

Polycarbonate

Mechanical Properties

Strength & Damage Resistance



Damage to glazing can be hazardous and expensive but our Marlon CS corrugated polycarbonate sheets 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 CS sheets will retain their physical properties in extreme weather conditions making them the ideal glazing solution for projects throughout the world. Marlon CS polycarbonate can withstand temperature extremes from -40°C to 100°C (-40 to 212°F) long term and up to 130°C short term. No other glazing material can offer this combination of impact resistance and wide working temperature range.

UV Protection



Our Marlon CS polycarbonate sheets 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



Marlon CS has good resistance to acids, aliphatic hydrocarbons and alcohols; common environmental pollutants and marine environments do not have a detrimental effect.

Contact with plastisol coated metal sheets, wet wood preservatives, solvents and alkali cleaners should be avoided.

Fire Performance



Our Marlon CS sheets exhibit excellent fire performance and in the event of a fire 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 CS sheets are manufactured under Quality Management Systems registered to BS EN ISO 9001. The sheets carry limited warranty. For full warranty details please contact our Technical department.

Testing



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

Marlon CS BioPlus



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

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 °C
	Linear thermal expansion	DIN53752	6.8 x 10 ⁻⁵ m/m.K
	Maximum service temperature	Permanent	100 °C
	- no loading	Short term	130 °C