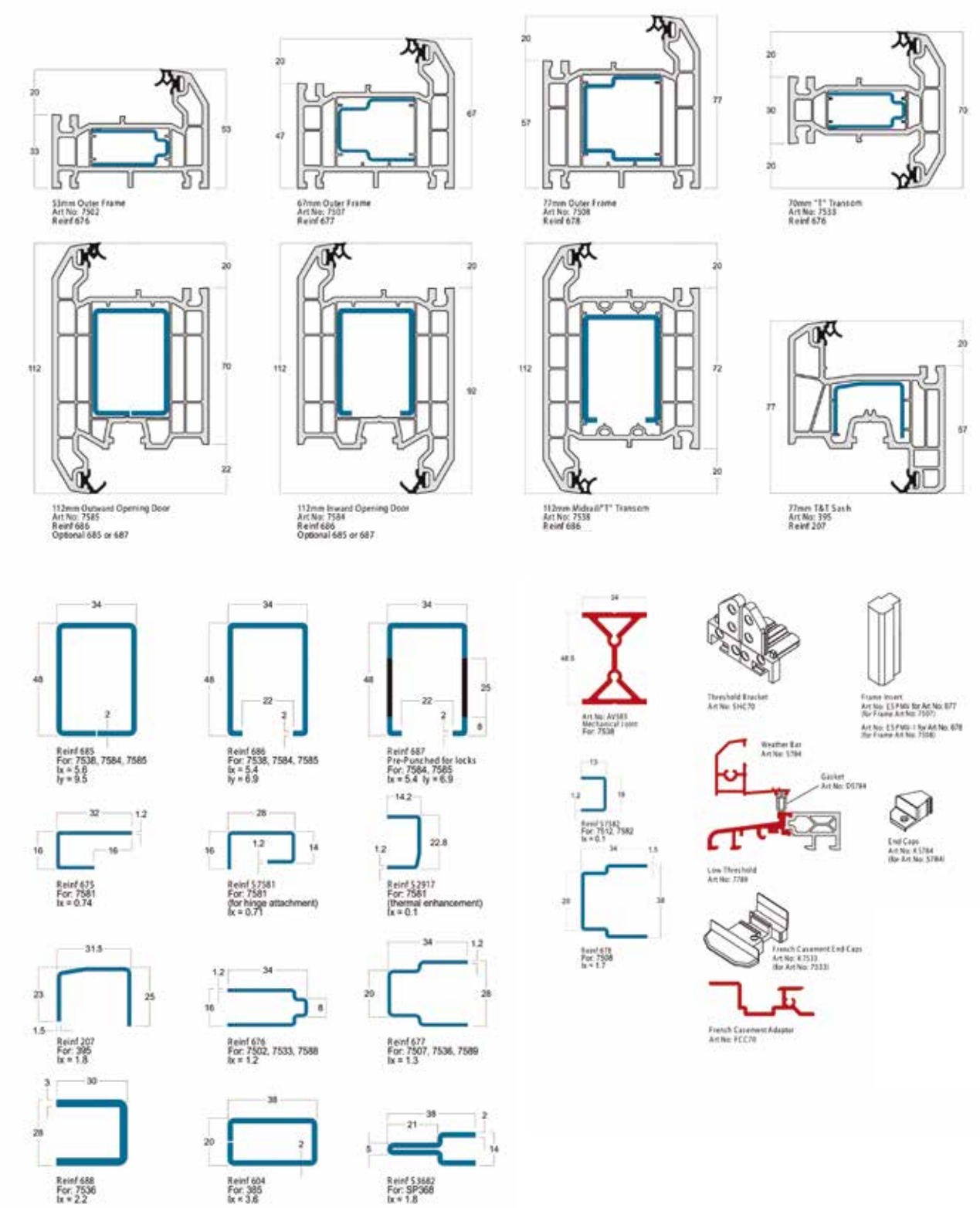


Centre section, floating mullion sash, Systems C, F



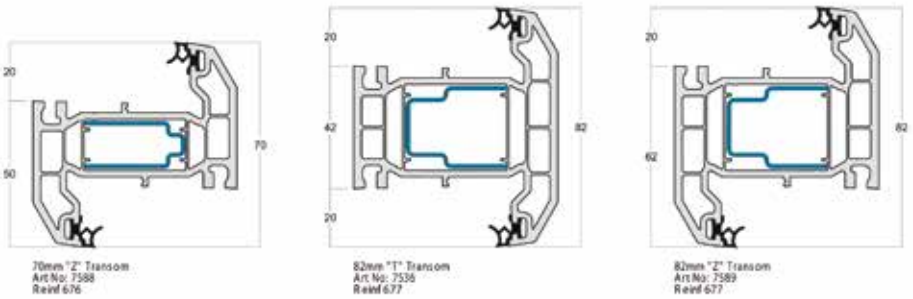


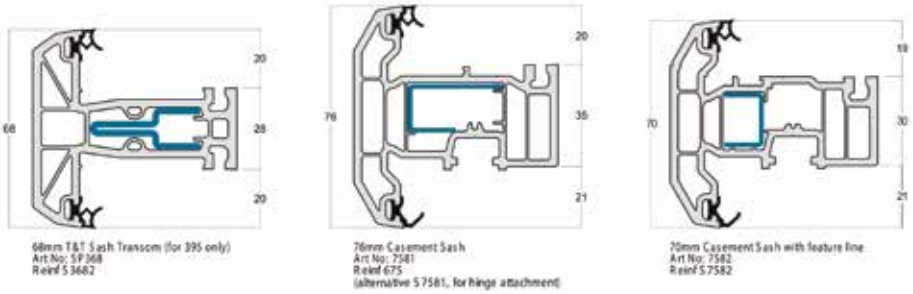
► C70 Gold® - Profile Chart

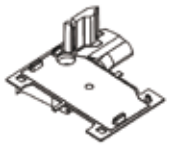


● Plastic ● Aluminium ● Recycled Plastic ● Rubber ● Steel ● Other

C70 Gold® - Profile Chart ◄

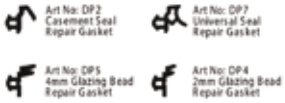


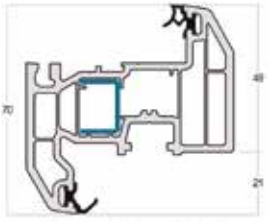


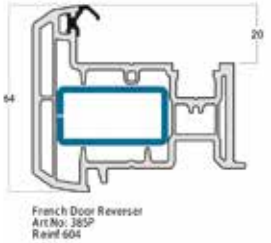

Threshold Seal
Art No: DK7507 for frame Art No: 7507
Art No: DK7508 for frame Art No: 7508


Glazing Bridge
Art No: KBC70


Glazing Bridge
Art No: KBC702
(for Art No: 7582)








Arched Head Inserts
For use with 076.04 bead only
28mm and 24mm units
Art No: AHC70


Interlocking Wedges
Art No: IWC70

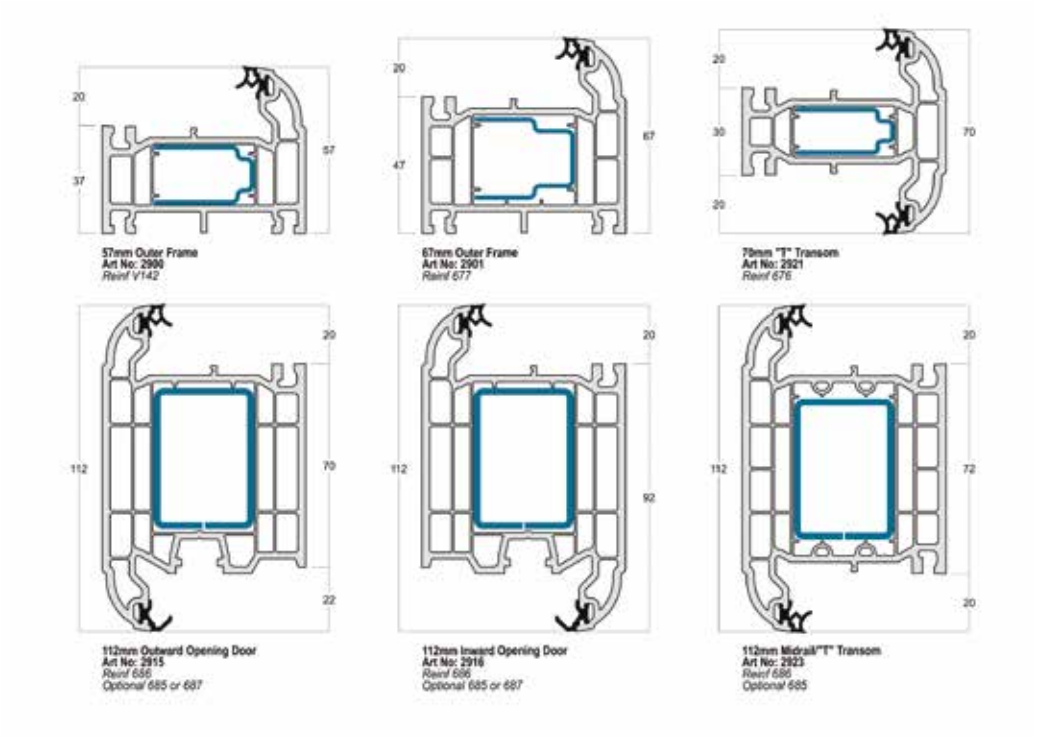

Run Up Block
Art No: 7199

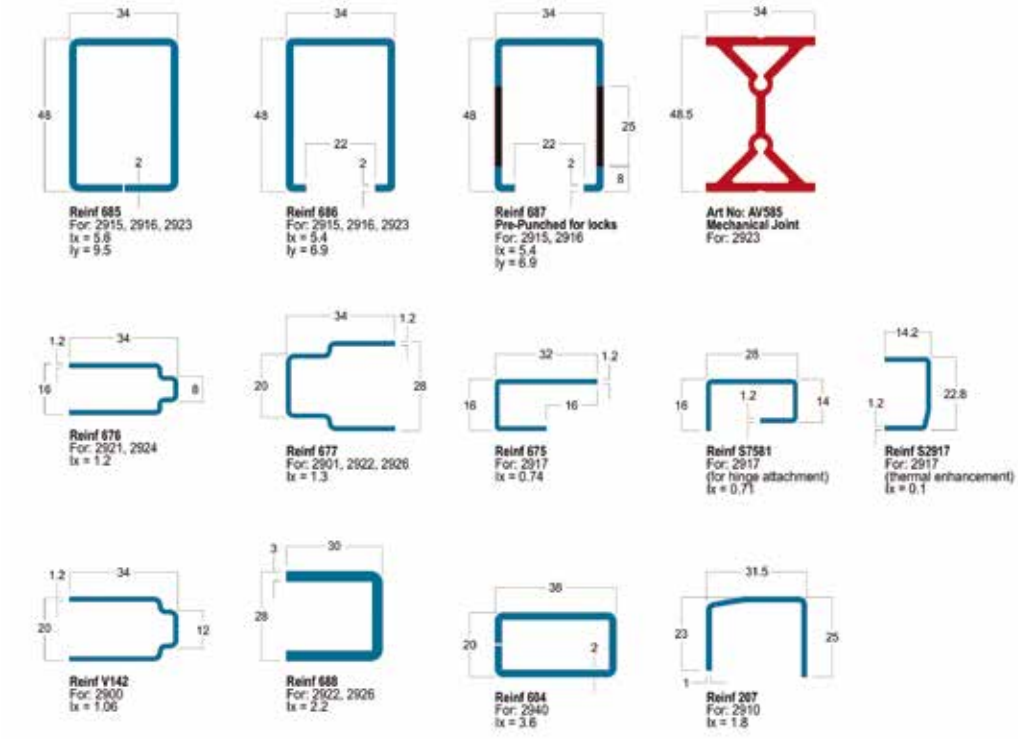

Sash Horn End Caps
Art No: RHC70


French Door End Caps
Art No: K385
(for Art No: 385P)

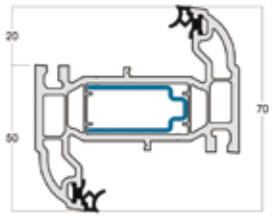
Cross section at 1:2 scale

► O70 Gold® - Profile Chart

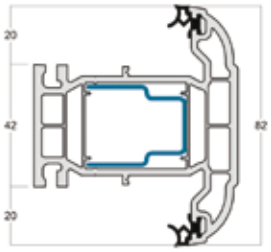




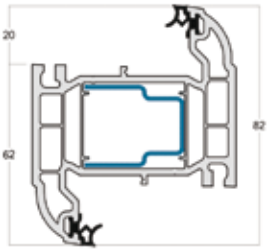
● Plastic ● Aluminium ● Recycled Plastic ● Rubber ● Steel ● Other



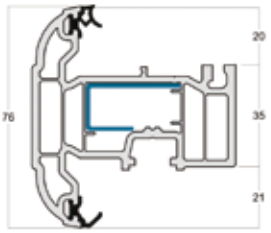
78mm "Z" Transom
Art No: 2924
Reinf 676



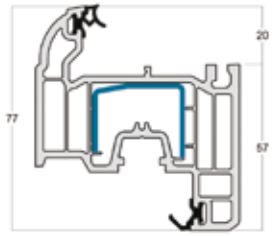
82mm "T" Transom
Art No: 2922
Reinf 677



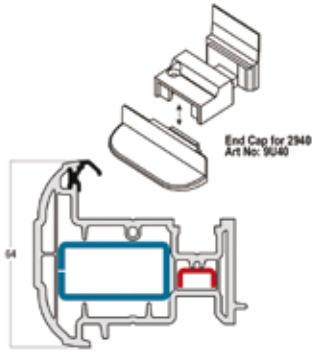
82mm "Z" Transom
Art No: 2926
Reinf 677



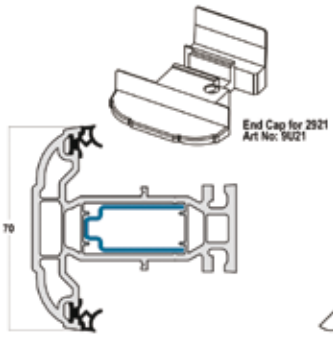
76mm Casement Sash
Art No: 2917
Reinf 675 (alternative S7581, for hinge attachmen



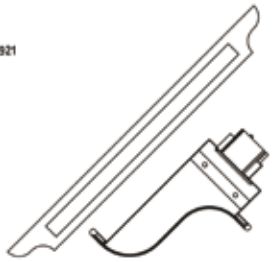
77mm T&T Sash
Art No: 2910
Reinf 207



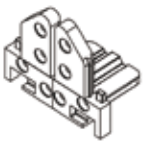
French Door Reverser
Art No: 2940
Reinf 604



French Casement Reverser
Art No: 2921
Reinf 676

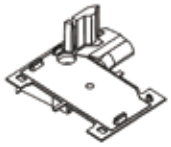


Sash Horn Kits
Art No: 9U10D

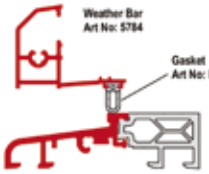


Threshold Bracket
Art No: SHC70

Frame Insert
Art No: ESPMV
(For Art No: 677)



Threshold Seal
Art No: 9U16



End Caps
Art No: K5784
(For Art No: 5784)

Aluminium Rebate Protector
Art No: 9371

French Casement Adaptor
Art No: FCC70
(For Art No: 7533 & 2917)

Arched Head Inserts
For use with 076.04 bead only
28mm and 24mm units
Art No: AHC70

Art No: 1933
24 mm Glazing

Art No: 320-04
24 mm Glazing

Art No: 070.2A
36 mm Glazing

Art No: 006.02
40 mm Glazing

Art No: 076-04
28 mm Glazing

Art No: 1932
28 mm Glazing

Art No: 096-04
28 mm Glazing

Art No: J000
Sash Horn Bracket

Art No: DP2
Casement Seal
Repair Gasket

Art No: DP7
Universal Seal
Repair Gasket

Art No: DP5
4mm Glazing Bead
Repair Gasket

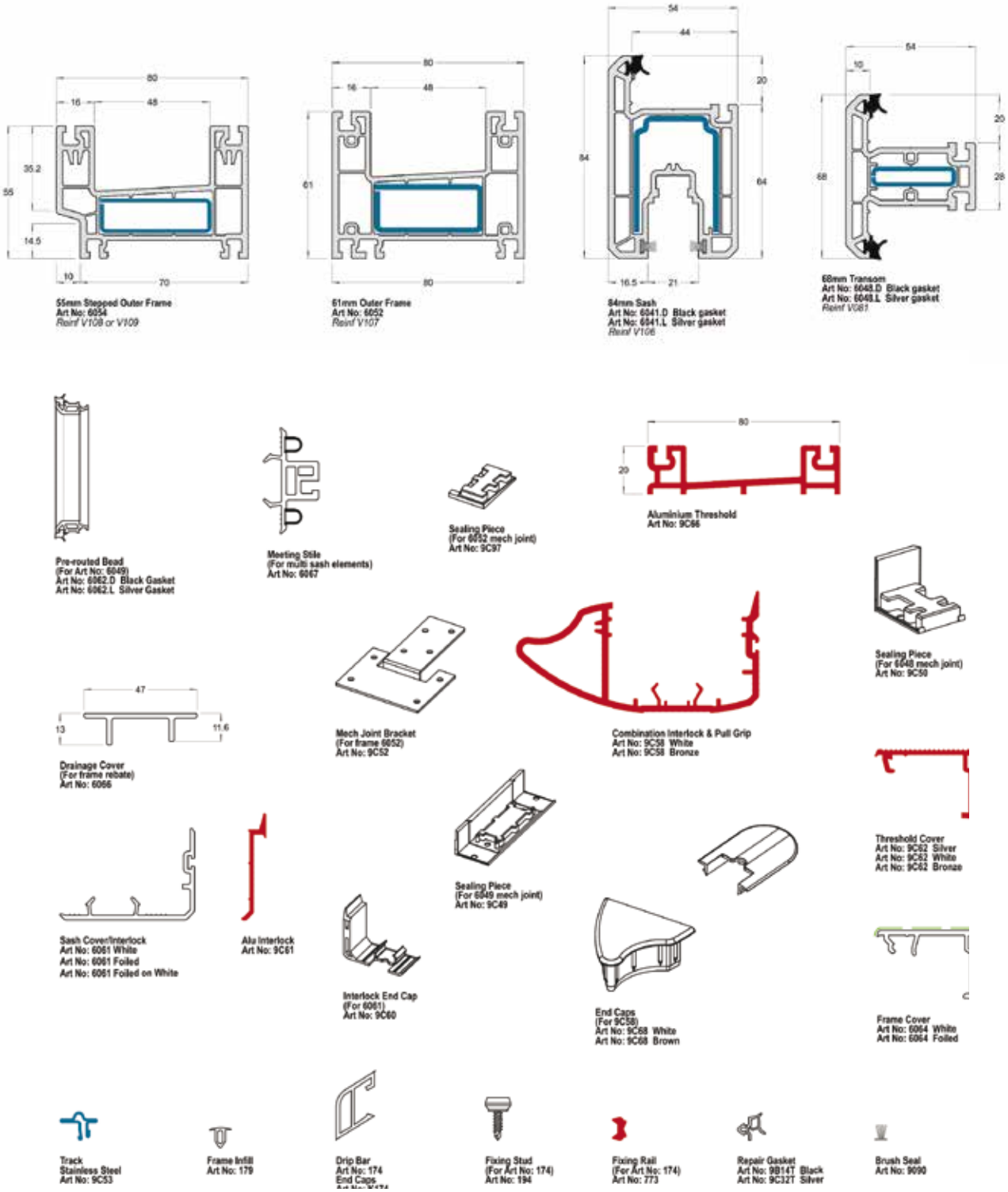
Art No: DP4
2mm Glazing Bead
Repair Gasket

Run Up Block
Art No: 7199

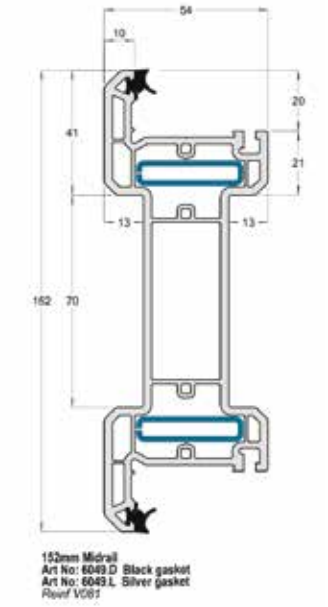
Interlocking Wedges
Art No: IWC70

Glazing Bridge
Art No: KBC70

► Premiline - Profile Chart

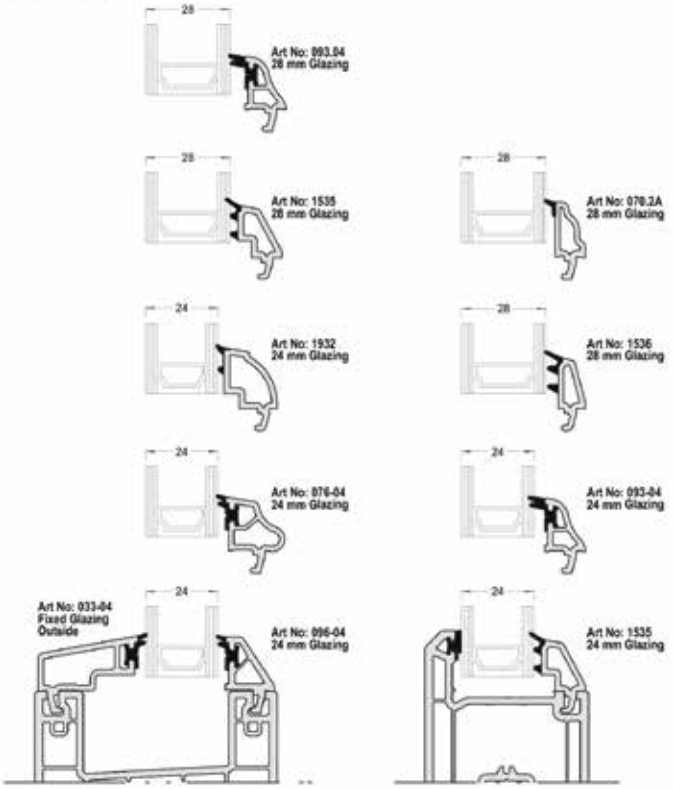


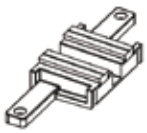
Plastic Aluminium Recycled Plastic Rubber Steel Other



152mm Midrail
Art No: 6049.D Black gasket
Art No: 6049.L Silver gasket
Reinf V081

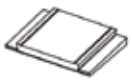
Glazing Options



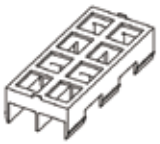


Frame Centre Sealing Piece
Includes brush seals
Art No: 9C63

Distance Piece
(For fixed sash)
Art No: 9C54

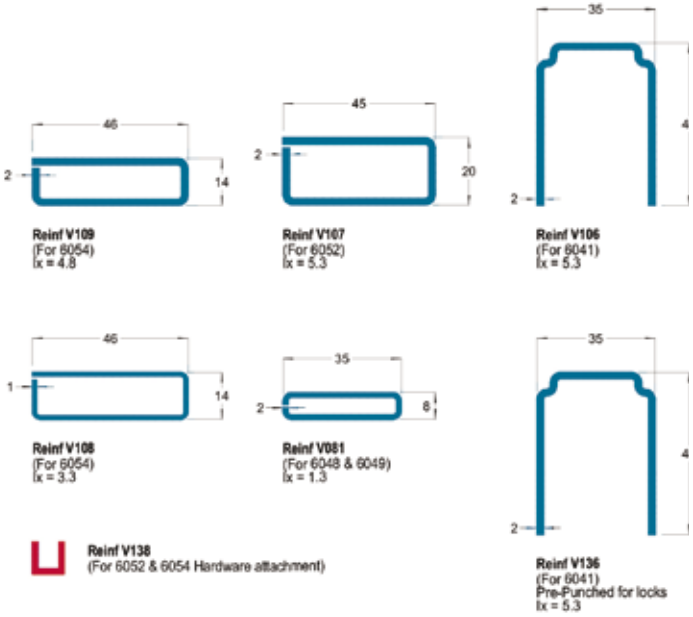


Frame Centre Sealing Piece
Includes brush seals (For 9C66)
Art No: 9D01

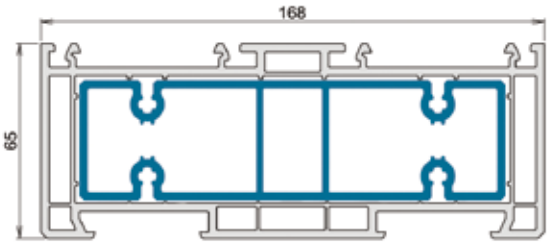


Glazing Bridge
(For outer frame)
Art No: 9C55

Glazing Bridge
(For sash)
Art No: 9C56



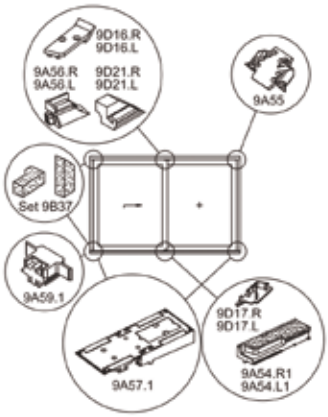
► PremiDoor - Profile Chart

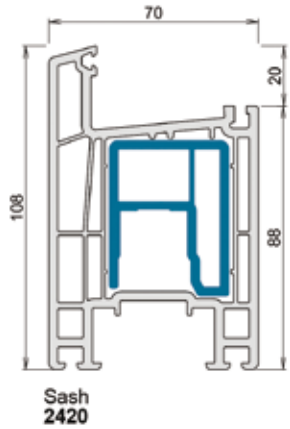


Frame
2870 6,00 m Length
2870.S 4,50 m Length

Gaskets

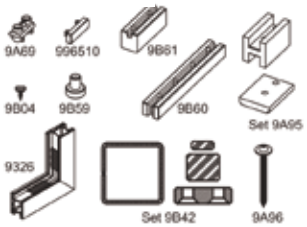
Sealing parts



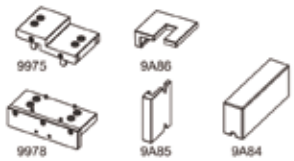


Sash
2420

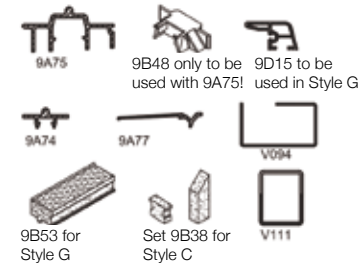
Accessories

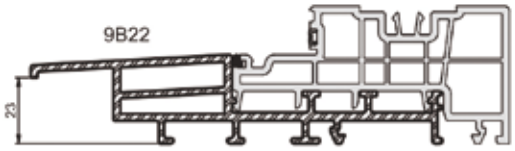


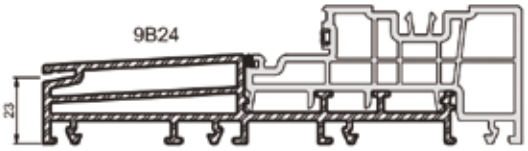
Tools and drill jigs



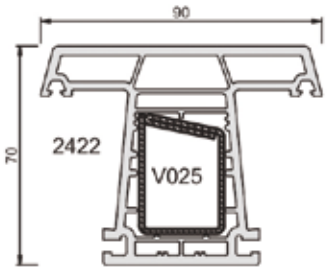
Parts for variants



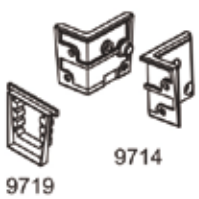




Sash transom/mullion



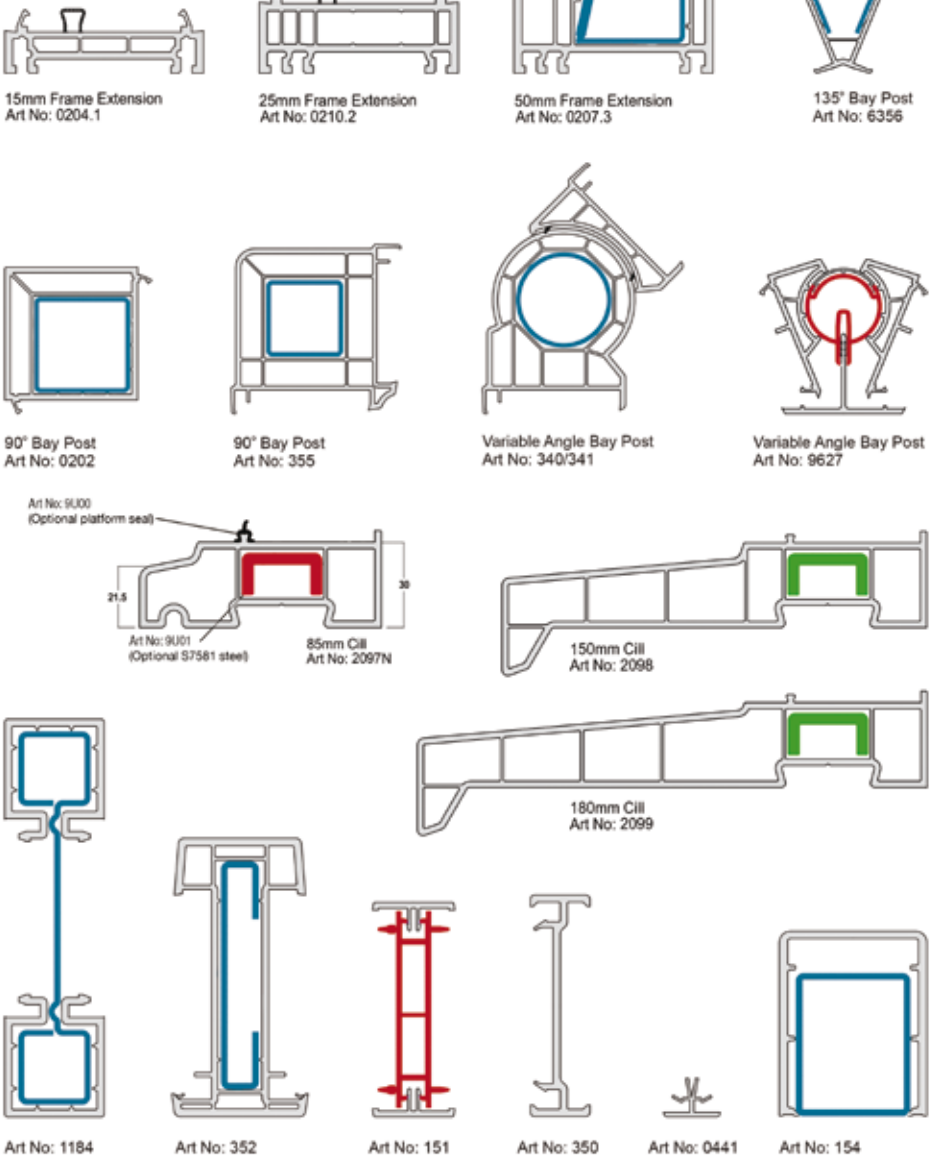
Mech joint for sash transom/mullion



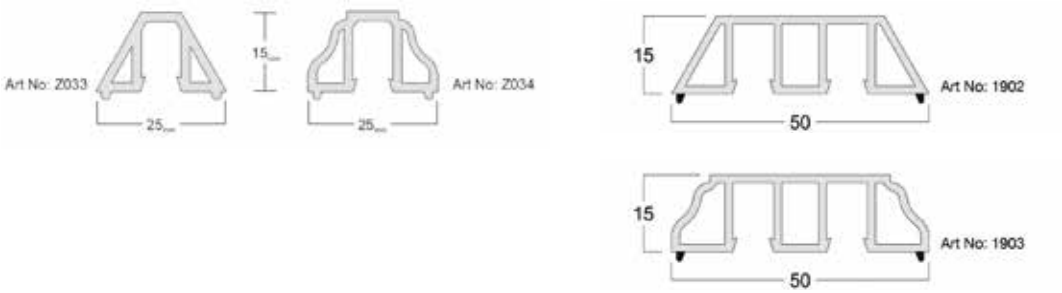
Glazing

Glazing thickness per gasket	28 mm	24 mm
9044.1	2431	2433
9045.1	2432	2435

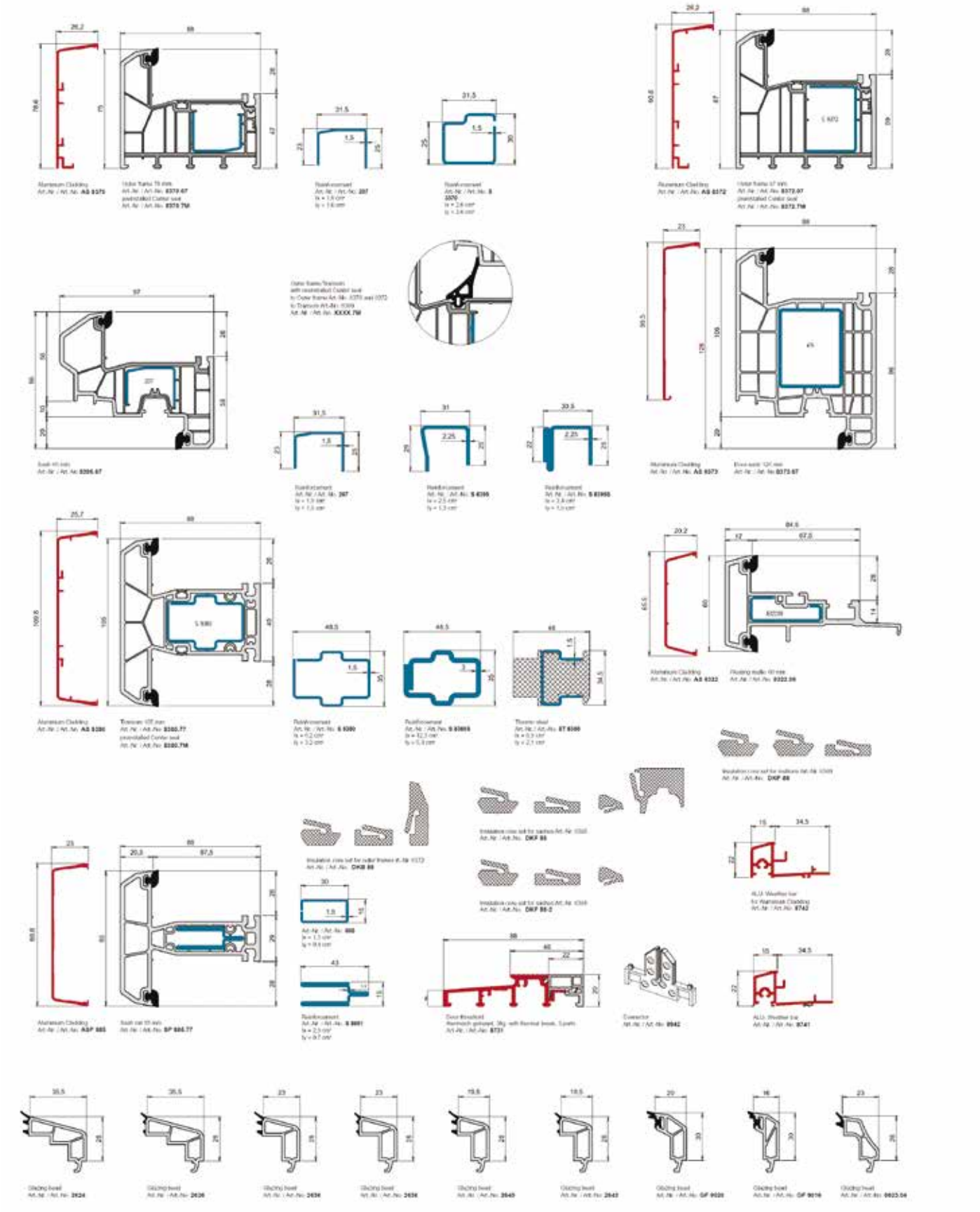
Plastic · Aluminium · Recycled Plastic · Rubber · Steel · Other



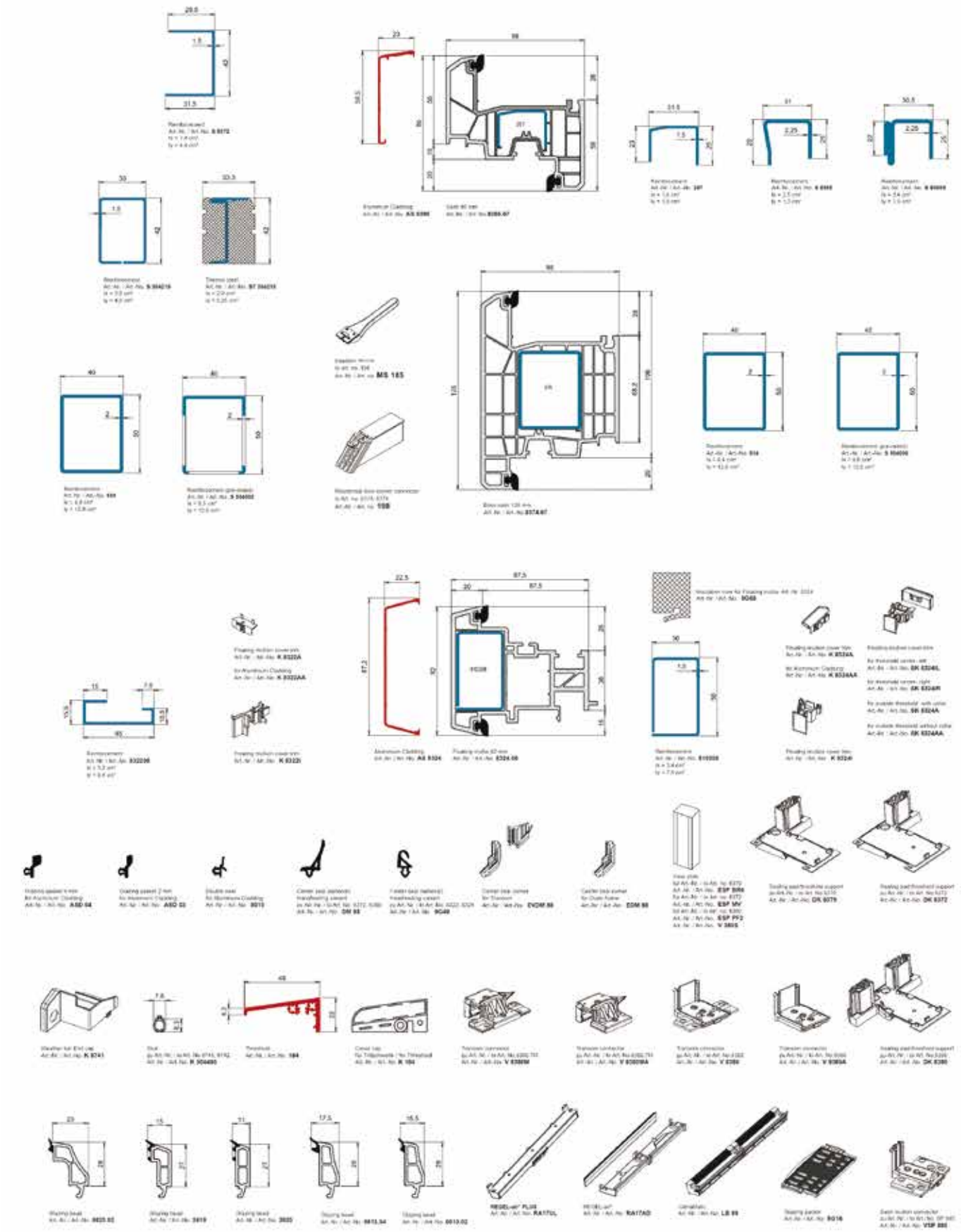
Astragal Bars



► KBE System 88 - Profile Chart

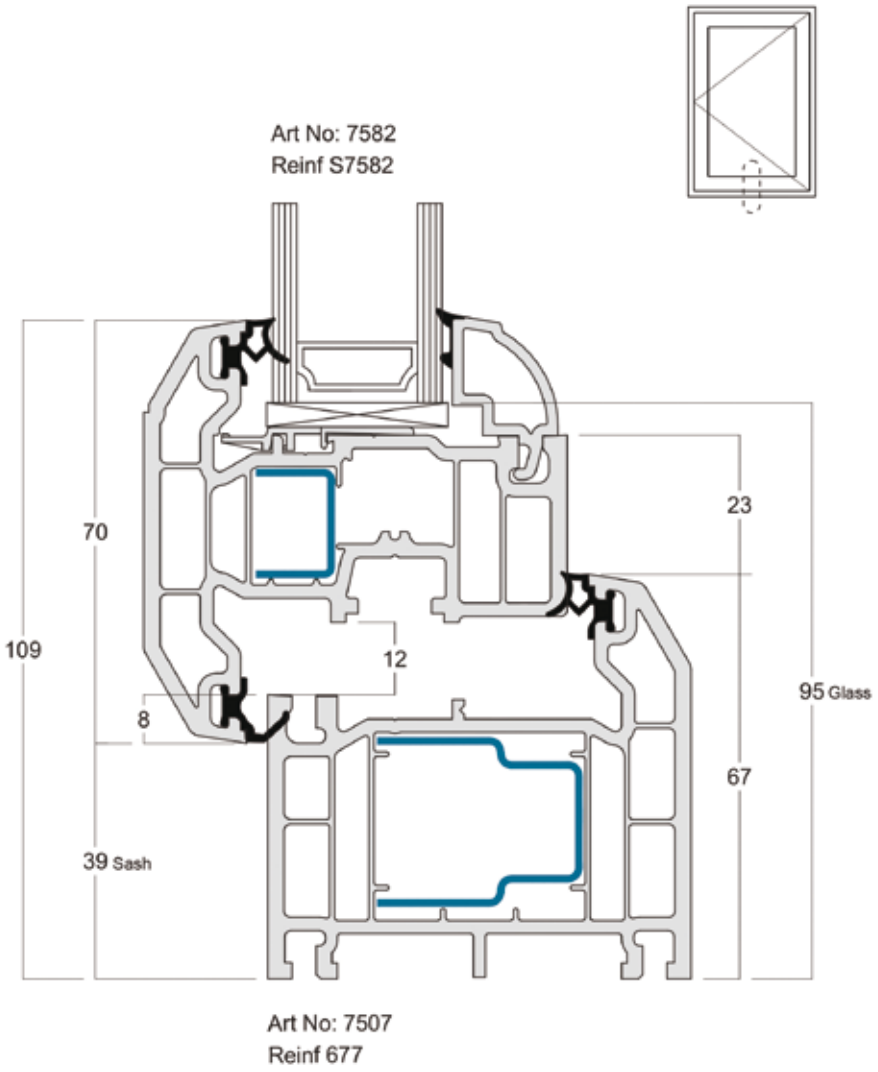


● Plastic ● Aluminium ● Recycled Plastic ● Rubber ● Steel ● Other



► C70 Gold® - Casement Cross Section

Can achieve 1.34 W/(m²K) Uw

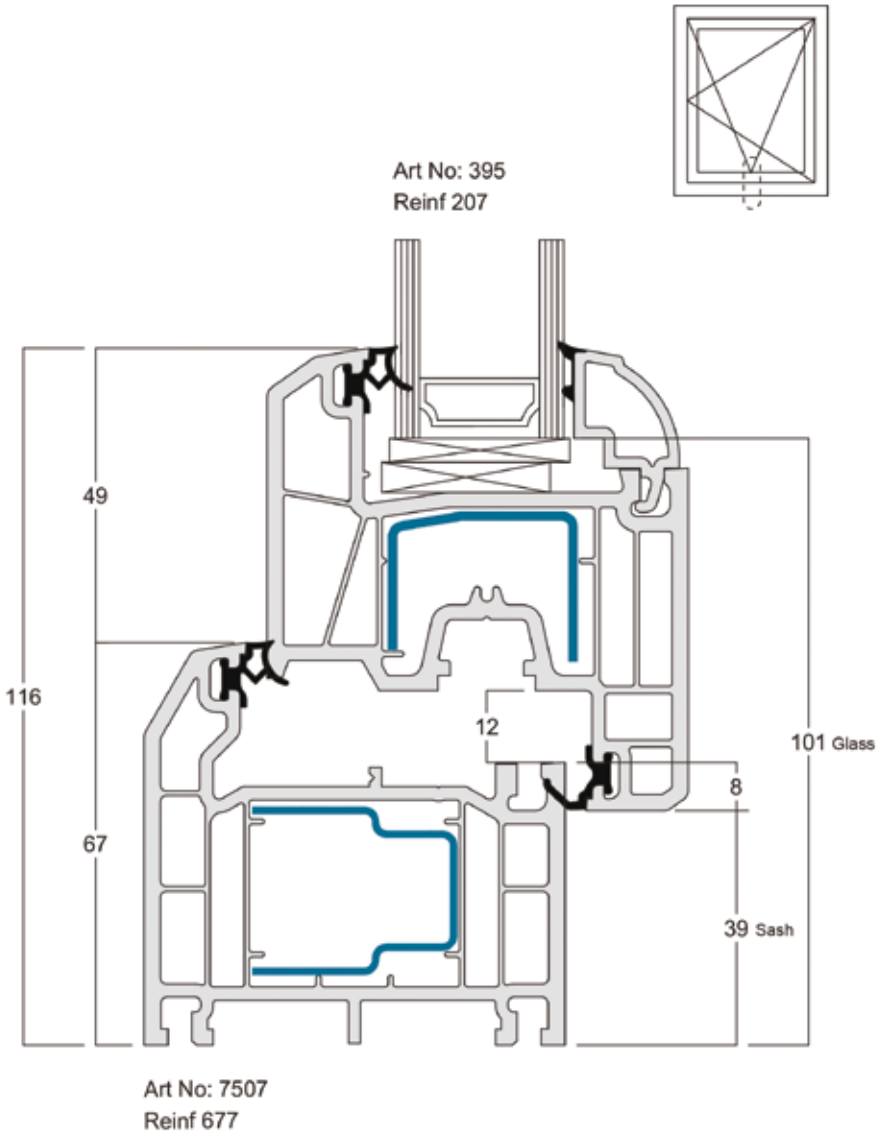


40mm triple glazed option will achieve 1.01 U-value.

Plastic Aluminium Recycled Plastic Rubber Steel Other

C70 Gold® - Tilt and Turn Cross Section ◄

Can achieve 1.37 W/(m²K) Uw

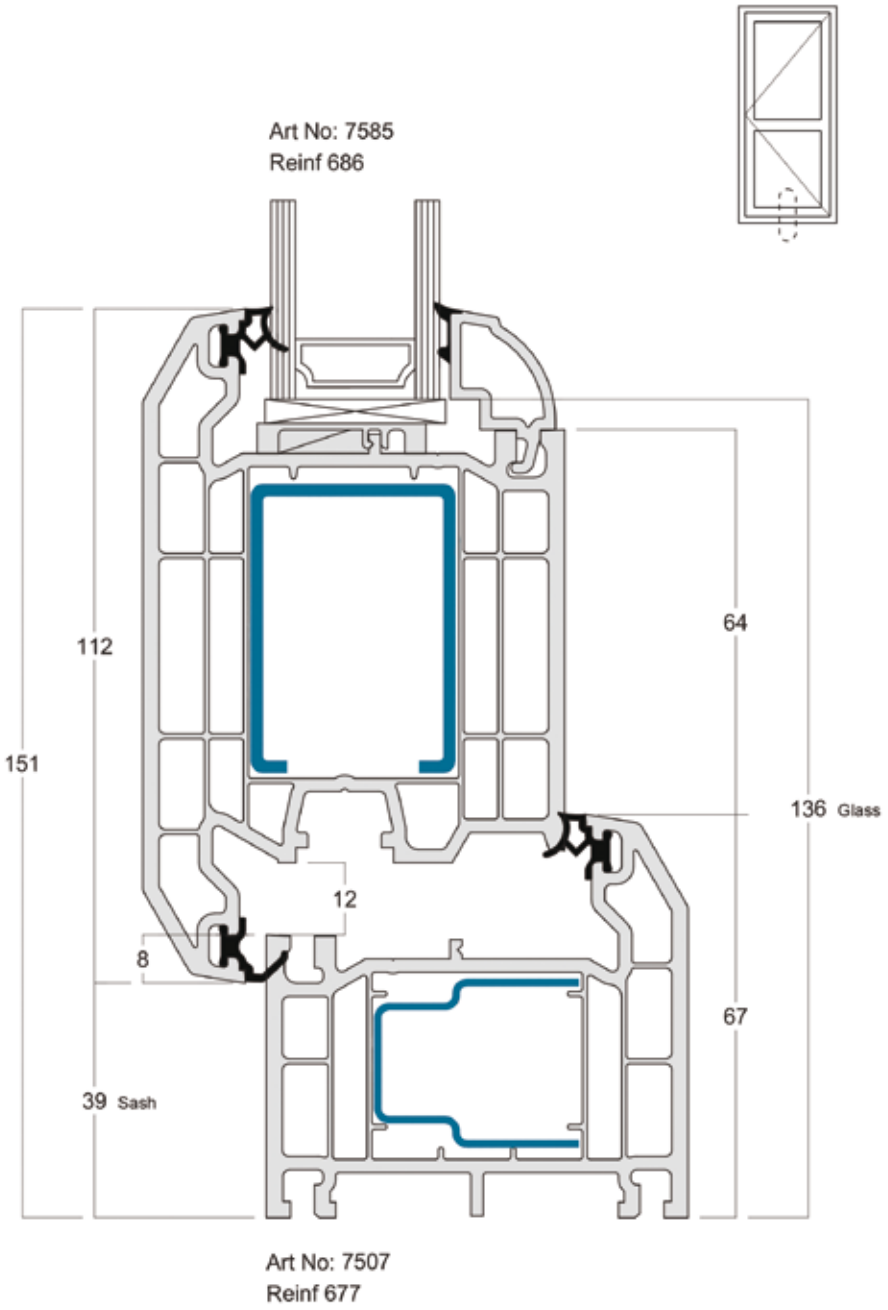


40mm triple glazed option will achieve 1.04 U-value.

Cross section at 1:1.25 scale

► C70 Gold® - Residential Door Cross Section

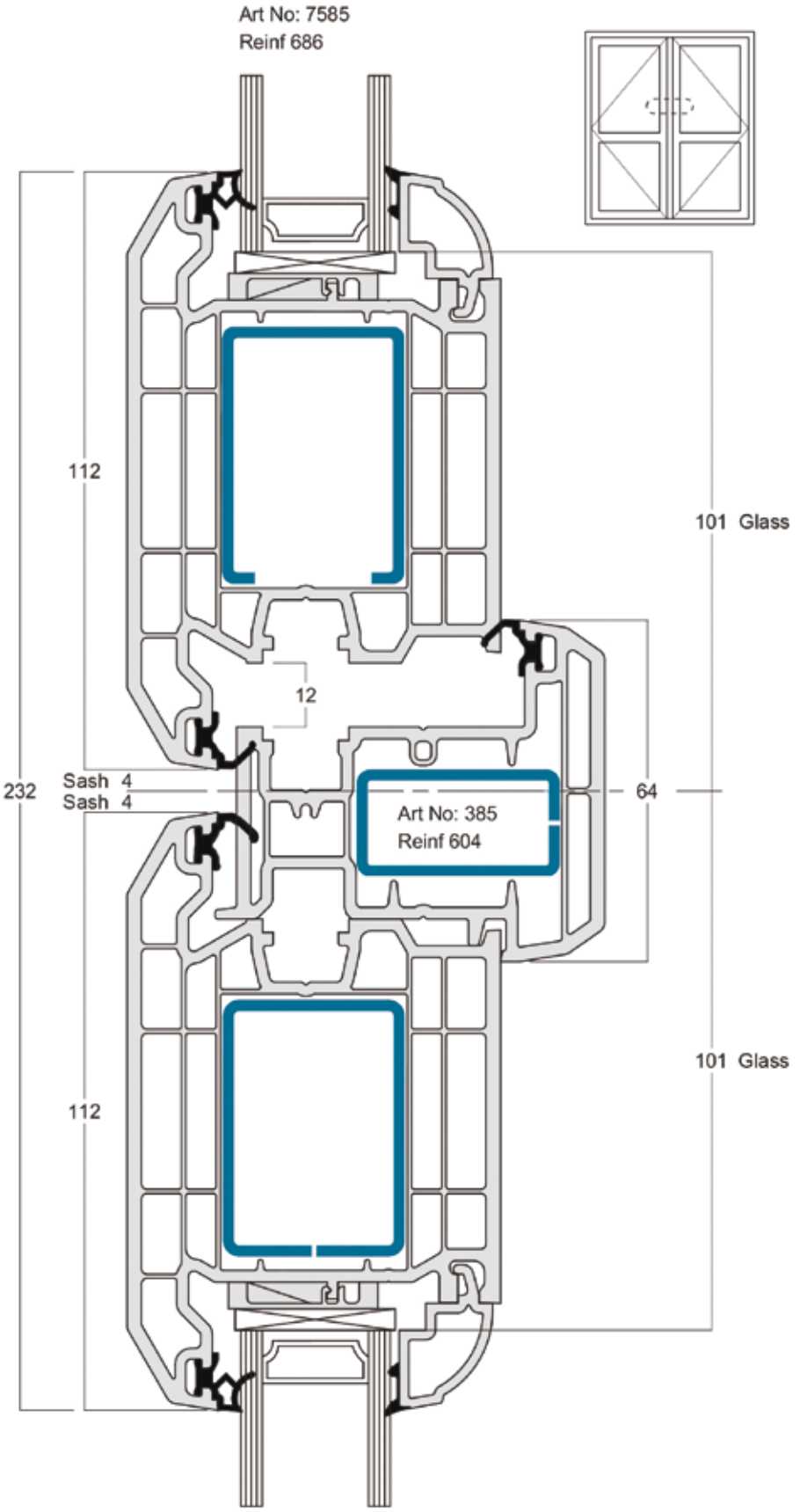
Can achieve 1.30 W/(m²K) Uw



Plastic Aluminium Recycled Plastic Rubber Steel Other

C70 Gold® - French Door Cross Section ◄

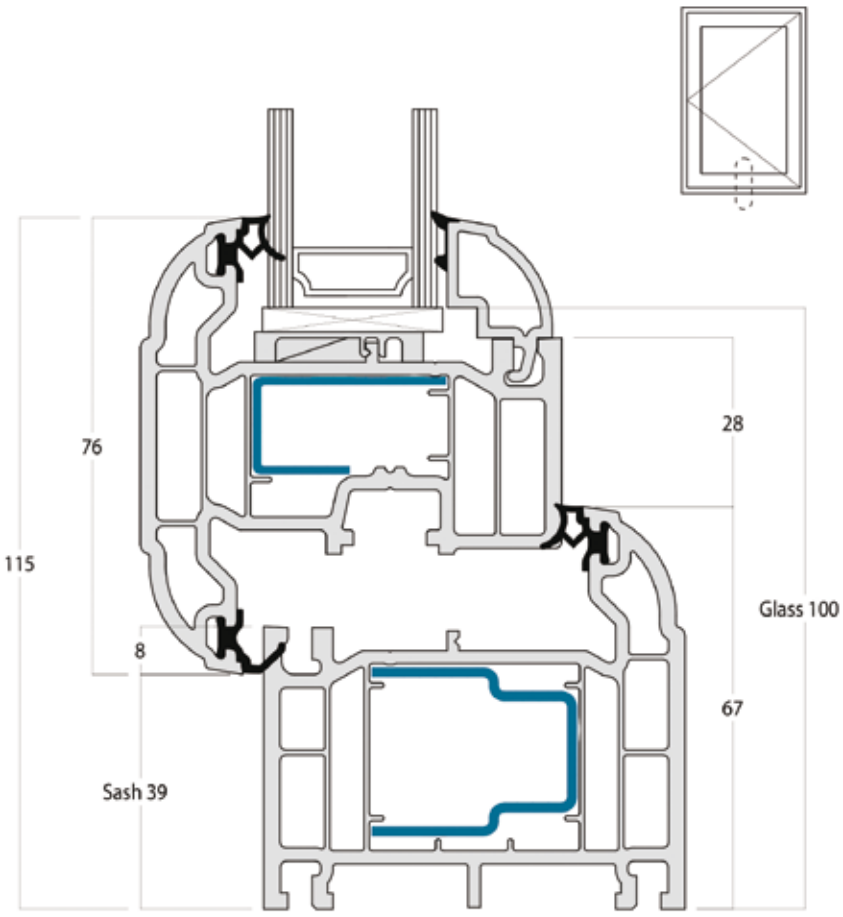
Can achieve 1.30 W/(m²K) Uw



Cross section at 1:1.25 scale

► O70 Gold® - Casement Cross Section

Can achieve 1.36 W/(m²K) Uw

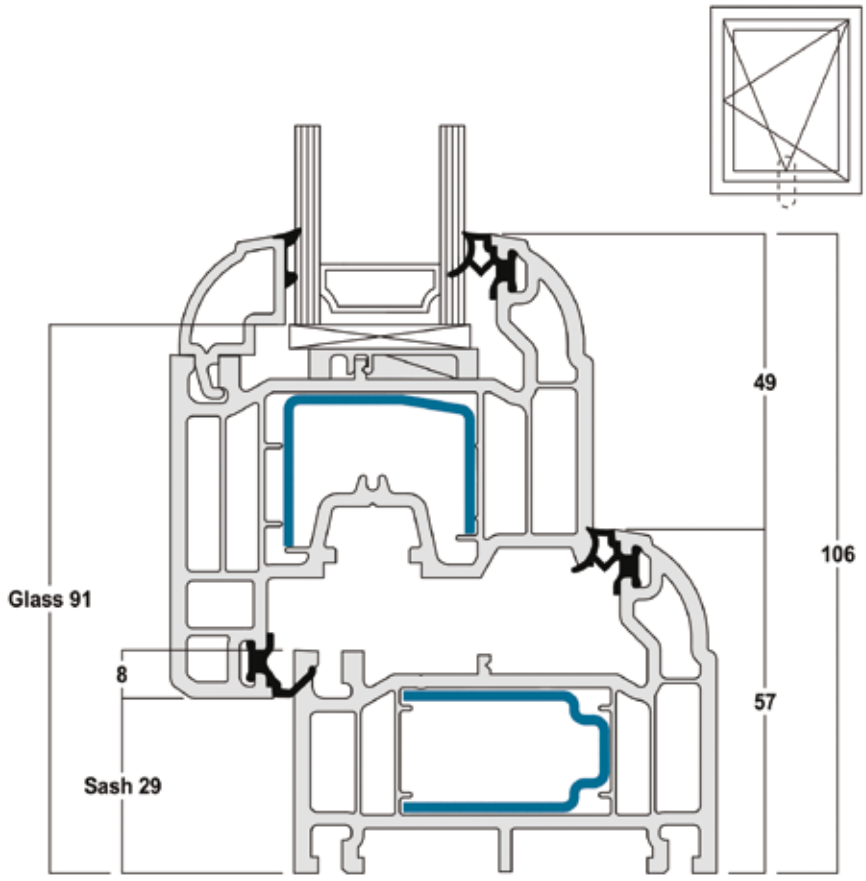


40mm triple glazed option will achieve 1.00 U-value.

Plastic Aluminium Recycled Plastic Rubber Steel Other

O70 Gold® - Tilt and Turn Cross Section ◄

Can achieve 1.37 W/(m²K) Uw

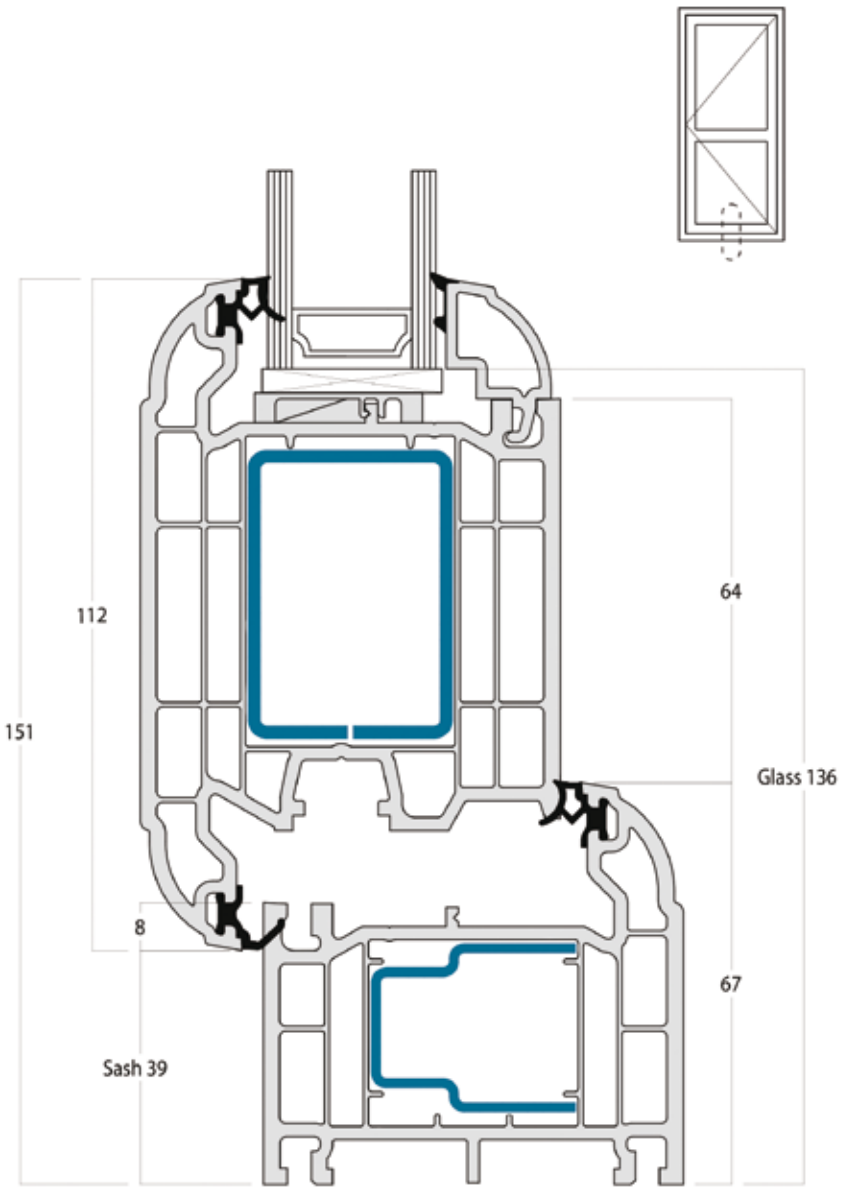


40mm triple glazed option will achieve 1.10 U-value.

Cross section at 1:1.25 scale

► O70 Gold® - Residential Door Cross Section

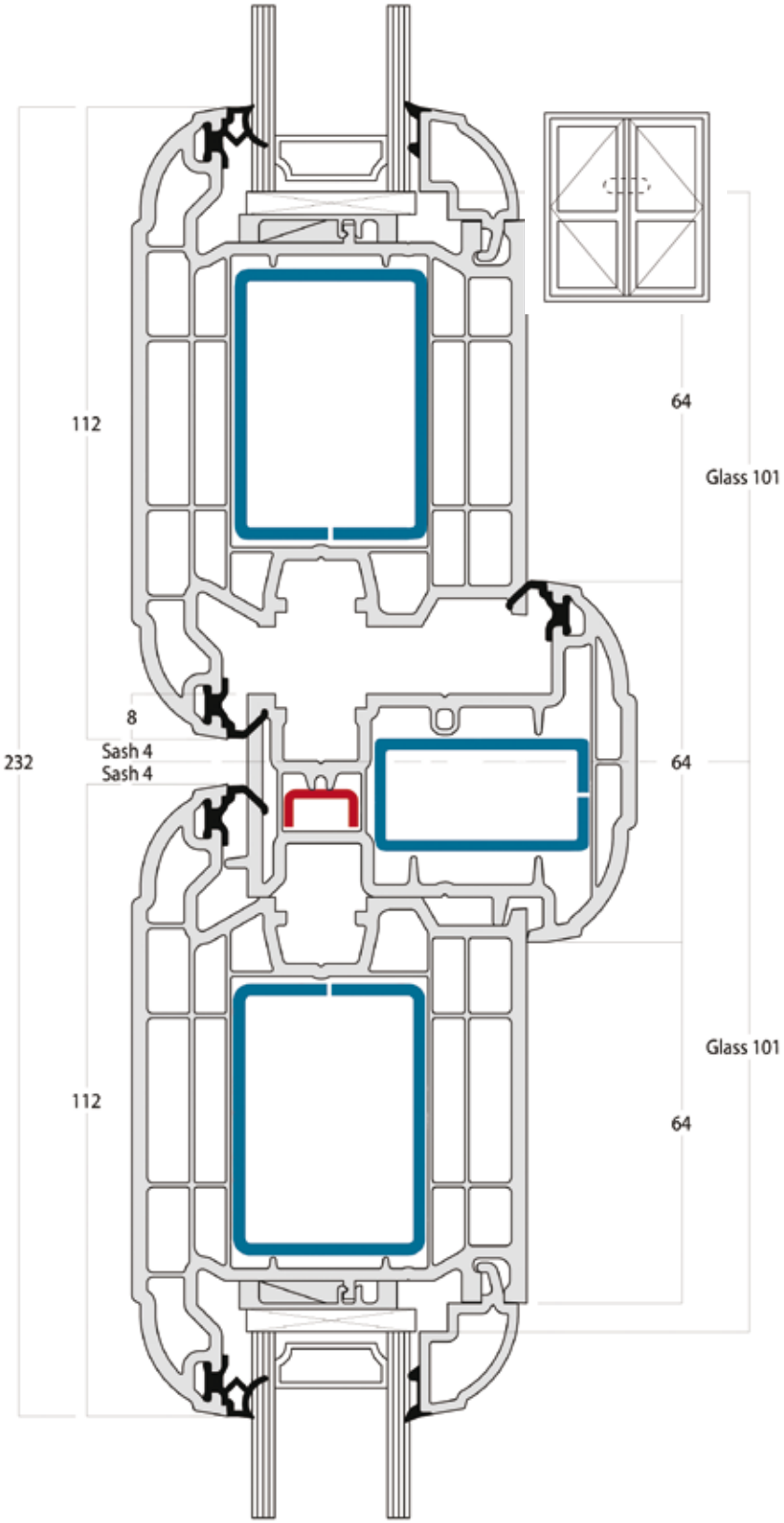
Can achieve 1.30 W/(m²K) Uw



Plastic Aluminium Recycled Plastic Rubber Steel Other

070 Gold® - French Door Cross Section ◄

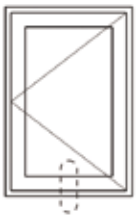
Can achieve 1.30 W/(m²K) Uw

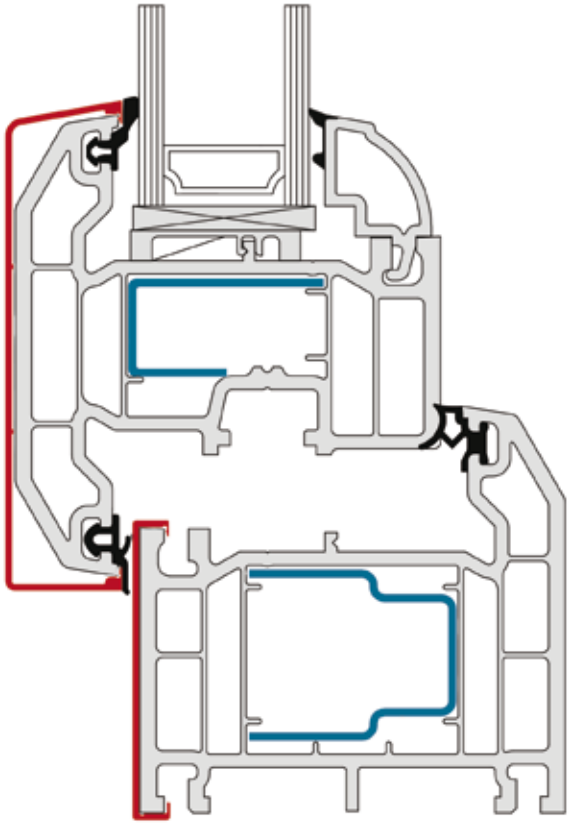


Cross section at 1:1.25 scale

► C70 Gold® - AluStar Cross Section

Can achieve 1.40 W/(m²K) Uw



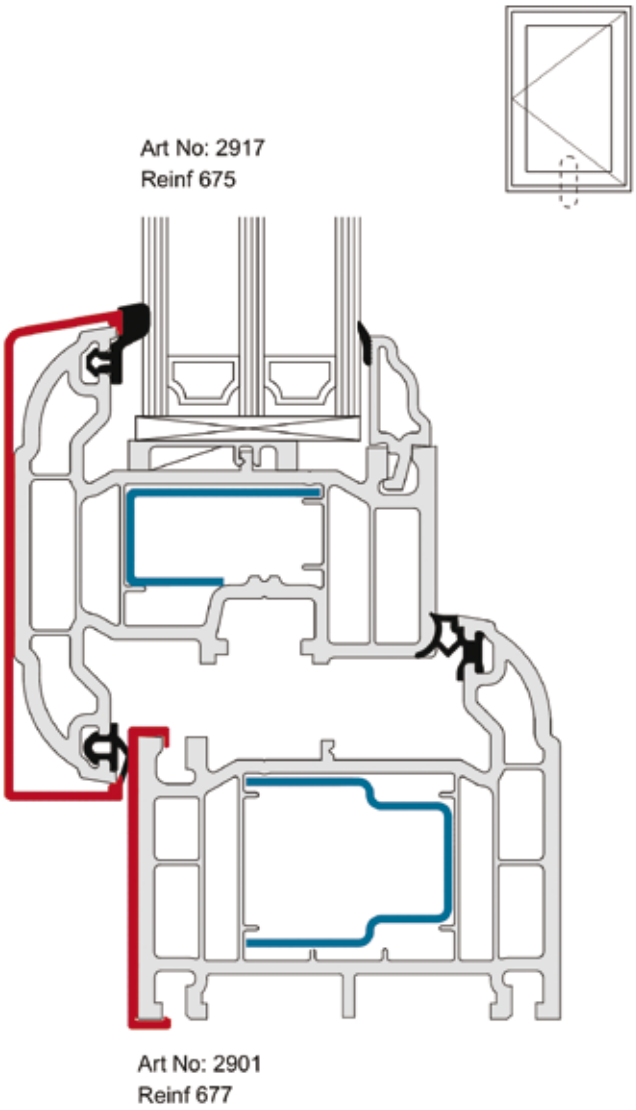


40mm triple glazed option will achieve 1.00 U-value.

● Plastic ● Aluminium ● Recycled Plastic ● Rubber ● Steel ● Other

O70 Gold® - AluStar Cross Section ◄

Can achieve 1.00 W/(m²K) Uw



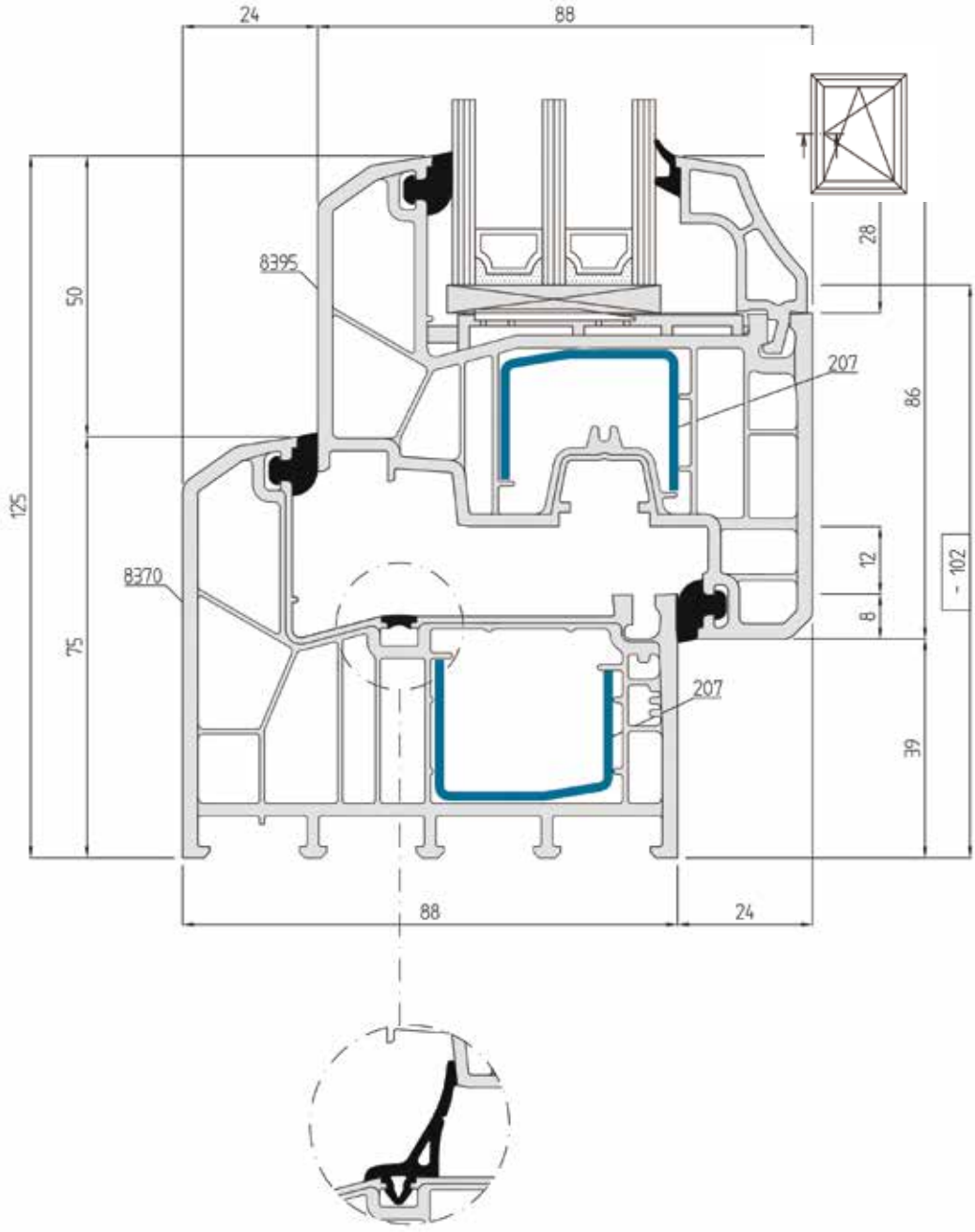
28mm double glazed option can achieve 1.40 U-value.

40mm triple glazed option will achieve x.xx U-value.

Cross section at 1:1.25 scale

► KBE System 88 Cross Section

Can achieve 1.10 W/(m²K) Uw

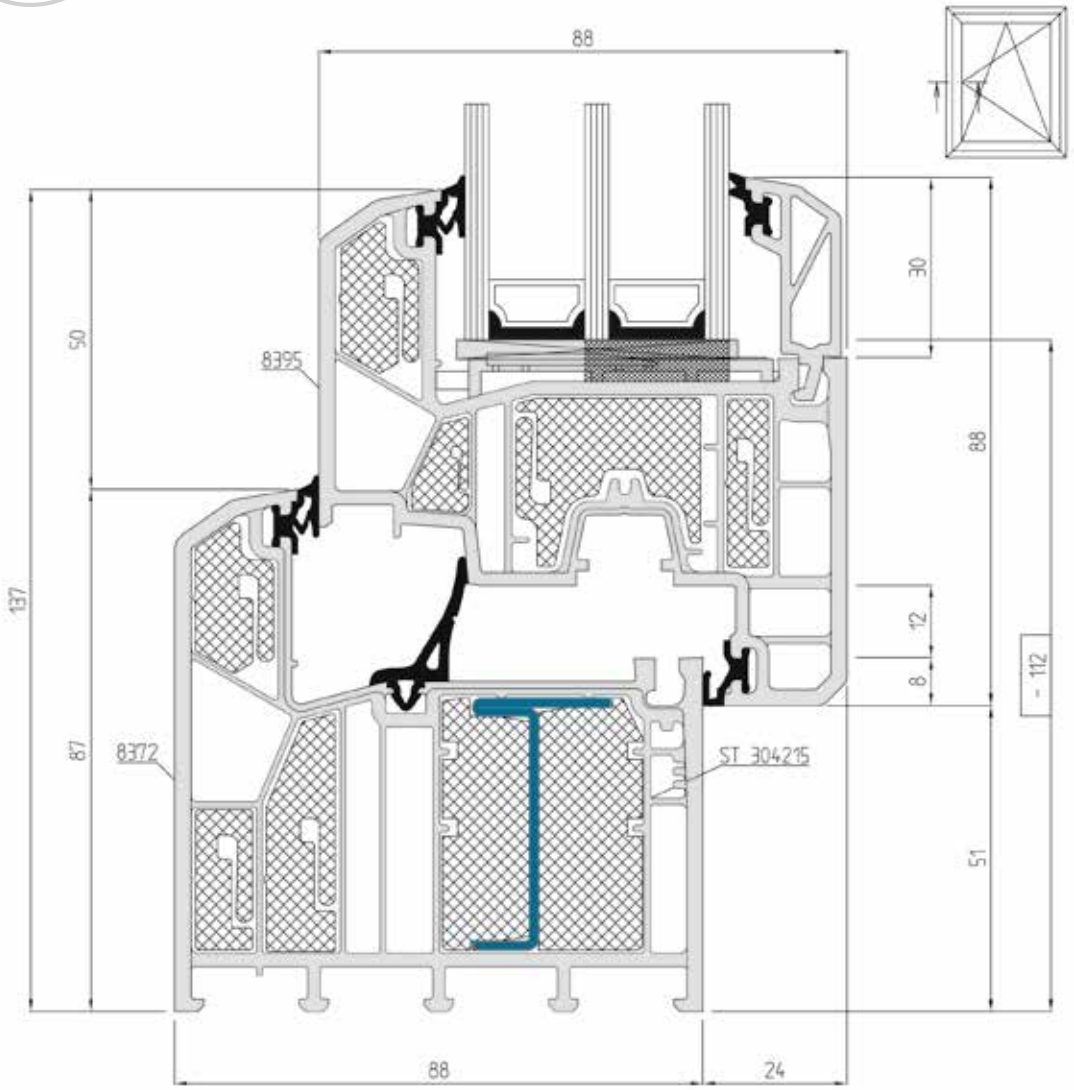


40mm triple glazed option will achieve 0.73 U-value.

Plastic Aluminium Recycled Plastic Rubber Steel Other

KBE System 88 - Passivhaus Cross Section ◄

Can achieve 1.00 W/(m²K) Uw

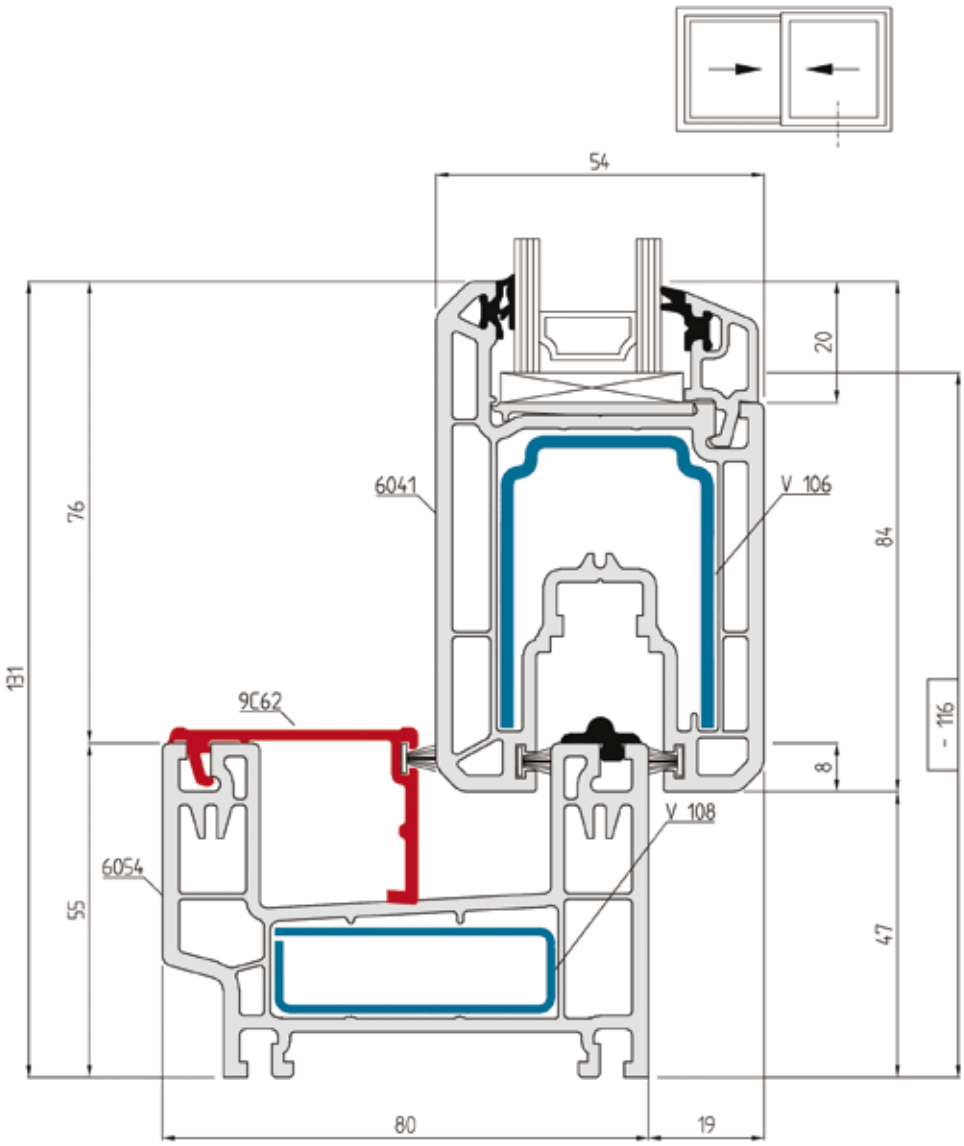


40mm triple glazed option will achieve 0.67 U-value.

Cross section at 1:1.25 scale

► Premiline - Patio Door Cross Section

Can achieve 1.40 W/(m²K) Uw

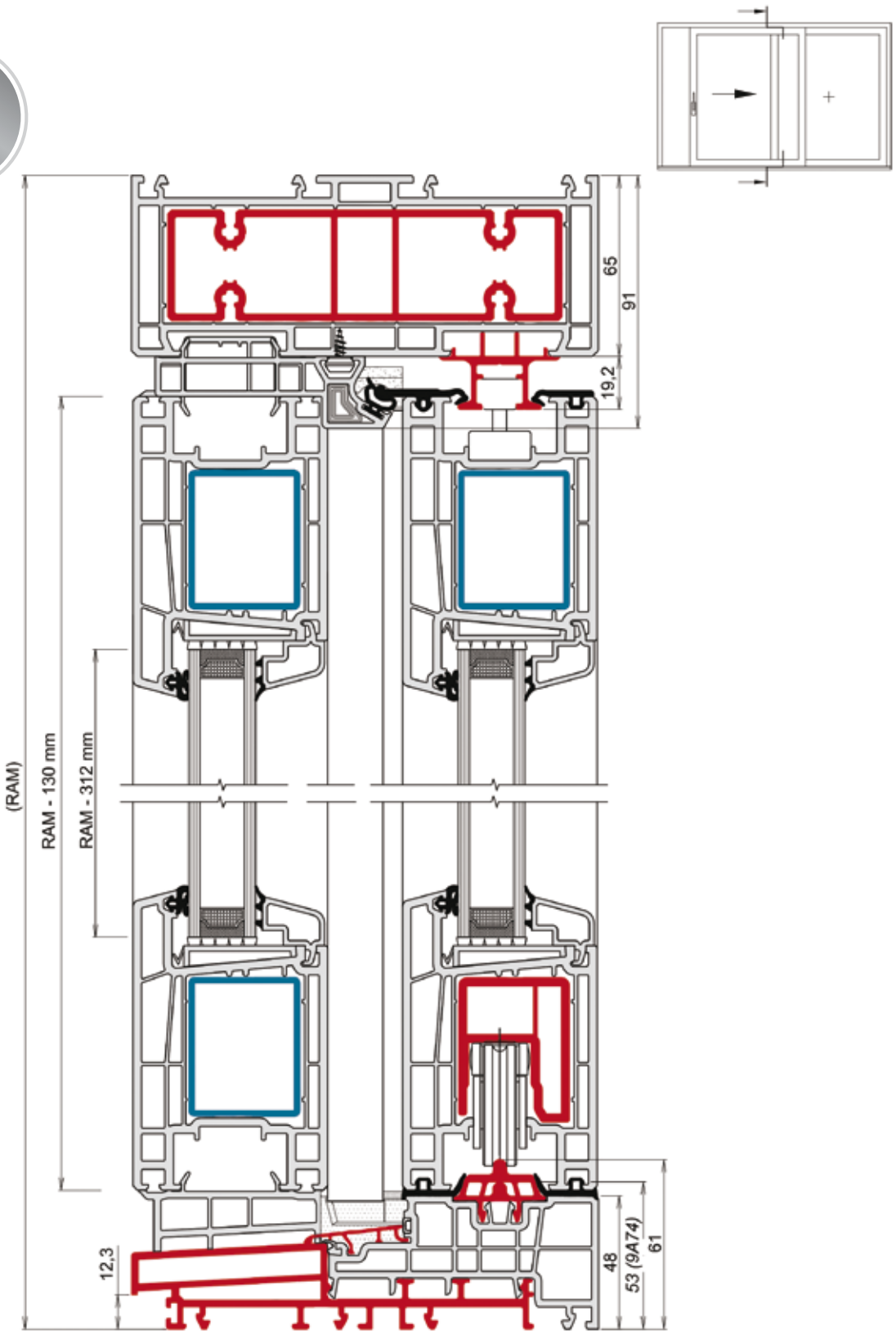


Cross section at 1:1.25 scale

Plastic Aluminium Recycled Plastic Rubber Steel Other

PremiDoor - Lift and Slide Door Cross Section ◄

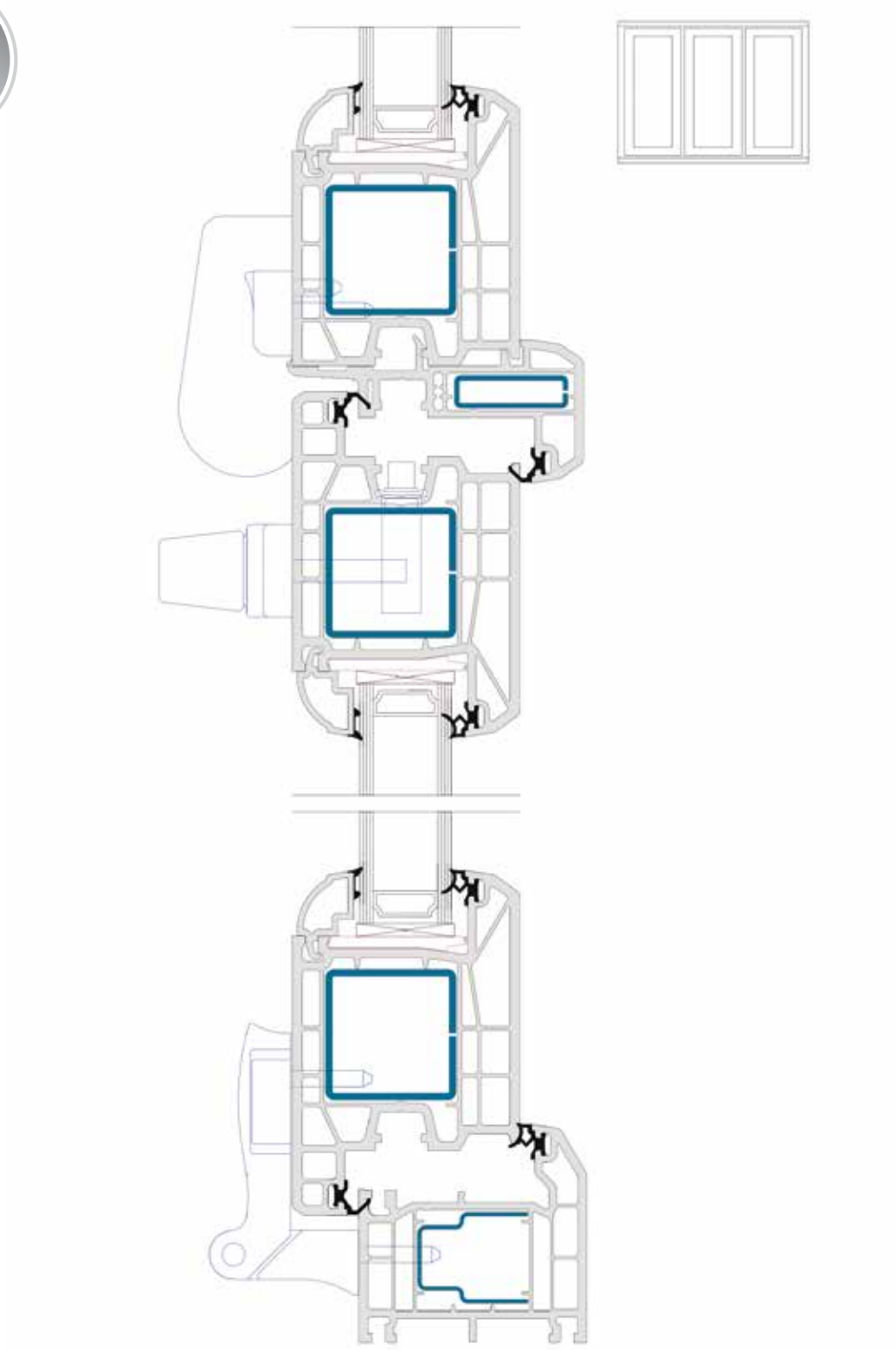
Can achieve 1.30 W/(m²K) Uw



Cross section at 1:2.2 scale

► Bi-folding Door Cross Section

Can achieve 1.50 W/(m²K) Uw



Cross section at 1:2 scale

Plastic Aluminium Recycled Plastic Rubber Steel Other

Testing

Measurements of airborne sound insulation, Sound Reduction Index (R), were conducted in accordance with British BS EN ISO 10140 (ref 1). Single figure ratings of sound insulation performance, known as the Weighted Sound Reduction Index (R_w) and Spectrum Adaptation Terms (C and C_{tr}), are derived from these measuremenst in accordance with British Standard BS EN ISO 717 (ref 2).

AIRO is a UKAS accredited testing laboratory No. 0483 and measurements to the above British Standards are included on our schedule of accreditation. UKAS is the United Kingdom Accreditation Service.

Summary of Results

AIRO Test No.	Test Specimen	R_w (C;C_{tr}) dB
	Kommerling Window Unit with:	
L/3290/1	6.4/10/4/10/8.8 Triple Glazing	41 (-2;-4)
L/3290/2	4/12/4/12/8.8 Triple Glazing	42 (-1;-5)
L/3290/3	8.8/12/12.8 Double Glazing	42 (-1;-3)
L/3290/4	12/16/8.8 Double Glazing	41 (-1;-3)

Kommerling Window Unit with 6.4/10/4/10/8.8 Triple Galzing

The window unit was glazed with 39.2mm thick sealed triple glazed units comprising 6.4mm SGG Stadip laminated glass/10mm Swisspacer cavity/4mm float glass/10mm Swisspacer cavity/8.8mm SGG Stadip Silence laminated glass.

Kommerling Window Unit with 4/12/4/12/12.8 Triple Glazing

The window unit was glazed with 40.8mm thick sealed triple glazed units comprising 4mm float glass/12mm Swisspacer cavity/4mm float glass/12mm Swisspacer/12.8mm SGG Stadip Silence laminated glass. This cross section is shown on page 44.

Kommerling Window Unit with 8.8/12/12.8 Double Glazing

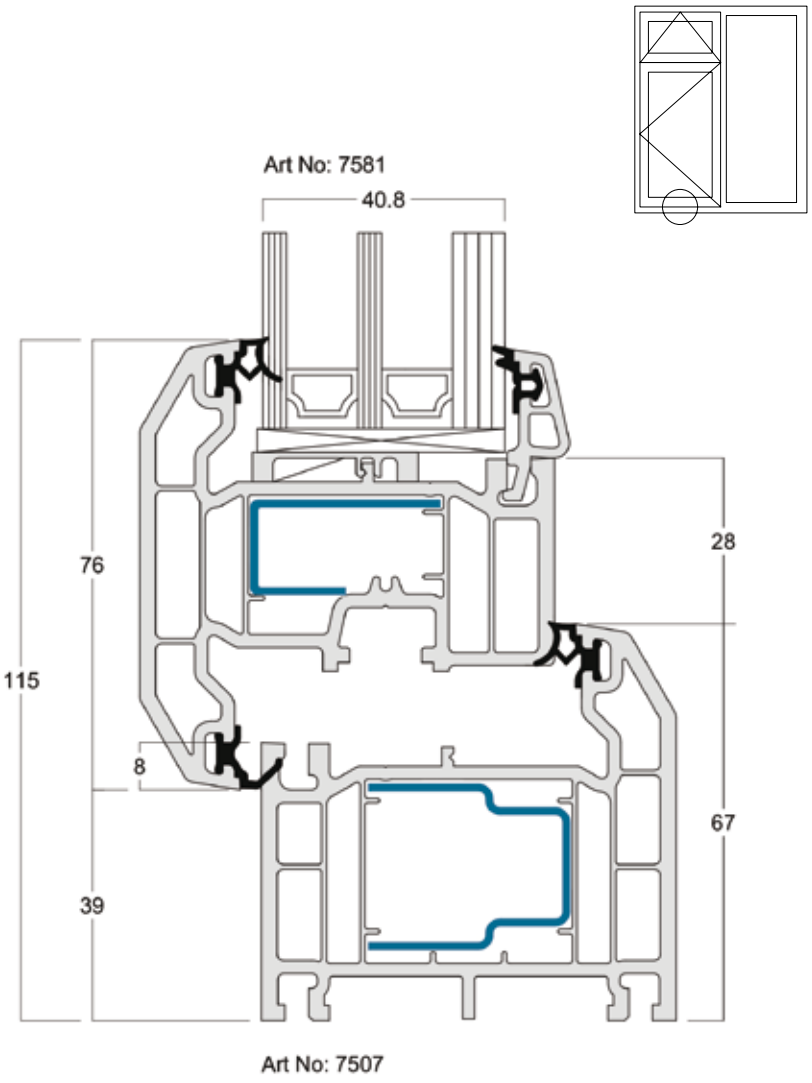
The window unit was glazed with 33.6mm thick sealed double glazed units comprising 8.8mm SGG Stadip Silence laminated glass/12mm Swisspacer cavity/12.8mm SGG Stadip Silence laminated glass.

Kommerling Window Unit with 12/16/8.8 Double Glazing

The window unit was glazed with 36.8mm thick sealed double glazed units comprising 12mm float glass/16mm Swisspacer cavity/8.8mm SGG Stadip Silence laminated glass. This cross section is shown on page 45.

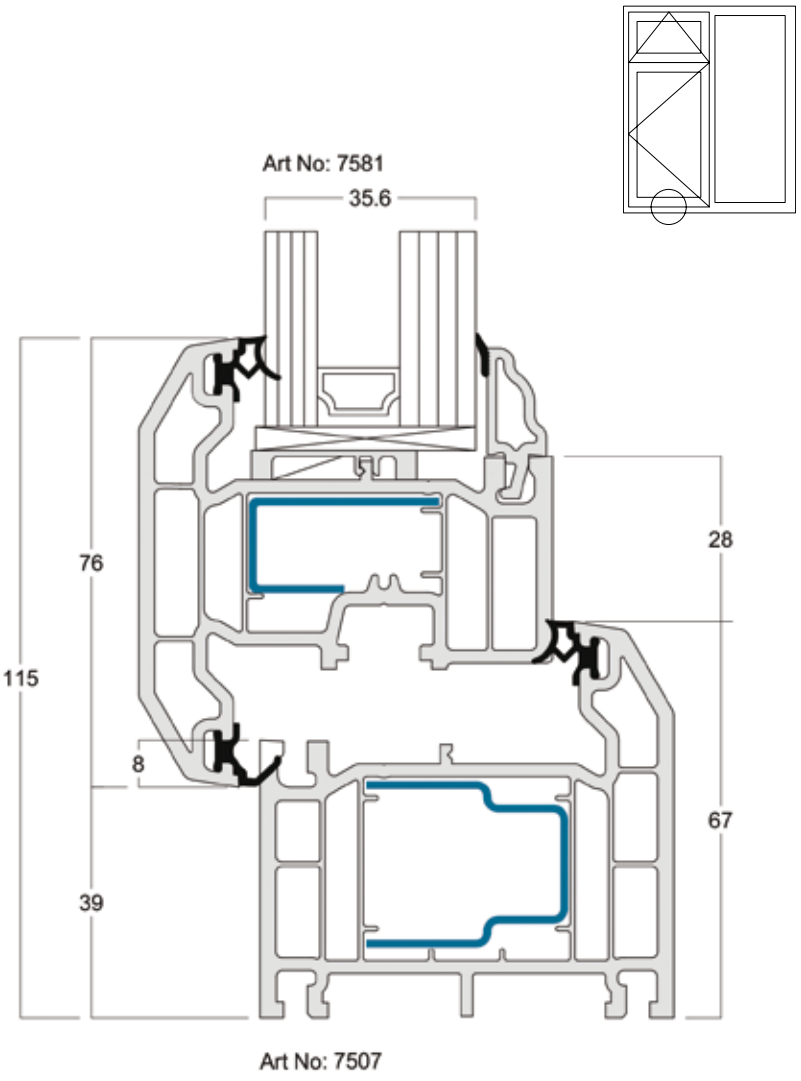
► Accoustic Window Specification

C70 Gold® Triple Glazed



● Plastic ● Aluminium ● Recycled Plastic ● Rubber ● Steel ● Other

C70 Gold® Double Glazed



Cross section at 1:1.25 scale

► Colour Options

Wood Finishes

Ex Stock*

Single lengths

Rosewood*
Renolit-Nr. 3.3202 001

Golden Oak*
Renolit-Nr. 3.2178 001

Cream White*
Renolit-Nr. 1.1379.05

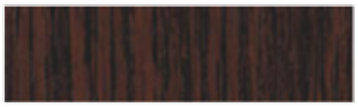
Black Brown*
Renolit-Nr. 1.8518.05

Cherry Blossom
Renolit-Nr. 3.3214 008

Rustic Cherry
Renolit-Nr. 3.3214 007

Antique Oak
Renolit-Nr. 3.3211 006

Rustic Oak
Renolit-Nr. 3.3149 008



Bog Oak
Renolit-Nr. 3.3167 004

Sienna PR
Cova-Nr. PR49233

Mahogany
Renolit-Nr. 3.2065 021

Walnut
Renolit-Nr. 3.2178 007

Dark Oak FT-F1
Renolit-Nr. 3.2052 089

Streaked Douglas
Renolit-Nr. 3.3152 009

Mountain Pine
Renolit-Nr. 3.3069 041

Oregan Pine
Renolit-Nr. 3.1192 001

Macore
Renolit-Nr. 3.3162 002

Sierra
Renolit-Nr. 3.2167 009

Light Oak
Renolit-Nr. 3.2052 090

Dark Oak
Renolit-Nr. 3.2140 005

Dark Oak ST
Renolit-Nr. 3.2140 006

Plain Colours

Smooth

Achat Grey
Renolit-Nr. 1.7038.83

Signal Grey
Renolit-Nr. 1.7004.83

Slate Grey
Renolit-Nr. 1.7015.83

Anthracite Grey
Renolit-Nr. 1.7016.83

Grained

White
Renolit-Nr. 1.9152.05

Achat Grey
Renolit-Nr. 1.7038.05

Grey
Renolit-Nr. 1.7155.05

Cement Grey
Renolit-Nr. 1.7023.05

Basalt Grey
Renolit-Nr. 1.7012.05

Quarz Grey
Renolit-Nr. 1.7039.05

Anthracite Grey
Renolit-Nr. 1.7016.05

Brown Maroon
Renolit-Nr. 1.8099.05

Chocolate Brown
Renolit-Nr. 1.8875.05

Moss Green
Renolit-Nr. 1.6005.05

Dark Green
Renolit-Nr. 1.6125.05

Light Red
Renolit-Nr. 1.3054.05

Wine Red
Renolit-Nr. 1.3005.05

Dark Red
Renolit-Nr. 1.3081.05

Brilliant Blue
Renolit-Nr. 1.5007.05

Cobalt Blue
Renolit-Nr. 1.5013.05

Steel Blue
Renolit-Nr. 1.5150.05

Yellow
Renolit-Nr. 1.1087.05

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