

FLAT  
POLYCARBONATE  
SHEET

# Marlon FS

Fabricate  
& Glaze

 **Brett  
Martin**



# Marlon FS

Marlon FS | Marlon FSX | Marlon FS Hard | Marlon FS BioPlus

Our Marlon extruded polycarbonate flat sheet range is the technical choice for architects, specifiers, engineers and product designers, offering exceptional design flexibility due to its:

- Incredible strength to weight ratio
- Outstanding technical performance
- Excellent light transmission

## CONTENTS

02	Intro	14	Applications
04	Marlon Product Range	16	Marlon FS
06	Marlon BioPlus	18	Marlon FSX
08	Strength to Weight Ratio	20	Marlon FS Hard
10	Technical Performance	22	Product Options
12	Light Transmission		

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Martin**





## MARLON FS RANGE

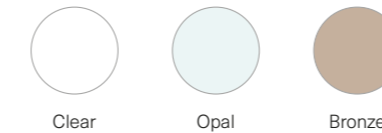
### Marlon FS

Available in  
**Marlon BioPlus**

#### EXTRUDED POLYCARBONATE FLAT SHEET

Sheet Size (mm)	Thickness (mm)
1220 x 2440	3, 4, 5 & 6
1250 x 2050	0.5, 0.75, 1, 1.5, 3, 4, 5 & 6
1250 x 2500	0.5, 0.75, 1 & 1.5
2050 x 3050	2, 3, 4, 5, 6, 8, 10, 12 & 15*

\*Subject to request



\*Subject to request. Minimum order quantities may apply.

#### APPLICATIONS

- Vertical glazing for internal applications e.g. partitions
- Safety and security glazing
- Sports courts
- Machine guards
- Vending equipment
- Protective screens and visors
- Illuminated and non-illuminated signage
- Light fixtures
- Displays
- Poster covers

#### SPECIALS



Anti-reflective option available\*

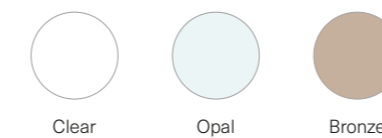
### Marlon FSX

Available in  
**Marlon BioPlus**

#### UV RESISTANT POLYCARBONATE FLAT SHEET

Sheet Size (mm)	Thickness (mm)
1220 x 2440	2, 3, 4, 5 & 6
2050 x 3050	2, 3, 4, 5, 6, 8, 10, 12 & 15*
2050 x 6110	3, 4, 5, 6, 8 & 10

\*Subject to request. Minimum order quantities may apply.



#### APPLICATIONS

- External vertical glazing
- Curved and flat rooflights and architectural roofing
- Sunrooms
- Canopies
- Covered walkways
- Sound barrier walls
- Bus shelters, tram stops and taxi stands
- Exterior signage, including illuminated signage

#### SPECIALS



Anti-reflective option available\*

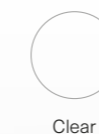
### Marlon FS Hard

Available in  
**Marlon BioPlus**

#### ABRASION RESISTANT POLYCARBONATE FLAT SHEET

Sheet Size (mm)	Thickness (mm)
2000 x 3000	2, 3, 4, 5, 6, 8, 10 & 12

Other thicknesses available on request.



#### APPLICATIONS

- Safety and security glazing e.g. prison windows
- Anti-vandal glazing
- Anti-graffiti protection for displays
- Protective visors and shields
- Street furniture e.g. bus shelters
- Guard rails
- High traffic vehicle windows e.g. train windows
- Sound barriers

**Marlon  
BioPlus** 



# Next level sustainability

Specify the Marlon BioPlus option to reduce the embodied carbon in your project.

By switching from fossil based PC to resins certified as being produced from 89% bio-circular attributed material via mass balancing, we can offer Polycarbonate sheets with dramatically reduced impact on the environment.

The effect of using climate neutral resins in sheet manufactured with 100% renewable energy significantly reduces the embodied carbon associated with these sheets.



ISCC PLUS certified.  
Climate neutral, bio-circular attributed resin

**89%**

Replacement of fossil based raw material\*

**100%**

Renewable energy used in resin and sheet production



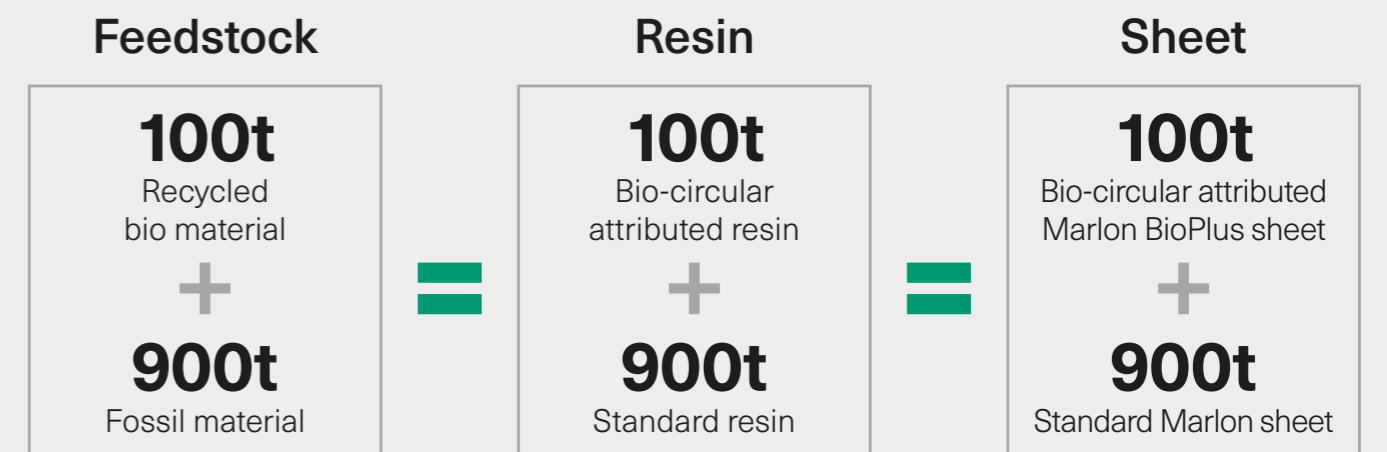
# Mass balancing explained

Mass Balancing is the plastic industry's innovative approach to deliver the next level of renewable resins.

It overcomes the practical production barriers to the substitution of fossil resources with bio-based recycled materials, e.g. used cooking oil, and accelerates the reduction in carbon emissions.

Mass balancing introduces measured amounts of bio-based materials early in the resin production process and allocates exactly the same amount to the finished resin. This allocation carries through to the Marlon sheet, which is identified and sold as a bio-circular attributed product.

**Certified Sustainability**  
Each order of Marlon Bioplus is covered by our ISCC plus certification to confirm that the bio based material has been sourced sustainably and allocated via our mass balancing system.







# Incredible Strength to Weight Ratio

Polycarbonate's strength to weight ratio makes it an ideal material for safety and security applications and an excellent alternative to heavier building materials.

## Features & Benefits



200 times stronger than glass with only half the weight



Excellent impact resistance, ideal for safety and security applications



Superb architectural solution where reliability in all weather conditions is a must



Rigid and self supporting allowing architectural spanning applications



Weight allows for architectural designs that could not be realised with heavier materials



Light weight means easier transport and handling at installation phase



Long term durability means lower maintenance





# Outstanding Technical Performance

Polycarbonate offers a wide range of technical properties that make it a solution in even the most challenging environments.

## Features & Benefits



Service temperature up to 100°C - suitable for high temperature internal or external environments



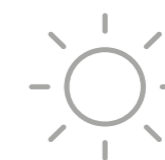
Excellent fire performance with certification available from Brett Martin's Technical Department



Good acoustic insulation properties making it suitable for outdoor sound barriers or indoor partitions



UV resistant option, Marlon FSX, with co-extruded double sided protection, cuts 98% of UV rays



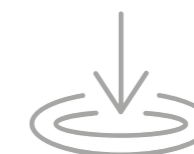
UV protection gives enhanced weatherability, preventing yellowing and loss of strength



UV protective glazing prevents fading of internal furniture or displays



Even in flat sheet format, Marlon offers better thermal insulation than glass



Abrasion resistance option. Marlon FS Hard resists marks, scratches, vandalism, graffiti, physical attack and withstands chemical contact



Excellent product durability - 10 year warranty for Marlon FSX 5 year warranty available for Marlon FS Hard

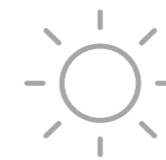




# Excellent Light Transmission

Polycarbonate's optical qualities make it ideal for applications requiring daylight or clear vision.

## Features & Benefits



High light transmission, 92% for 3mm clear



Reduced need for artificial light cuts building energy costs



Different tints and finishes offer different levels of light transmission and light diffusion to meet the designer's requirements



High optical clarity ideal for glazing and applications that require visual precision



Optical clarity combined with impact resistance is ideal for safety and security windows, visors and shields



UV protective glazing prevents fading of internal furniture or displays while maintaining levels of daylight



# Applications

Marlon's incredible strength to weight ratio, outstanding technical performance and excellent light transmission make it the ideal choice for a range architectural, industrial and visual communication applications.

## Construction & Glazing



With its strength, weight, light transmission, service temperature and fire performance, Marlon is an excellent material for construction and glazing applications. Add on our UV resistant and abrasion resistant options and Marlon has almost all internal and external applications covered.

- Vertical glazing
- Rooflights
- Sunrooms
- Canopies
- Covered walkways
- Sports courts
- Car ports

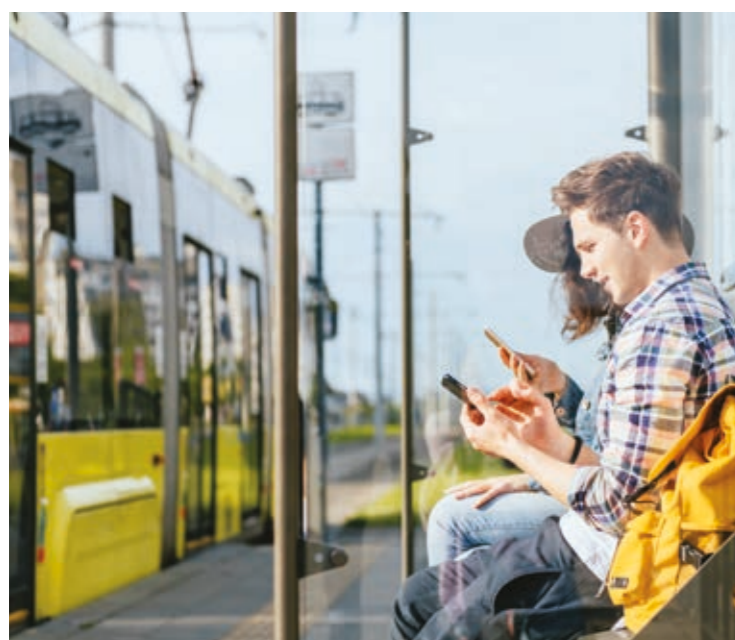
## Safety & Security



Marlon's excellent impact resistance and optical clarity combine to make it an ideal choice for safety and security applications. Easy to fabricate, it can be cut, bent or thermoformed into whatever shape is required to protect people or property.

- Partitions
- Safety glazing
- Security glazing
- Machine guards
- Visors

## Fabrication



Marlon can be easily fabricated – cut, drilled, cold curved, thermoformed, laminated, bonded and welded – allowing a range of fabricated applications to benefit from its strength, light weight, optical clarity and technical performance.

- Bus shelters
- Vehicle glazing
- Guard rails
- Shields
- Sound barriers
- Vending equipment

## Sign & Display



Marlon's impact resistance, weight and optical clarity combined with its print-ability make it perfect for sign and display applications. For environments with increased potential for scratches, marks, graffiti or vandalism, Marlon FS Hard's abrasion resistance offers an addition degree of performance.

- Signage
- Poster covers
- Sunrooms
- Traffic signage
- Light fixtures
- Point of sale
- Store fixtures





# Marlon FS

AVAILABLE IN  
**Marlon BioPlus**

Marlon FS polycarbonate provides 200 times more impact resistance than glass at only half the weight, making it the ideal solution for fabrication or internal glazing applications. Marlon FS can be thermoformed, fabricated and cold curved. Providing high impact resistance, Marlon FS is the preferred material for use in safety glazing, protective screening, machine guards and visors.

Marlon FS BioPlus, made with bio-circular attributed resin, is available across the entire Marlon FS range. Its material and processing properties are identical to the standard product.

## Applications

- Vertical glazing for internal applications e.g. partitions
- Safety and security glazing
- Sports courts
- Machine guards
- Vending equipment
- Protective screens and visors
- Illuminated and non-illuminated signage
- Light fixtures
- Displays
- Poster covers

## Features & Benefits

- Excellent impact resistance – 200 times greater than glass
- Lightweight - half the weight of glass
- High natural light transmission
- Optically clear
- Thermally insulating
- Offers design flexibility
- Suitable for thermoforming
- Ability to cold curve
- Service temperature up to 100°C
- Easy to handle, install and clean
- Excellent fire performance
- 100% recyclable

## Product Options

Sheet Size (mm)	Thickness (mm)
1220 x 2440	3, 4, 5 & 6
1250 x 2050	0.5, 0.75, 1, 1.5, 3, 4, 5 & 6
1250 x 2500	0.5, 0.75, 1 & 1.5
2050 x 3050	2, 3, 4, 5, 6, 8, 10, 12 & 15*

### Textures:

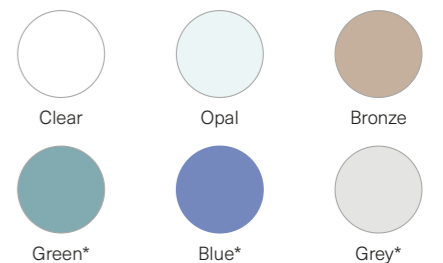
Embossed, Diamond Embossed\*, Crushed Ice\*

### Options\*:

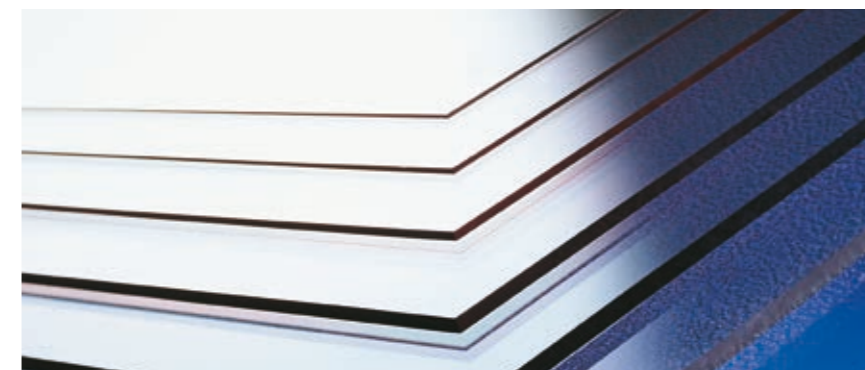
Strong Adhesion Film for heavy fabrication, anti-reflective surface

### Specials:

Special transparent, translucent and opaque options are available on request



\*Subject to request. Minimum order quantities may apply. Please contact Brett Martin for further information.



For further technical and installation information go to [brettmartin.com/marlonfs](http://brettmartin.com/marlonfs) or contact our Technical Department.





# Marlon FSX

AVAILABLE IN  
**Marlon BioPlus**

Marlon FSX is a flat polycarbonate sheet with dual sided UV protection which prevents 98% of damaging UV radiation from penetrating the sheet, making it perfect for external glazing applications. The UV coating enables longer sheet life expectancy in tough climatic conditions, prevents yellowing and guards against loss of strength, thereby reducing its lifetime environmental impact.

This superior glazing material is 200 times stronger but less than half the weight of glass. Combining UV protection, a wide service temperature range, impact and chemical resistance, light weight and high light transmission, Marlon FSX is ideal for architectural rooflights, barrel vaults, vertical glazing and specialist glazing applications.

Marlon FS BioPlus, made with bio-circular attributed resin, is available across the entire Marlon FS range. Its material and processing properties are identical to the standard product.

## Applications

- External vertical glazing
- Curved and flat rooflights and architectural roofing
- Sunrooms
- Canopies
- Covered walkways
- Sound barrier walls
- Bus shelters, tram stops and taxi stands
- Exterior signage, including illuminated signage

## Features & Benefits

- Enhanced protection against the effects of UV
- Service temperature up to 100°C
- 200 times greater impact resistance than glass
- Lightweight - half the weight of glass
- Optically clear with high light transmission
- Ability to cold curve
- Excellent fire performance
- 10 year warranty
- 100% recyclable

## Product Options

Sheet Size (mm)	Thickness (mm)
1220 x 2440	2, 3, 4, 5 & 6
2050 x 3050	2, 3, 4, 5, 6, 8, 10, 12 & 15*
2050 x 6110	3, 4, 5, 6, 8 & 10

### Textures:

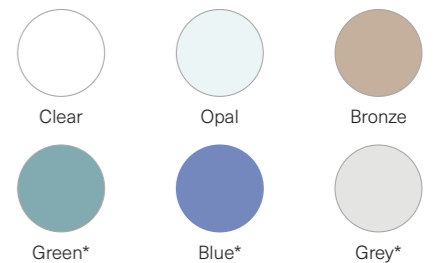
Embossed, Diamond Embossed\*, Crushed Ice\*

### Options:\*

Strong Adhesion Film for heavy fabrication, anti-reflective surface

### Specials:

Special transparent, translucent and opaque options are available on request



\*Subject to request. Minimum order quantities may apply. Please contact Brett Martin for further information.



For further technical and installation information go to [brettmartin.com/marlonfsx](http://brettmartin.com/marlonfsx) or contact our Technical Department.





# Marlon FS Hard

AVAILABLE IN  
**Marlon BioPlus**

Marlon FS Hard is a flat polycarbonate sheet with an abrasion and chemical resistant coating. The coating makes it ideal for the toughest glazing environments – high traffic areas where marks and scratches are inevitable, as well as areas where there is the potential for vandalism and graffiti, extending its lift expectancy and reducing its lifetime environmental impact.

Light in weight, but with a superior impact and abrasion resistance, Marlon FS Hard provides uncompromised protection to people and property across a diversity of applications including safety glazing, guardrails, machine guards, riot shields, visors, train windows and other glazing applications with an increased likelihood of damage.

Marlon FS BioPlus, made with bio-circular attributed resin, is available across the entire Marlon FS range. Its material and processing properties are identical to the standard product.

## Applications

- Safety and security glazing e.g. prison windows
- Anti-vandal glazing
- Anti-graffiti protection for displays
- Protective visors and shields
- Street furniture e.g. bus shelters
- Guard rails
- High traffic vehicle windows e.g. train windows
- Sound barriers

## Features & Benefits

- Double sided advanced abrasion resistance
- Excellent impact resistance – 200 times greater than glass
- Lightweight - half the weight of glass
- Optical clarity and high light transmission
- Service temperature up to 100°C
- Easy to handle, install and clean
- Excellent fire performance
- 5 year warranty
- 100% recyclable

## Product Options

Sheet Size (mm)	Thickness (mm)
2000 x 3000	2, 3, 4, 5, 6, 8, 10 & 12

Other thicknesses available on request.

**Option:**  
Coating on one side only to allow reverse printing\*

**Specials:**  
Special transparent\*, translucent\* and opaque\* options



Clear

\*Subject to request. Minimum order quantities may apply. Please contact Brett Martin for further information.



For further technical and installation information go to [brettmartin.com/marlonfshard](http://brettmartin.com/marlonfshard) or contact our Technical Department.



# Product Options

Marlon

Marlon  
FS Hard

Marlon  
FSX

Marlon  
FS BioPlus 

## Material Properties

Property	Standard	Value	Unit
Density	ISO 1183-1	1.2	g/cm <sup>3</sup>
Transmission at 3mm	ISO 13468-1	90	%
Flexural Strength	ISO 178	97	MPa
Tensile Strength at Yield	ISO 527	62	MPa
Heat Deflection Temperature	ISO 75-2	145	°C
Thermal Expansion	ISO 11359-2	0.065	mm/m°C
Service Temperature - Long Term	-	-20 to +100	°C
Service Temperature - Short Term Unstressed	-	-40 to +130	°C

## Processing

- Fabrication
- Routing, milling, sawing
- Guillotining, die cutting
- Drilling
- Cold curving
- Thermoforming (Marlon FS)
- Welding
- Laminating
- Bonding
- Vinyl application
- Digital and screen printing (Marlon FS)

## Marlon FS BioPlus

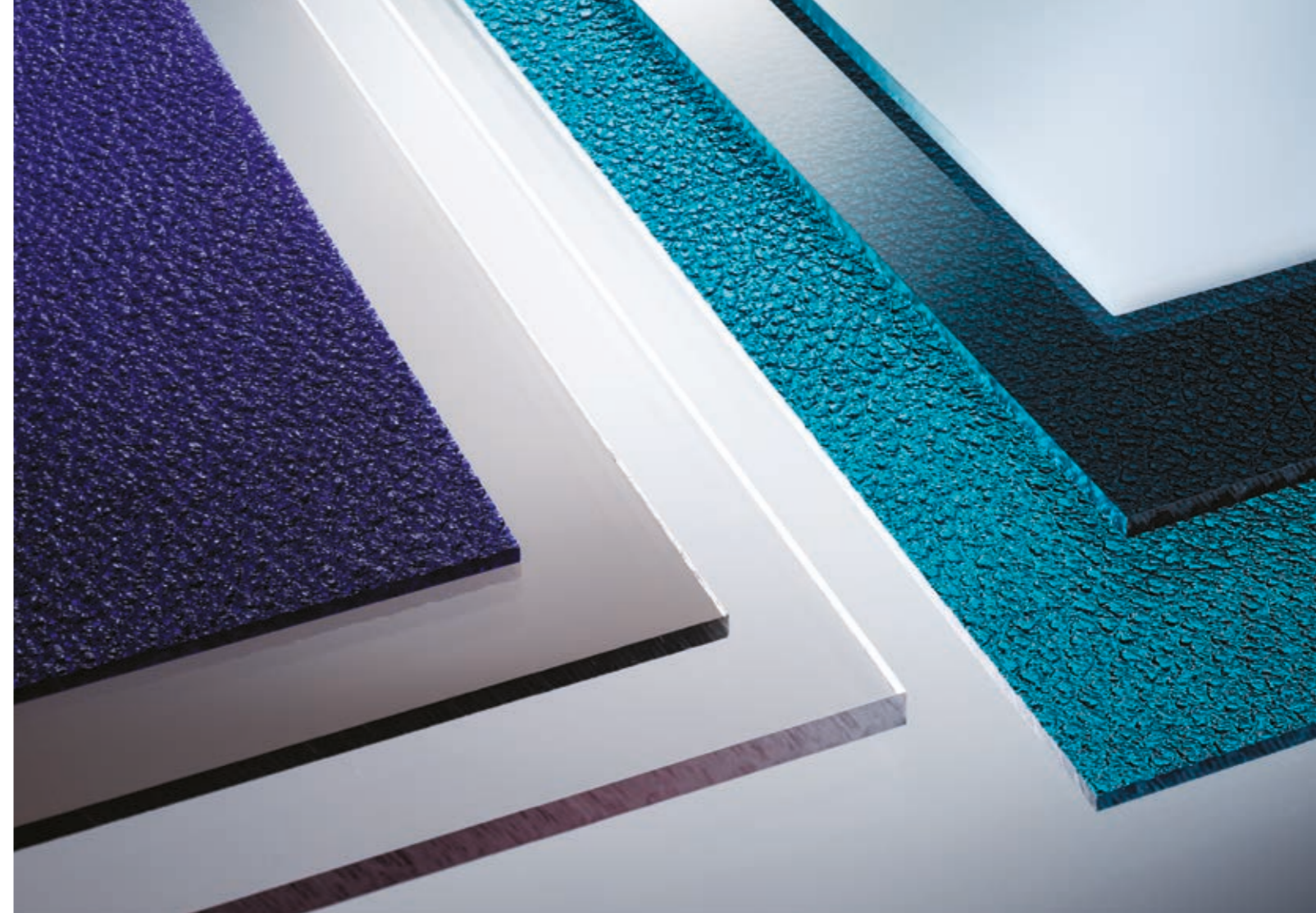
Marlon FS BioPlus, made with bio-circular attributed resin, is available across the entire Marlon FS range. Its material and processing properties are identical to the standard product.

## Strong Adhesion Film

A Strong Adhesion Film (SAF) is available for the Marlon FS and Marlon FSX polycarbonate product ranges, specifically aimed at high-end engineering and fabrication projects that require extra protection during repeated processing, including drilling, 3D milling, warm & cold bending, thermoforming and cutting.

The polycarbonate sheets that are used for these heavy fabrication projects, often go through different or aggressive mechanical processes before the end product is made. Offering an adhesion level three times that of standard film, SAF withstands these rigorous fabrication processes, protecting the surface of our polycarbonate sheet from scratching and abrasion.

The film is glue-free making it suitable for warming or bending. It is easy to remove without leaving a residue. It is also suitable for thermoforming, conditional on the shape of the design.





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**[brettmartin.com](http://brettmartin.com)**



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