Architectural Glazing Systems
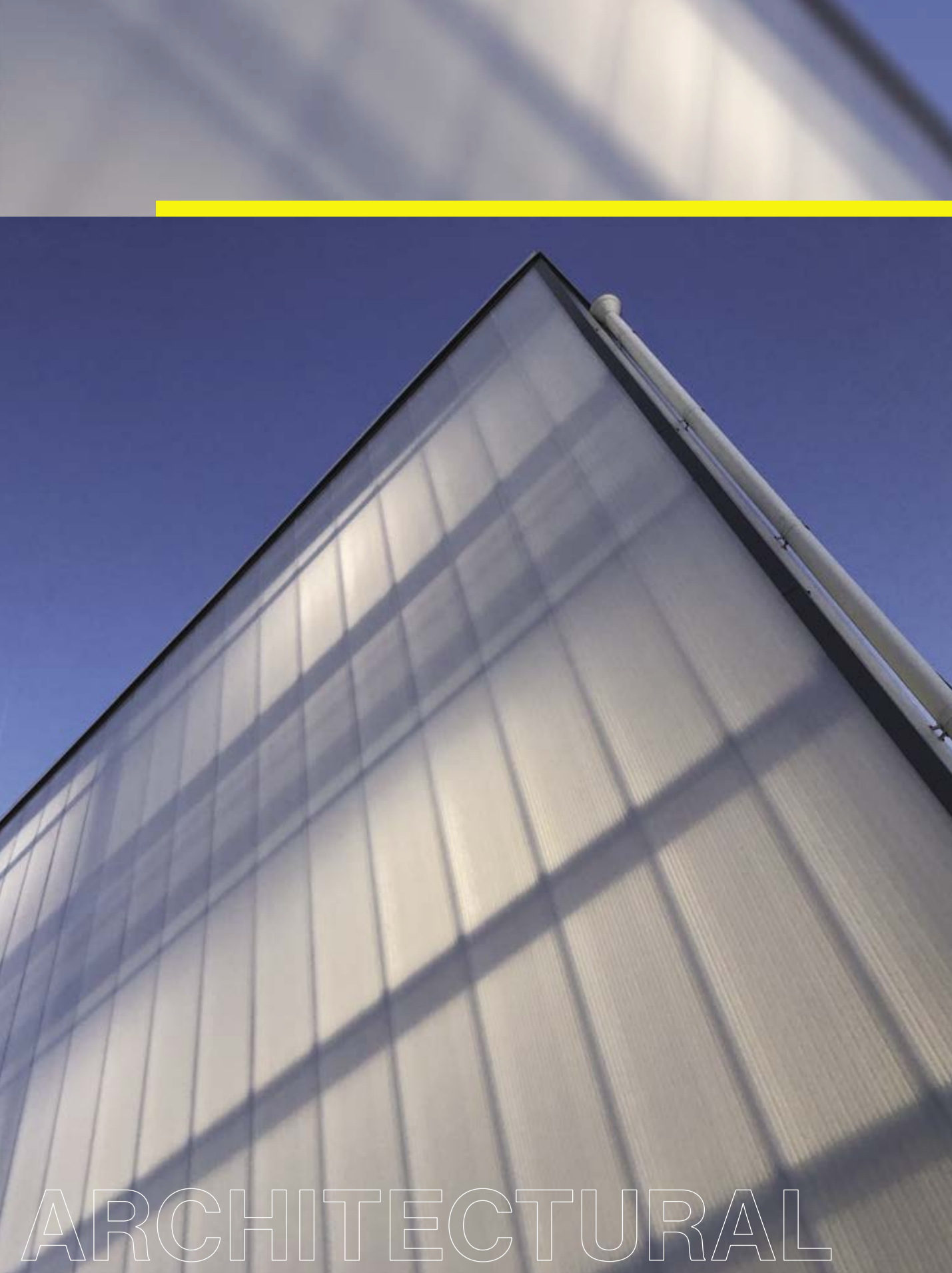
Marlon Clickfix | **Marlon Toploc**

Brett Martin

DESIGNING FOR DAYLIGHT

OUR REPUTATION

With over 60 years' experience, Brett Martin has earned a global reputation for the quality and performance of its Marlon polycarbonate glazing, cladding and roofing solutions in architecture.

Using this expertise, Brett Martin has extended this experience into the design and development of the Marlon Architectural Polycarbonate Glazing Systems.

The Marlon range of Architectural Polycarbonate Glazing Systems are manufactured in Brett Martin's own UK based BSI quality approved factories, powered by 50% renewable energy, to meet and exceed the latest industry and legislative requirements.

Brett Martin

ARCHITECTURAL
POLYCARBONATE
GLAZING SYSTEMS

Guaranteed Performance

Our polycarbonate glazing systems provide the complete architectural glazing solution.

• Quality natural light
• Superior thermal insulation
• UV protection
• Impact resistance
• Structural strength

The modular design reduces installation time significantly compared to traditional glazing materials and with a choice of panel and glazing frame system, there is a solution to realise any design concept.

Our systems are designed and extensively tested to limit air and water permeability and are fully compliant with European Fire Regulations.
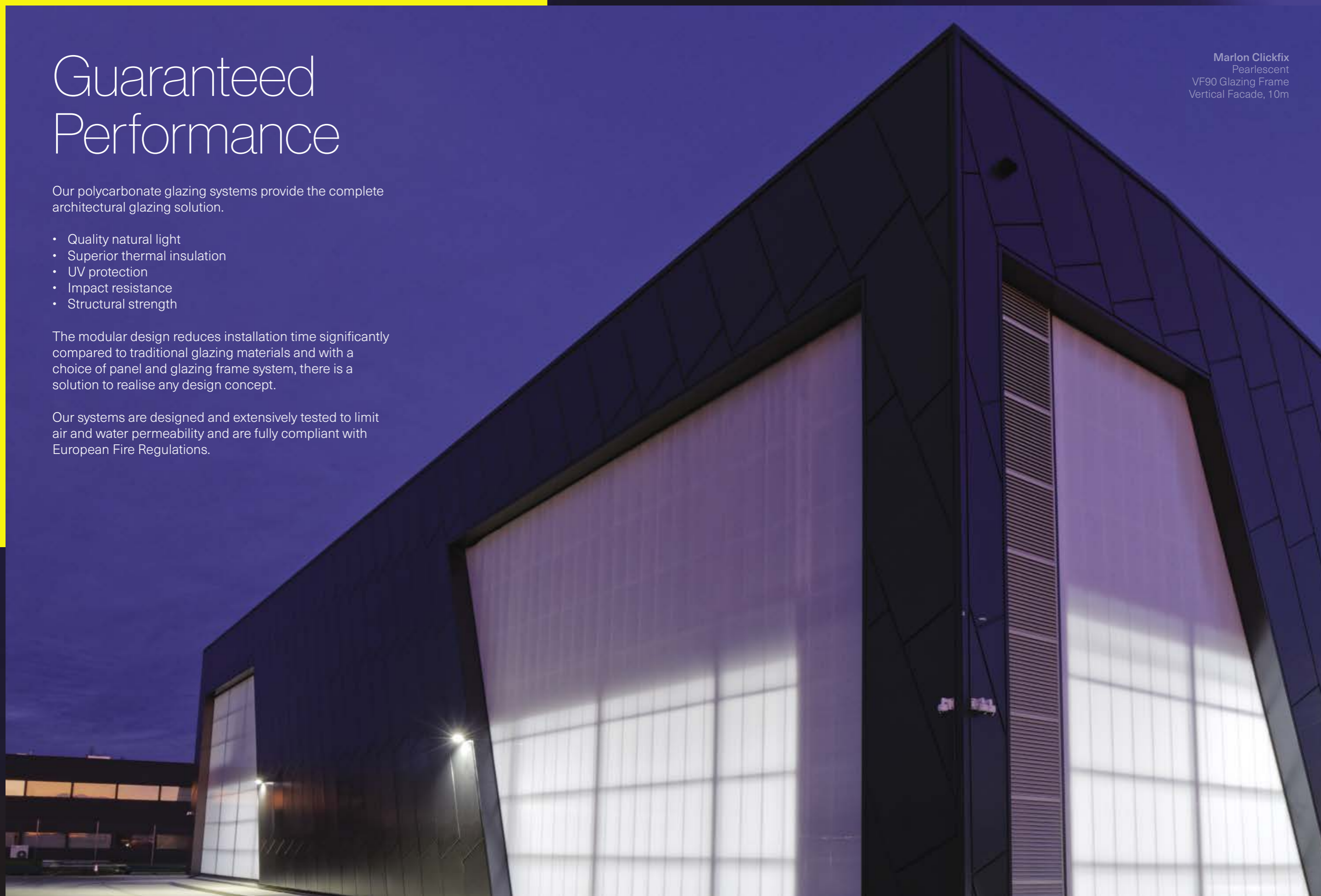
Credit: Studio Spicer - Architect | Chris Fossey - Photographer

Brett Martin

Versatility in Design

Offering flexibility and freedom in design and application, our range of architectural polycarbonate glazing systems provide solutions for vertical, pitched or curved applications.

Create stunning seamless façades up to 12m in unlimited lengths with continuous corners. Cold curve on-site to make a dramatic curved rooflight with standing seam feature. Transform a dull internal space by incorporating a glazing system that floods the building with natural daylight by day and transforms into a striking lightbox at night.

Building designers can create contemporary architectural statements in schools, industrial buildings, leisure and retail facilities with imaginative use in façades, rooflights, rainscreens and canopies.

Application Type

Vertical Facade	Pitched Rooflight	Curved Rooflight

Surface Finish

Flush Finish

Standing Seam Finish

Brett Martin

Specifying Daylight

Good quality natural daylight has been proven to be beneficial to the well-being and performance of those who occupy the building. Research proves what common sense suggests, that improved natural daylight has important physiological benefits resulting in brighter students, increased industrial productivity and higher retail sales.

Marlon Clickfix
Glass Clear & Blue BP
VF90 Glazing Frame

Up to
64%
Light Transmission

Our architectural polycarbonate glazing systems have been designed to achieve optimal solar performance. The translucency of the polycarbonate panels provides a quality diffused light transmission devoid of solar glare for even light distribution and visual comfort. What's more, light transmitting and thermal properties combine to control solar gain for a comfortable thermal environment.

Energy Saving

Our architectural glazing panels are manufactured from premium multiwall polycarbonate with insulating internal walls. This means there is significantly less thermal conductivity in the panel resulting in a lower U value for a more energy efficient building.

This is further enhanced by the energy saving benefits of natural daylight. By admitting natural daylight into a building, our range of Marlon Architectural Glazing Systems reduce the need for artificial lighting. So when used with lighting controls the systems can assist in reducing the energy consumption of a building even further.

Choose from Marlon Clickfix 40mm 10wall panels for a U-value of 0.99 W/m²K or Marlon Toploc 16mm 7wall panels for a U value of 1.78 W/m²K.
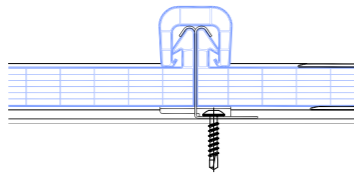
U 0.99W/m²K
Marlon Clickfix 40mm
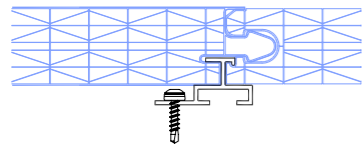
U 1.78W/m²K
Marlon Toploc 16mm

The Complete Glazing Solution

Our choice of installation accessories and glazing frame systems fully complement our multiwall modular glazing panels to provide the complete architectural glazing solution.

Custom made clips and brackets secure the panels without the need to fix directly through the panel, allowing for free thermal movement. Standard side and edge profiles are available for straightforward installation of our 16mm 7wall panels. For installation requiring the support of a glazing frame system there are two options:
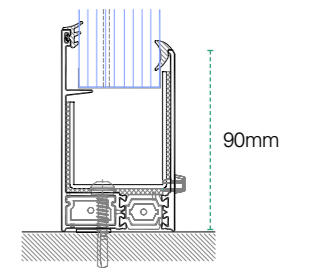
VF55
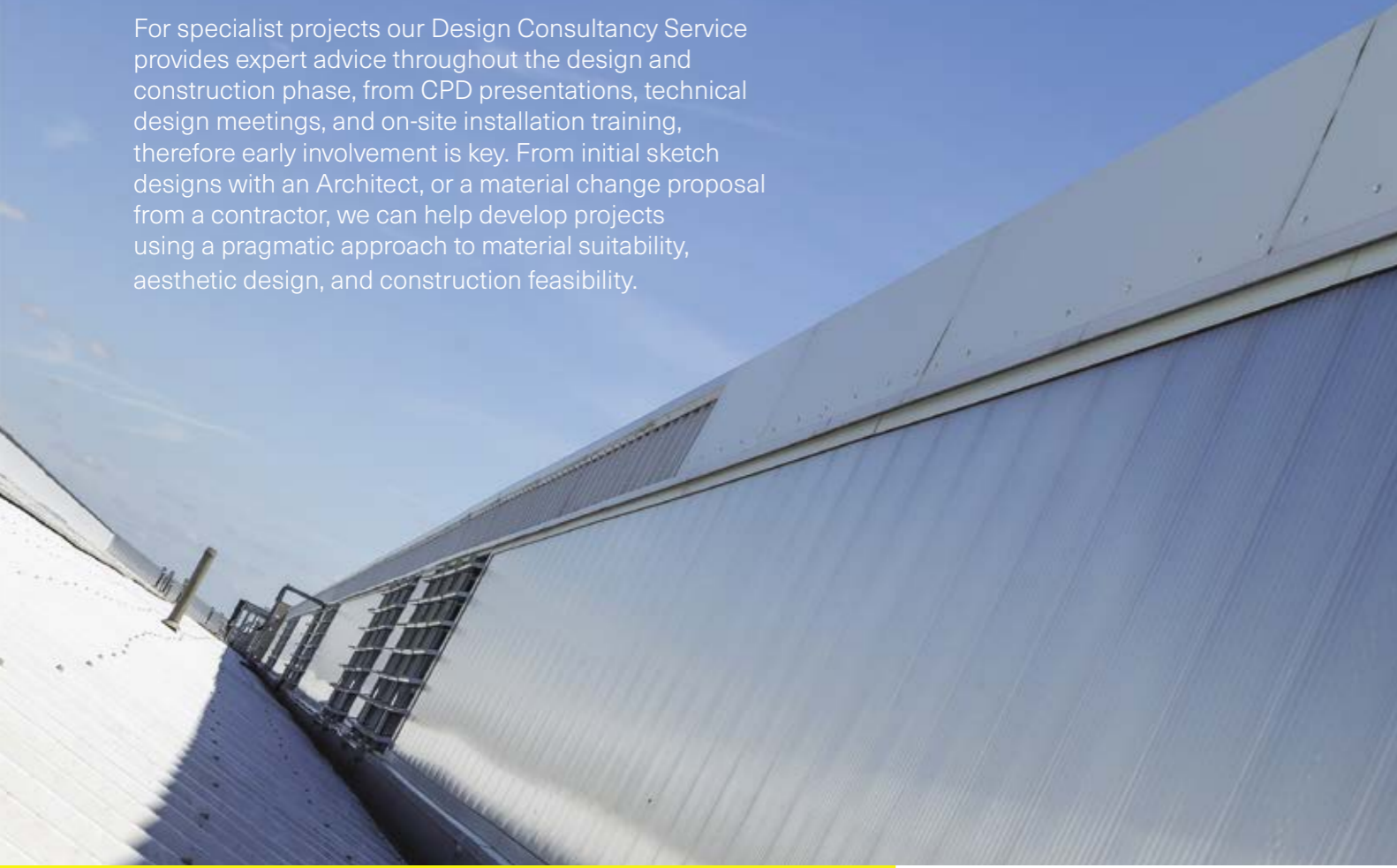
VF55 Glazing Frame System
Façades up to 6m

55mm
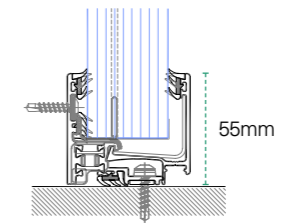
VF90

VF90 Glazing Frame System
Façades up to 12m

90mm

Marlon Clickfix
Pearlescent
VF90 Glazing Frame

Brett
Martin

Design Consultancy

For specialist projects our Design Consultancy Service provides expert advice throughout the design and construction phase, from CPD presentations, technical design meetings, and on-site installation training, therefore early involvement is key. From initial sketch designs with an Architect, or a material change proposal from a contractor, we can help develop projects using a pragmatic approach to material suitability, aesthetic design, and construction feasibility.
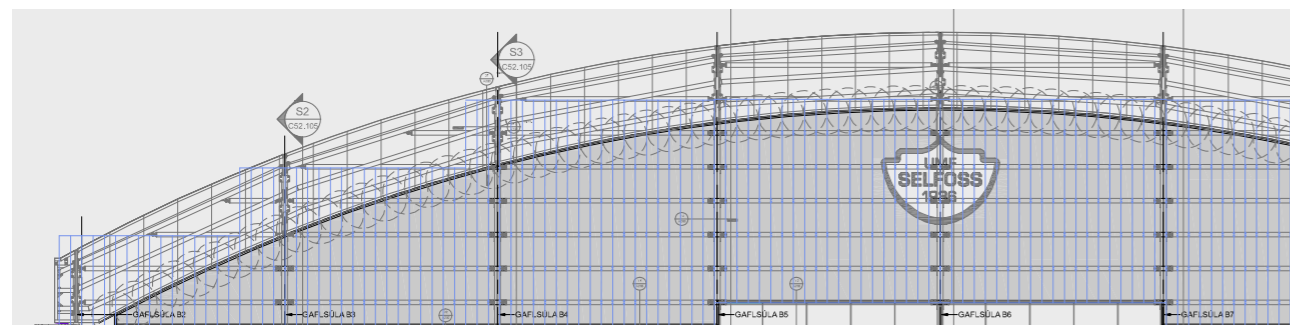

BELFAST WATERFRONT, UK

Project	Solution	Architect
£29.5m extension which includes conference and meeting facilities	1750m² of Marlon Clickfix wrapped over 150m long riverfront façade	TODD Architects

CARDIFF ICE ARENA, UK

Project	Solution	Architect
Building redevelopment project	450m² of Marlon Clickfix in irregular shapes on the walls	Scott Brownrigg

UMFS SPORTS HALL, ICELAND

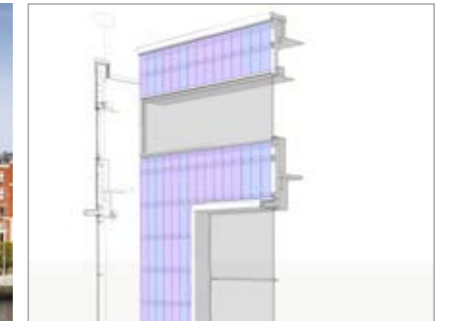| Project	Solution	Architect
New construction of a multi-use sports hall in at UMFS's site in Selfoss, Iceland	1300m² of glass clear Marlon Clickfix to glaze both curved end gables of the building	Alark Architects ehf.

DUQM AIRPORT, OMAN

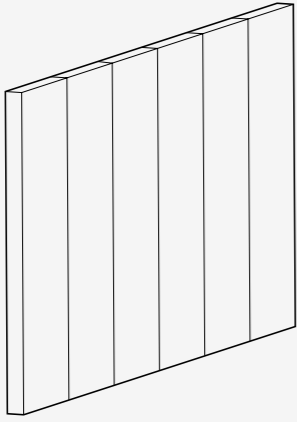| Project	Solution	Architect
Construction of passenger terminal at Duqm Airport	Blue Marlon Clickfix applied on 37m Air Traffic Control Tower	Hamza Associates

System Selector

Loading Specification: Please consult our Technical Department for project specific loading design advice.

1 Step One **Choose Application**	**2** Step Two **System Properties**	**3** Step Three **Choose Application**
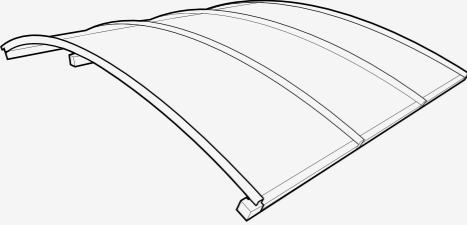
FAÇADE

Vertical ✓ Pitched ✗ Curved ✗

Single

U-Value	Aspect	Length / Height Max	LT%	System	Pg
0.99	In-Plane	6	52	Marlon Clickfix VF55	22
	In-Plane	12	52	Marlon Clickfix VF90	24
1.78	Standing Seam	12	64	Marlon Toploc Standing Seam	30
	In-Plane	12	64	Marlon Toploc Flush Finish	32

Double

U-Value	Aspect	Length / Height Max	LT%	System	Pg
0.49	In-Plane	6	27	Marlon Clickfix VF55	22
	In-Plane	12	27	Marlon Clickfix VF90	24
0.88	Standing Seam	12	41	Marlon Toploc Standing Seam	30
	In-Plane	12	41	Marlon Toploc Flush Finish	32
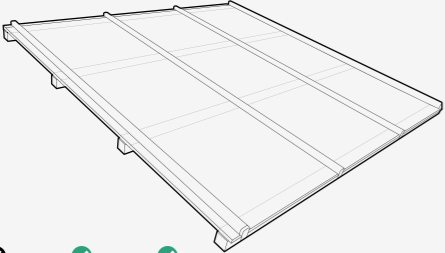
ROOFLIGHTS

Vertical ✗ Pitched ✓ Curved ✓

Single

U-Value	Aspect	Length / Height Max	LT%	System	Pg
1.78	Standing Seam	12	64	Marlon Toploc Standing Seam	30
	In-Plane	12	64	Marlon Toploc Flush Finish	32

Double

U-Value	Aspect	Length / Height Max	LT%	System	Pg
0.88	Standing Seam	12	41	Marlon Toploc Standing Seam	30
	In-Plane	12	41	Marlon Toploc Flush Finish	32

CANOPIES

Vertical ✗ Pitched ✓ Curved ✓

Single

U-Value	Aspect	Length / Height Max	LT%	System	Pg
1.78	Standing Seam	12	64	Marlon Toploc Standing Seam	30
	In-Plane	12	64	Marlon Toploc Flush Finish	32

Note: Spanning capacity is deflection limited and derived from support method, consult system pages for load tables.
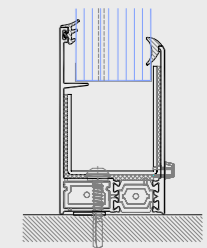
Range of Systems

Marlon Clickfix VF55

Size
• 40mm Tenwall
• Cover width 500mm
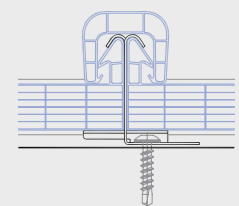• Vertical facade
• Installations up to 6m
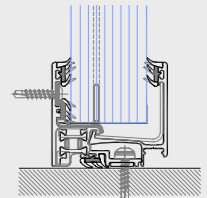
Marlon Clickfix VF90

Size
• 40mm Tenwall
• Cover width 500mm
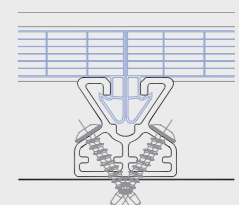• Vertical Facade
• Installations up to 12m

Marlon Toploc — Standing Seam

Size
• 16mm 7wall
• Cover width 600mm or 1000mm

Marlon Toploc — Flush Finish

Size
• 16mm 7wall
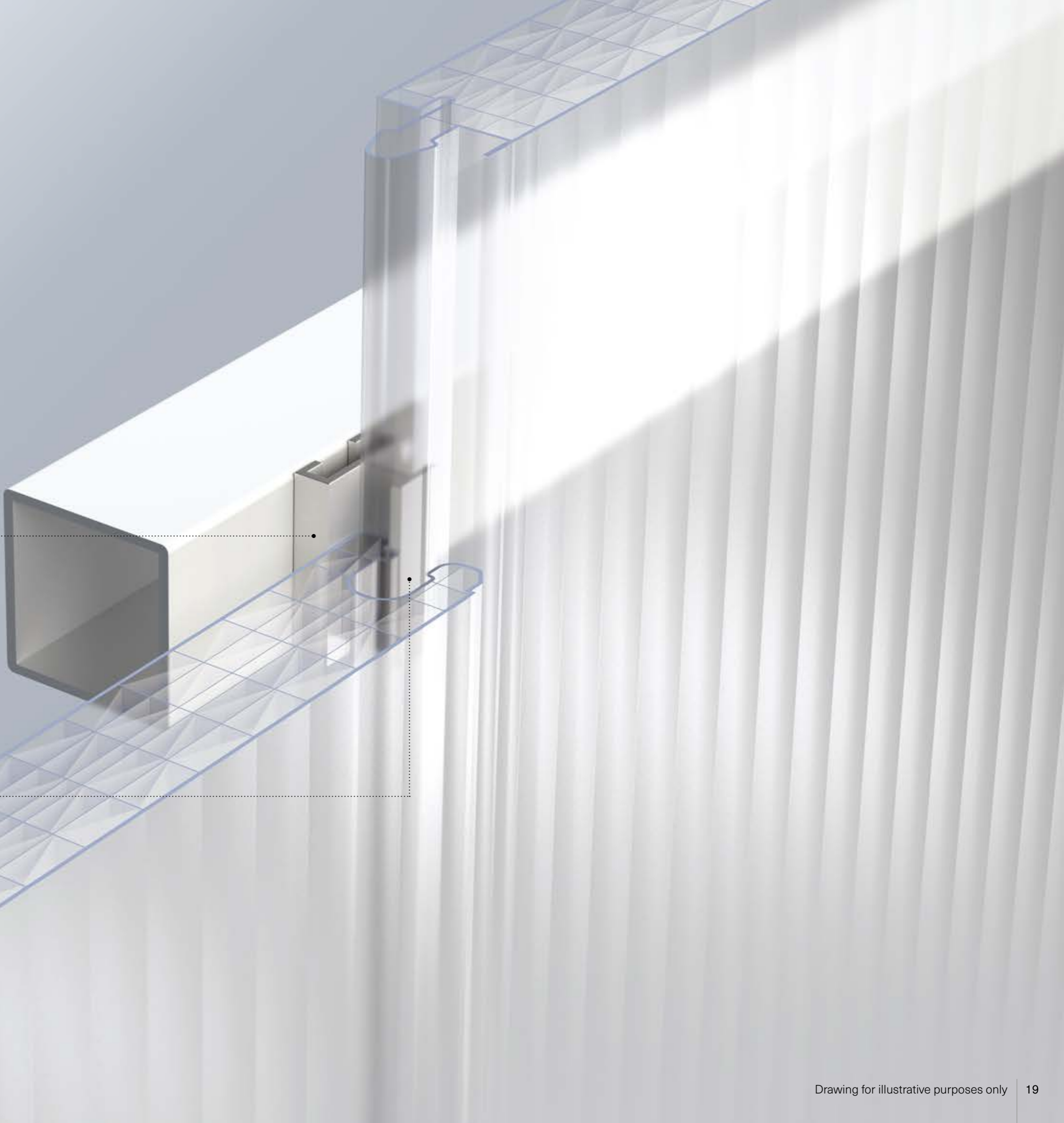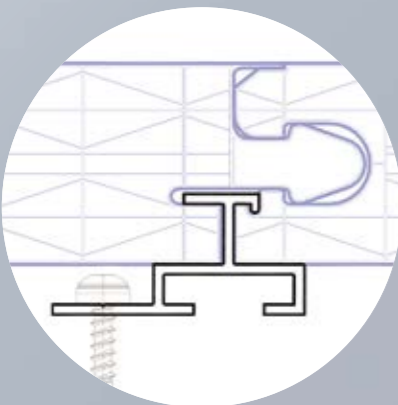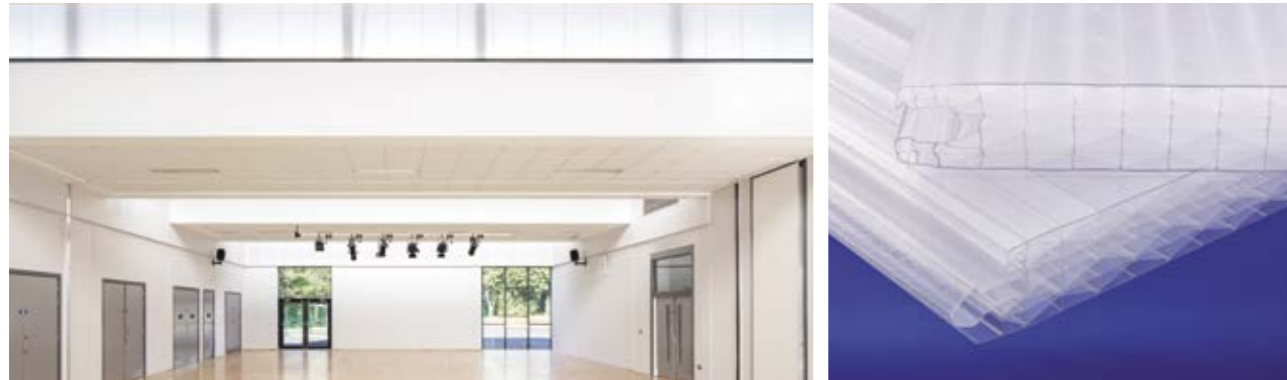• Cover width 600mm or 1000mm

Brett Martin

Marlon Clickfix

This 40mm interlocking modular polycarbonate panel, used in vertical applications to create dramatic seamless façades, comes with a choice of glazing frame options. Choose from the VF55 glazing frame for façades up to 6m or the VF90 glazing frame for façades up to 12m.

Aluminium Clip

Marlon Clickfix Interlocking
Polycarbonate Panel

Marlon Clickfix

Marlon Clickfix is the architectural glazing system used for vertical facades. The 40mm 10wall panels are extruded with an interlocking connection mechanism for swift installation. The panels simply click and fix together with no need for glazing profiles between panels. The result is a completely seamless facade.
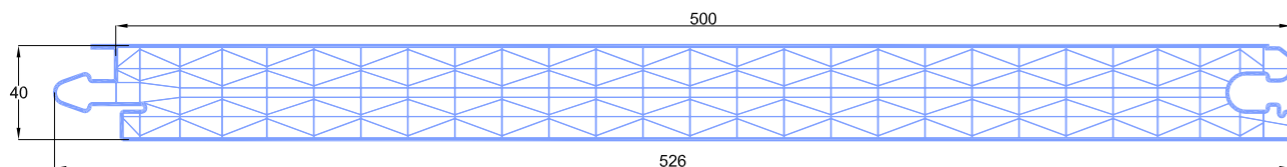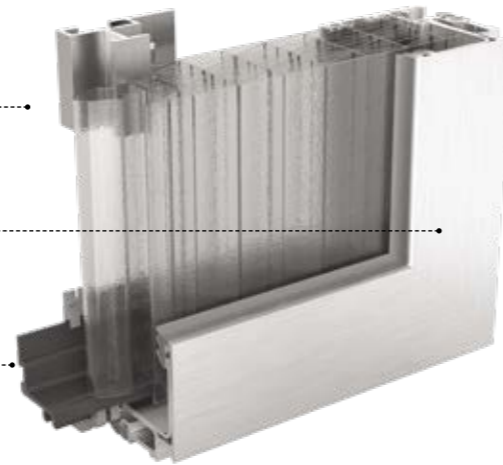
Key Benefits

- 40mm 10wall modular polycarbonate glazing system
- Create dramatic seamless façades and continuous corners
- Thermally insulating, U value 0.99 W/m²K
- Superb spanning capabilities
- Suitable for vertical façades and partitions

Light Transmission

Colour	Light	Solar
Clear (g)	52%	48%
Pearlescent (PW)	44%	32%

Special colours and colour matching available on request. Minimum order quantities apply.

Panel Details & Properties

Panel Thickness	40mm
Panel Structure	10wall
Modular Width	500mm (nominal)
Overall Width	526mm (nominal)
Maximum sheet length	12m
Thermal Insulation	0.99W/m²K
Weight	4.3kg/m²
Fire Performance	B-s1,d0 to EN13501-1
Minimum Cold Curving Radius	Contact Technical Department
UV Protection	Single or double sided
Warranty	Limited warranty

Spanning Detail

Load (kN/m²)	Span (m)
0.5	2.37
1.0	1.99
1.5	1.74
2.0	1.39

All figures relate to double spanning, for additional information please contact the technical department.

Panel Structure & Dimensions

500

40

526

Brett Martin

Marlon Clickfix VF55

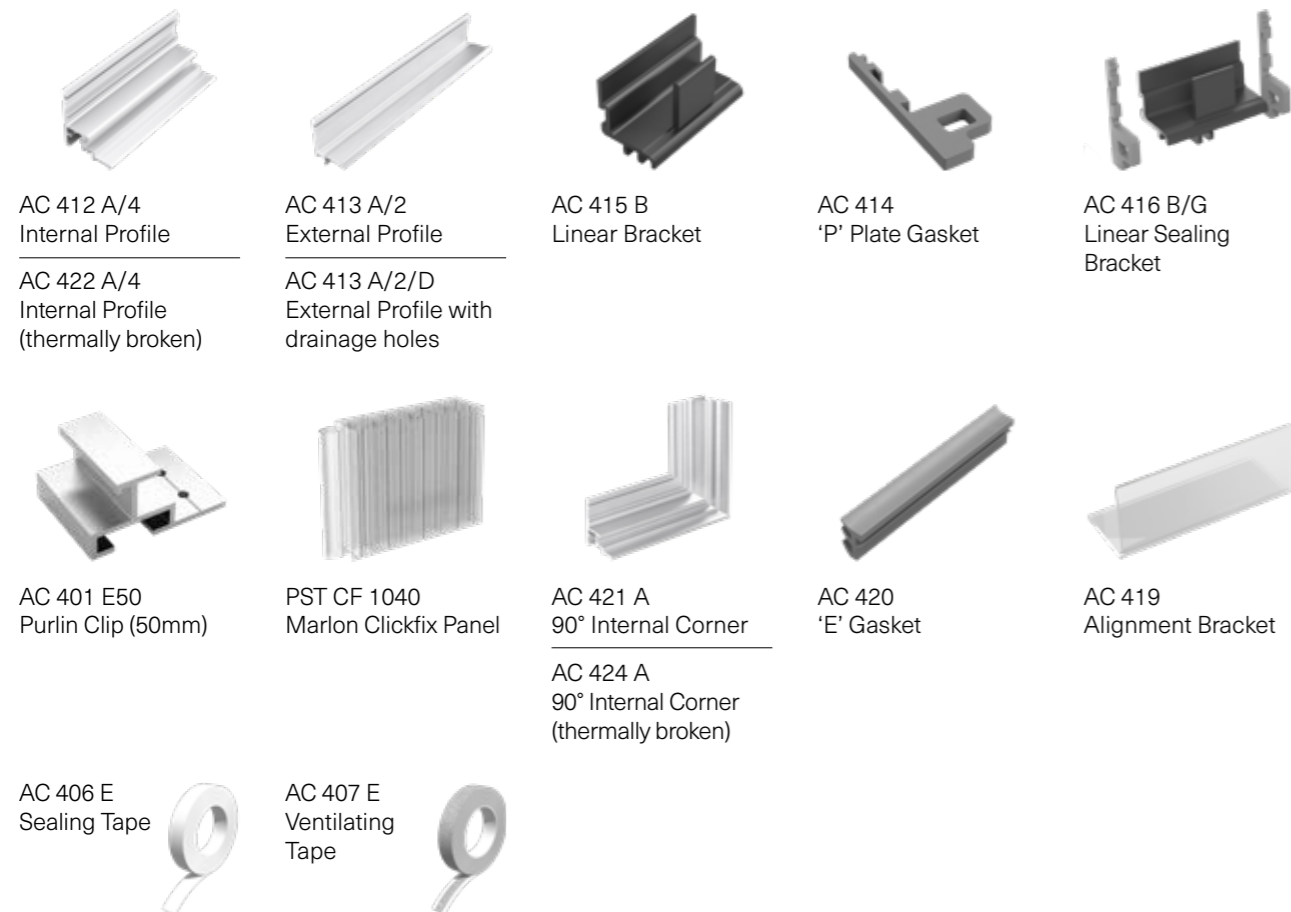## Installation Façades up to 6m (VF55 Glazing System)

Key Features

- Discrete 55mm profile for façades up to 6m
- Unique patented two part glazing profile system
- Glazing panels sit into system without rotation
- Water managed via hidden drainage channel
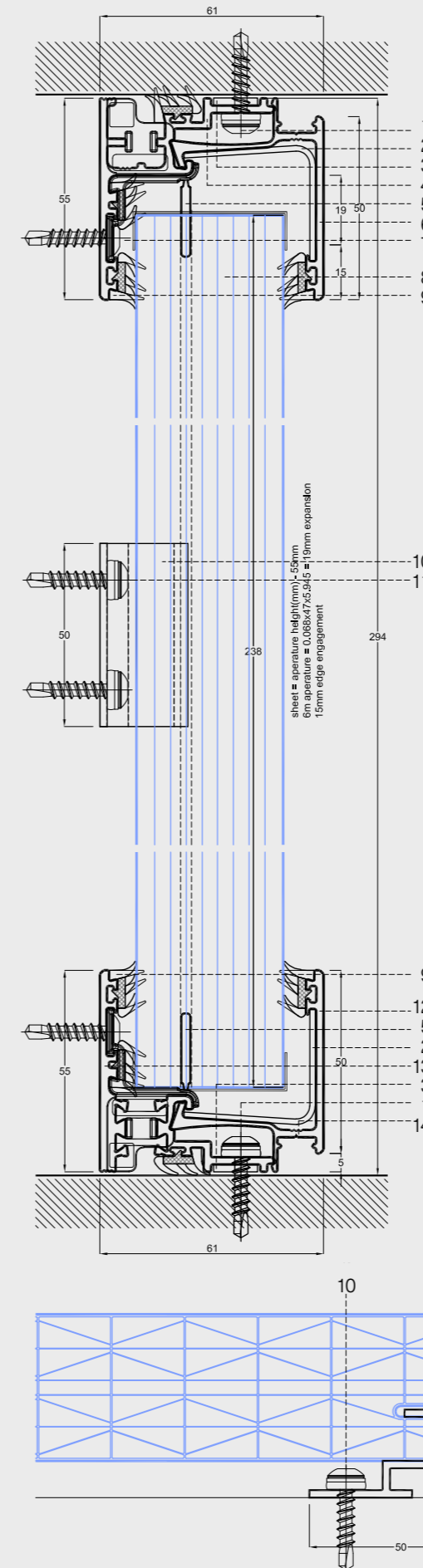- Pre-formed 90° corners
- Same profile across all orientations

AC 401 E50
Purlin Clip

Pre-fabricated corner section

AC 416 B/G Linear Sealing Bracket

System Components

AC 412 A/4
Internal Profile

AC 422 A/4
Internal Profile (thermally broken)

AC 413 A/2
External Profile

AC 413 A/2/D
External Profile with drainage holes

AC 415 B
Linear Bracket

AC 414
'P' Plate Gasket

AC 416 B/G
Linear Sealing Bracket

AC 401 E50
Purlin Clip (50mm)

PST CF 1040
Marlon Clickfix Panel

AC 421 A
90° Internal Corner

AC 424 A
90° Internal Corner (thermally broken)

AC 420
'E' Gasket

AC 419
Alignment Bracket

AC 406 E
Sealing Tape

AC 407 E
Ventilating Tape

INSTALLATION DETAILS

1. A4 stainless steel profile fastener, base/head - by others
2. Exterior profile alignment bracket - AC419
3. Butyl sealing tape
4. Non-thermally broken interior profile - AC412/A4
5. Interior profile sealing bracket - AC416
6. Exterior profile - AC413/2
7. A4 stainless steel interior profile fastener - by others
8. 40mm 10wall Marlon Clickfix interlocking panel
9. Co-extruded interlocking TPE gasket - AC420
10. 50mm Aluminium purlin clip - AC401E50
11. A4 stainless steel purlin fastener - by others
12. Exterior aluminium drainage profile - AC413/2/D
13. Thermally broken interior profile - AC424/4
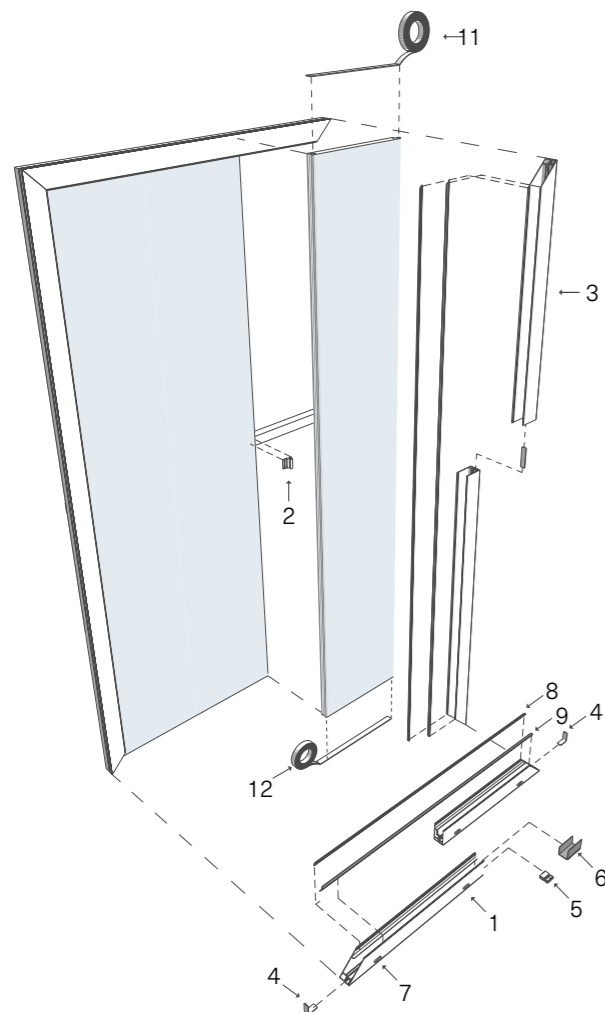14. Location of concealed drainage slots
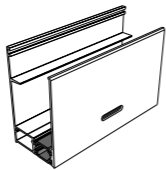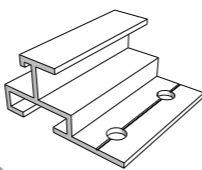
Marlon Clickfix VF90
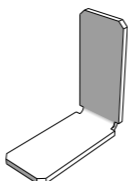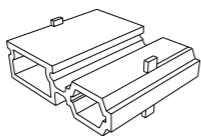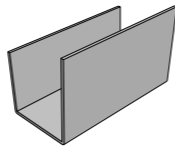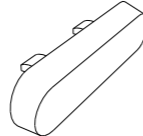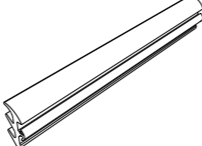
Installation Façades up to 12m (VF90 Glazing System)

Key Features

- 90mm profile for façades from 6m to 12m
- Thermally broken
- Temperature stable TPE gaskets
- Water managed

System Components

1
AC 403 BMD
Thermally Broken Base
Profile Slotted

2
AC 401 E50
Purlin Clip

3
AC 402 BMD Thermally
Broken, Top & Side
Profile

4
AC 402 CCB Corner
Connector

5
AC 402 MCB Straight
Profile Connector

6
AC403 BBS
Butt Strap Connector

7
AC 403 BVCG Drainage
Slot Vent Covers
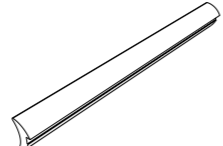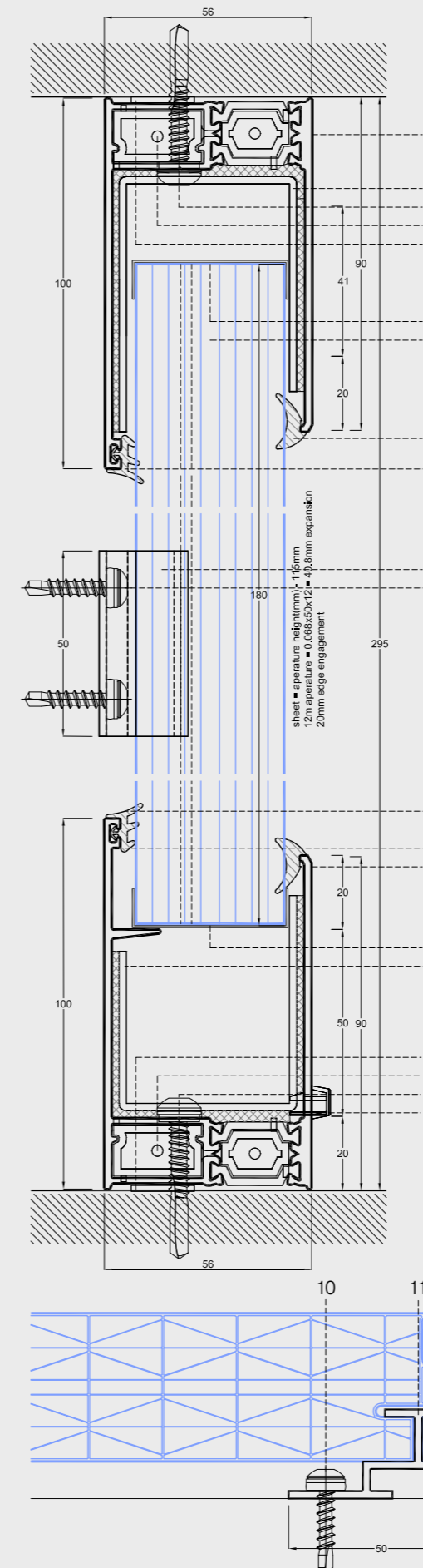
8
AC 404 B
Interior "E" Gasket

9
AC 405 B
Exterior Wedge Gasket

10
305 839
Click Seal Butyl Mastic

11
AC 406 E
Sealing Tape

12
AC 407 E
Ventilating Tape

INSTALLATION DETAILS

1. Thermally broken top and side profile - AC402BMD
2. Top and side profile sealing bracket - AC402TSBS
3. A4 stainless steel profile fastener - by others
4. Top and side junction bracket - AC402MCB
5. Click seal butyl tape - 305839
6. Die cut sealing tape
7. 40mm 10wall Marlon Clickfix interlocking panel
8. Exterior wedge gasket - AC405B
9. Internal E gasket - AC404B
10. 50mm Aluminium purlin clip - AC401E50
11. A4 stainless steel purlin fastener - by others
12. Thermally broken base profile - AC403BMD
13. Die cut ventilating tape
14. Base profile sealing bracket - AC403BBS
15. Drainage slot cover cap - AC403BVC

Brett Martin
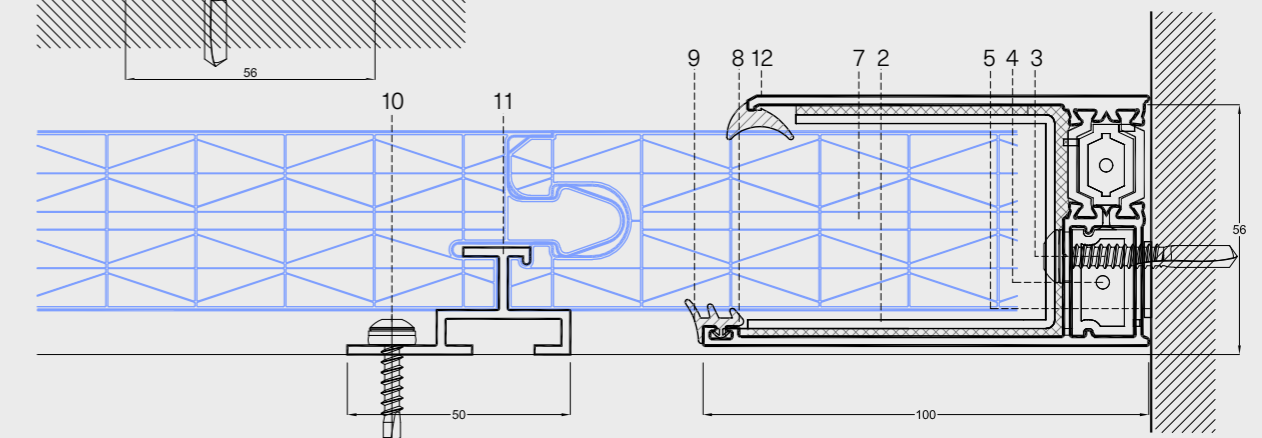
Silicone Sealant

Polycarbonate Connecting Cap

Aluminium U Profile

Breather Tape

Marlon Toploc

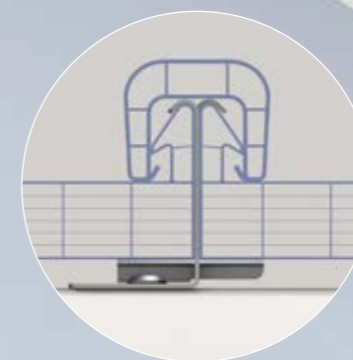This 16mm modular polycarbonate panel is used in two efficient glazing systems to offer either a standing seam or flush surface finish to optimise performance in both vertical and horizontal applications.
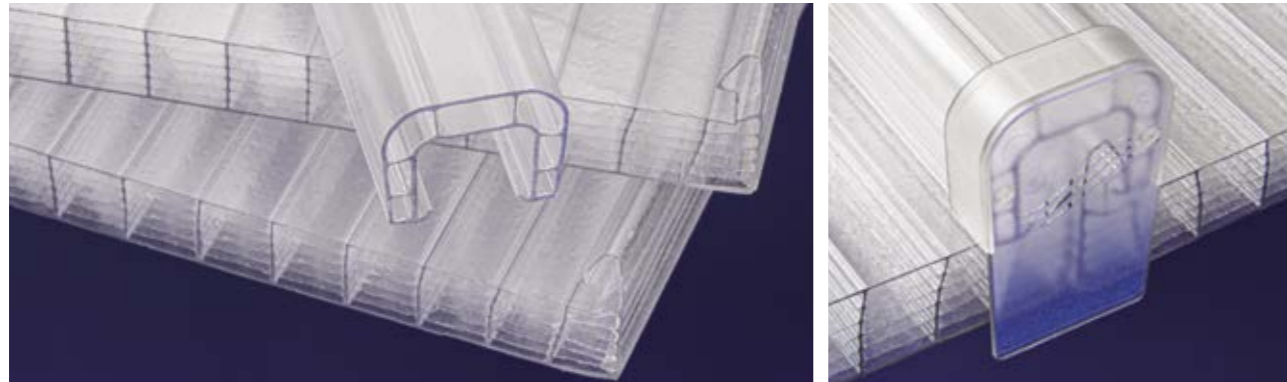
Flush Surface Finish

Standing Seam Finish

Brett Martin

Marlon Toploc

Marlon Toploc is a highly versatile architectural polycarbonate glazing system suitable for use in vertical, pitched or curved installations.

The 16mm 7wall panels are extruded with an upright connecting profile that can be installed facing externally to create a standing seam feature or reversed and installed facing internally to create a seamless glazing finish.

Key Benefits

- 16mm 7wall polycarbonate glazing system
- Highly versatile system
- Can be adapted into a number of configurations
- Suitable for cold curving
- U-value 1.78W/m²K

Light Transmission

Colour	Light	Solar
Clear (g)	64%	60%
Pearlescent (PW)	56%	33%

Panel Details & Properties

Panel Thickness	16mm
Panel Structure	7wall
Cover Width (nominal)	600mm or 1000mm
Thermal Insulation	1.78W/m²K
Weight	3.0kg/m²
Non-fragility Classification	Consult Technical Department
Fire Performance	B-s1, d0 to EN13501-1
Recommended Min Pitch	5°
Min Cold Curving Radius	4000mm
UV Protection	Double sided as standard
Warranty	Limited warranty

Panel Structure & Dimensions

32 / 16 / 600

Cover Width (see table above)
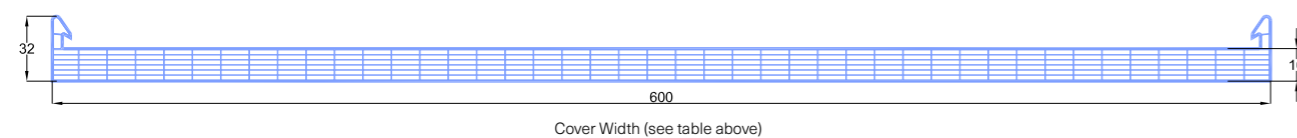
APPLICATION ASSEMBLIES

	STANDING SEAM External Polycarbonate Cap	FLUSH FINISH Internal Aluminium Mullion
Curved Rooflight Minimum cold curving radius 4000mm		
Pitched Rooflight Minimum pitch 5°		
Vertical Façade		

Can be used with VF55 and VF90 glazing bar system

Marlon Toploc | Standing Seam System

System Components

1
Polycarbonate
Top Cap

2
Polycarbonate
End Cap

3
Aluminium
U Profile

4
Aluminium
F Profile

5
Stainless Steel
Fixings

6
Stainless Steel
Fixing Bracket

7
Ventilating Tape

8
Sealing Tape
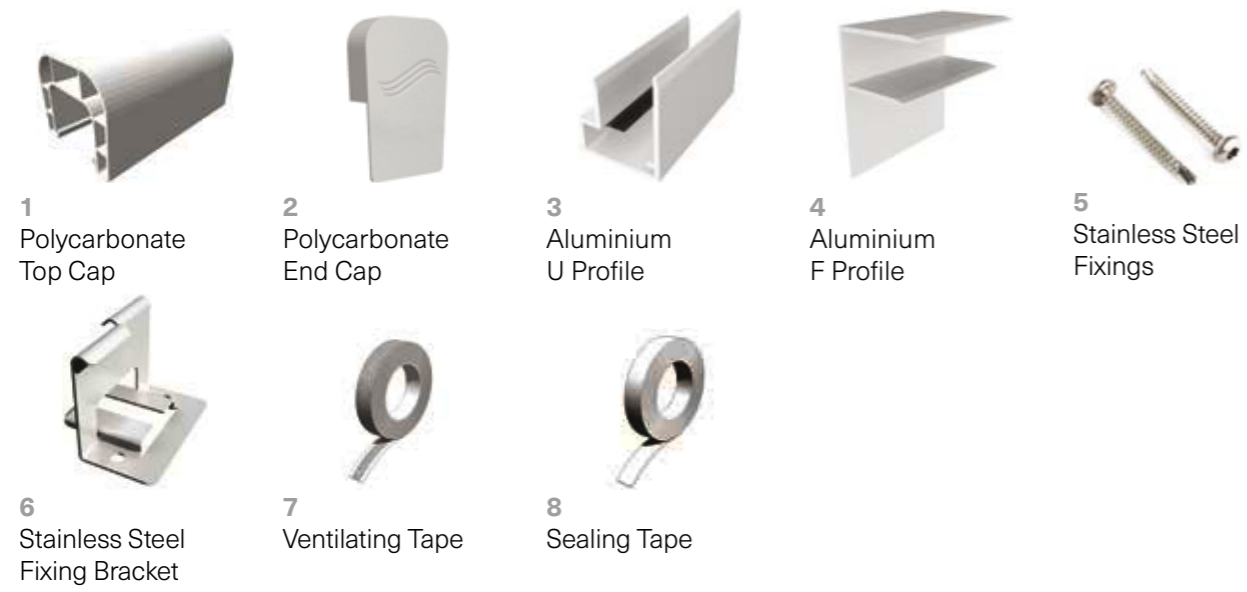
Standing Seam Roof
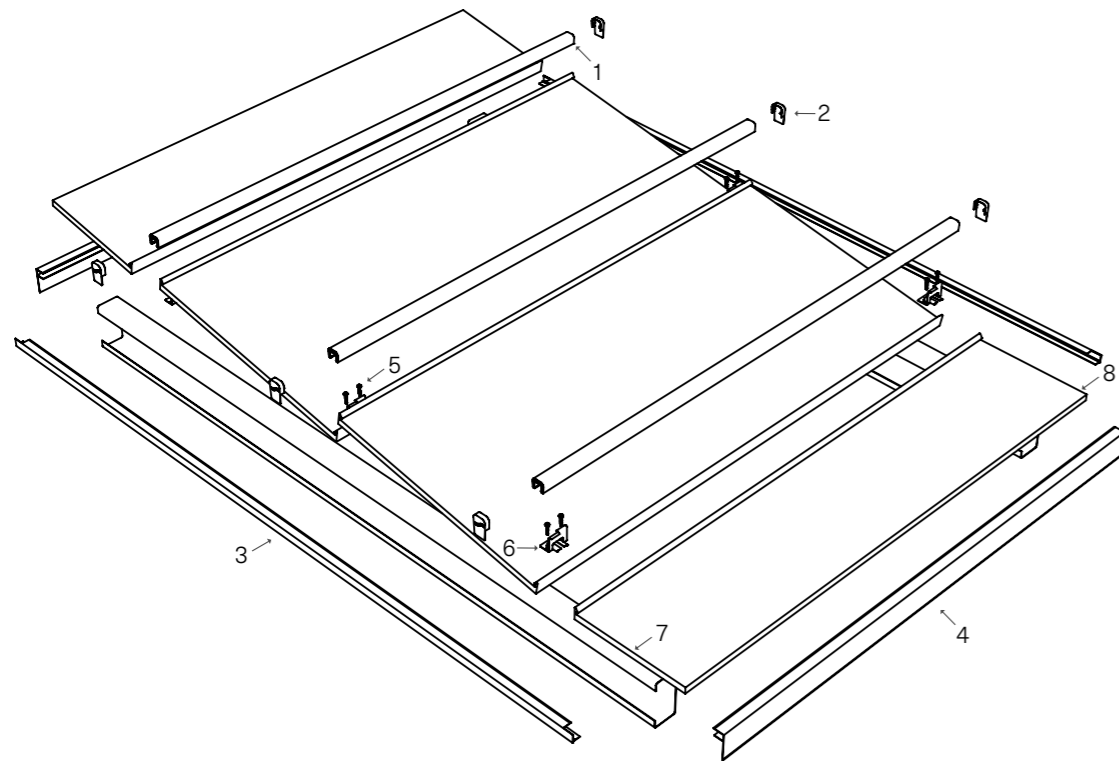
INSTALLATION DETAILS

Purlin supported with stainless steel clip and polycarbonate cap.

Polycarbonate Top Cap (1)

Aluminium
F Profile (4)

Stainless Steel Fixing Bracket (6)
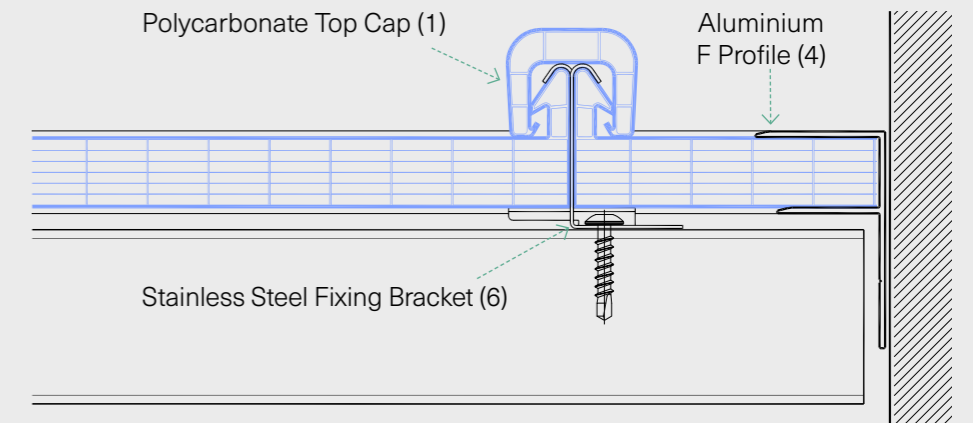
Spanning Detail

Load (kN/m²)	Span (m)
0.5	1.93
1.0	1.53
1.5	1.34
2.0	1.22

All figures relate to double spanning, for additional information please contact the technical department.

Brett Martin

Marlon Toploc

Flush
Surface System

System Components

1
Aluminium U Profile

2
Aluminium F Profile

3
AC490 Aluminum Mullion

4
Stainless Steel Fixings

5
Ventilating Tape

6
Sealing Tape

Standing Seam Roof

INSTALLATION DETAILS

Purlin Supported with continuous vertical aluminum mullion support at each panel junction.

Aluminium F Profile (2)

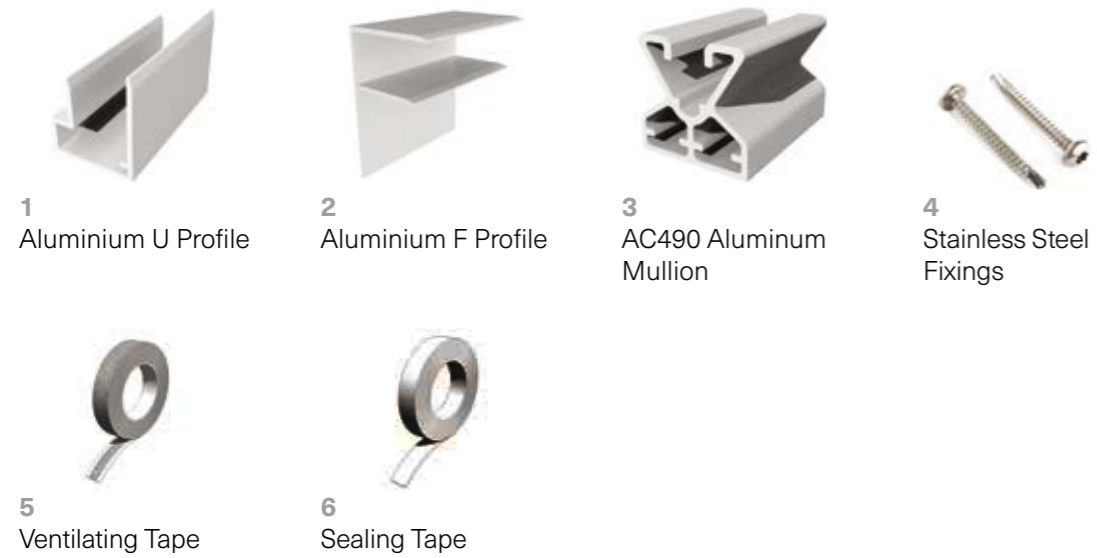AC490 Aluminium Mullion (3)
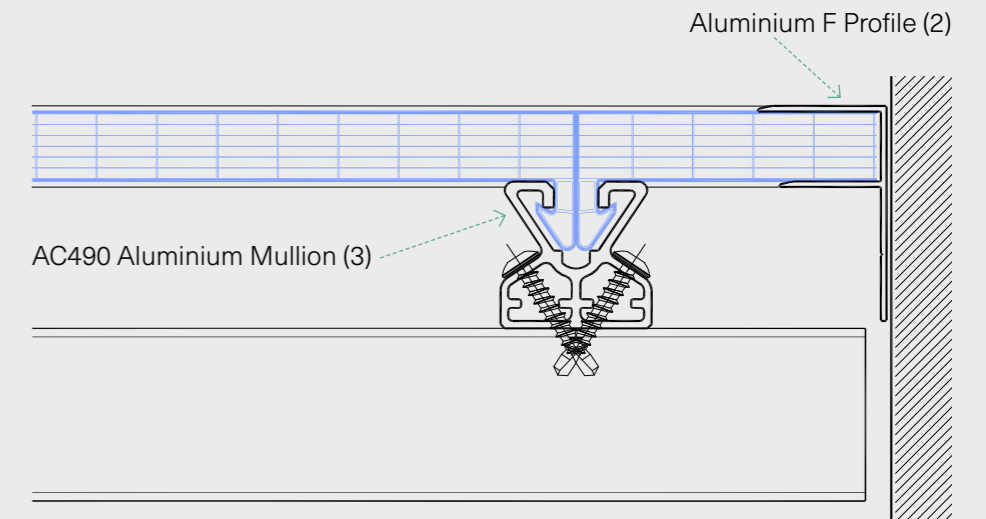
SUITABLE FOR USE WITH VF55 & VF90 GLAZING FRAME SYSTEMS

Mullion Supported with secondary continuous vertical aluminum mullion support at each panel junction.

VF55 TB Profile

AC490 Aluminium Mullion (3)
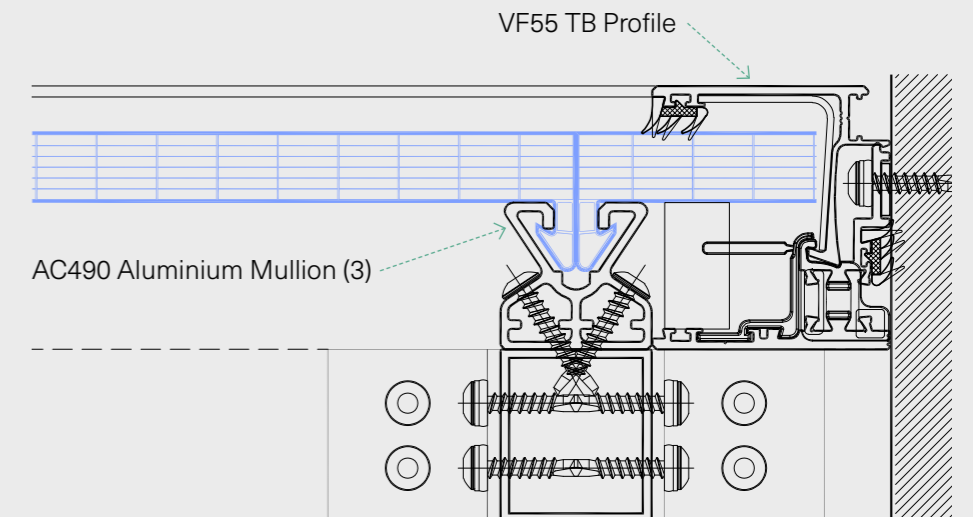
Spanning Detail

Load (kN/m²)	Span (m)
0.5	2.33
1.0	1.85
1.5	1.61
2.0	1.47

All figures relate to double spanning, for additional information please contact the technical department.

Brett Martin

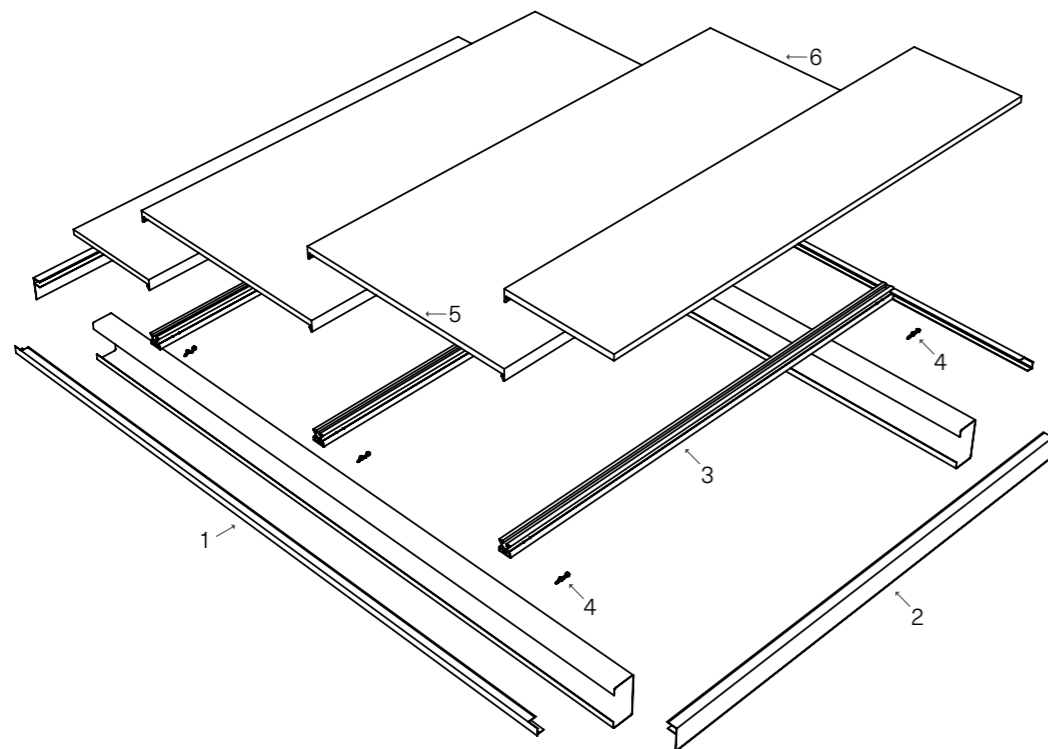# Polycarbonate
Mechanical Properties

Strength & Damage Resistance

Damage to glazing can be hazardous and expensive but our Multiwall Systems manufactured from Marlon polycarbonate offer excellent protection against hailstones, vandalism and accidental damage with an impact resistance up to 200 times greater than glass. This characteristic is maintained over a broad temperature range and prolonged service life. The Marlon polycarbonate panels will retain their physical properties in extreme weather conditions making them the ideal glazing solution for projects throughout the world. Marlon polycarbonate can withstand temperature extremes from -40ºC to 100ºC (-40 to 212ºF) long term and up to 130ºC short term. No other glazing material can offer this combination of impact resistance and wide working temperature range.

UV Protection

Our modular polycarbonate panels are co-extruded with a UV absorption layer. This protective layer prevents damaging UV radiation from penetrating the sheet for long term optical clarity and mechanical strength.

Chemical Resistance

Polycarbonate has good resistance to many chemicals (with the exception of solvents and strong alkalis) so is often suitable for use in aggressive environments.

Fire Performance

Our Marlon Clickfix and Marlon Toploc systems exhibit excellent fire performance and in the event of a fire it will soften and open, allowing smoke, heat and gases produced by the fire to escape. This 'venting' property means that damage within buildings can be limited. For details of fire ratings please contact our Technical department.

Warranty

Marlon Clickfix and Marlon Toploc are manufactured under Quality Management Systems registered to BS EN ISO 9001:2015. The panels carry a limited warranty. For full details please contact our Technical department.

Testing

Systems are designed and tested to the relevant industry standards and performance criteria. For further information please contact our Technical department.

Properties		Test Method	Value	Units
Mechanical	Tensile strength at yield	DIN 53455	>60	MPa
	Tensile strength at break	DIN 53455	>70	MPa
	Modulus of elasticity	DIN 53457	>2300	MPa
Physical	Specific gravity	DIN 53479	1.20	g/m^3
Thermal	Softening temperature - Vicat 'B'	DIN53460	148	ºC
	Linear thermal expansion	DIN53752	6.8×10^{-5}	m/m.K
	Maximum service temperature	Permanent	100	ºC
	- no loading	Short term	130	ºC

Polycarbonate
General Guidelines

Sealing

It is recommended that the ends of the Marlon Clickfix and Marlon Toploc panels are sealed to minimise the build-up of moisture or dust contamination within the channels. A sealing tape, preferably aluminium, is applied at the top of the panel to prevent ingress of moisture, dust and insects. A breather tape applied to the bottom end of the panel permits air to move freely in and out of the panel, helping minimise condensation. Panels can be supplied pre-taped and cut to specific length to help reduce installation time.

Thermal Expansion

In practical terms it is necessary to allow 3.5mm per linear metre between the top edge of the panel and the glazing profile.

Cleaning

As a condition of ensuring that Marlon Clickfix and Marlon Toploc panels perform at optimum throughout their service life, it is recommended that the panels be cleaned periodically using suitable household cleaning agents as follows:
• Use lukewarm water to rinse the panels and soften dirt.
• Make up a solution of lukewarm water and ordinary household cleaner or a mild soap and use this to wash the panels.
• A sponge or soft cloth should then be used to gently remove dirt and grime.
• The cleaning process should then be repeated and the panel rinsed and dried with a soft cloth.
• For larger areas clean the surface with a high-pressure water cleaner.

Warning

Care should be taken to observe the following precautions:
1. Do not scrub Marlon modular multiwall panels with brushes or sharp instruments.
2. Avoid any abrasives or cleaners of a highly alkaline composition.
3. It is generally advisable in all instances to test any cleaner on a sample piece of the Marlon modular multiwall panels first and it should also be remembered that cleaners and solvents which state that they are suitable for cleaning polycarbonate may not be safe for use on the UV protective surface of the panels.

Distributed by:

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