



ENERGY EFFICIENT MULTIWALL POLYCARBONATE SHEET

The combination of quality light transmission and high thermal insulation provided by Marlon ST Energy Efficient structures provides a greener alternative to artificial lighting and promotes more efficient heating and cooling. Available in a range of structures up to 55mm achieving U-values as low as $0.83\text{W/m}^2\text{K}$ * Marlon ST is one of the most energy efficient glazing materials available, with better insulation properties than most triple glazing or argon filled double glazing, this glazing material offers a highly effective means of reducing the energy consumption and carbon footprint of a building.

*U-value of $0.83\text{W/m}^2\text{K}$ achieved with Marlon ST 55mm tenwall sheet



marlon **st**
LONGLIFE

OPTIONS

- **Fivewall:** 16mm, 25mm
- **7Xwall:** 20mm, 25mm
- **Sevenwall:** 32mm, 35mm
- **Tenwall:** 32mm, 35mm, 40mm, 55mm
- **Colour:** Clear, Bronze, Opal
- **Special layers:** Double sided UV protection; Dual Tints

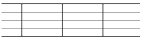
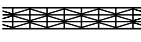

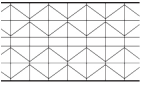
MAIN BENEFITS

- Thermally insulating achieving U-Values as low as $0.83\text{W/m}^2\text{K}$
- Brings in high levels of natural light
- Reduces the need for artificial lighting
- Energy saving
- Helps to reduce the overall carbon footprint of a building
- Light weight and easily handled
- High optical clarity
- Damage and impact resistance
- Weatherable Longlife UV protection
- Excellent fire performance
- 10 year warranty

APPLICATIONS

- Conservatories
- Rooflights
- Vertical glazing

U-VALUES

| STRUCTURE | | SHEET THICKNESS | U-VALUE W/m ² K |
|-----------|---|-----------------|----------------------------|
| FIVEWALL |  | 16 | 1.9 |
| | | 25 | 1.6 |
| 7XWALL |  | 20 | 1.6 |
| | | 25 | 1.4 |
| SEVENWALL |  | 32 | 1.25 |
| | | 35 | 1.2 |
| TENWALL |  | 32 | 1.14 |
| | | 35 | 1.08 |
| | | 40 | 0.99 |
| | | 55 | 0.83 |

STANDARD DIMENSIONS

| STRUCTURE | SHEET THICKNESS mm | RIB SPACING mm | MAXIMUM SHEET WIDTH mm | WEIGHT g/m ² | FALLING DART Nm |
|-----------|-----------------------|-------------------|---------------------------|----------------------------|--------------------|
| Fivewall | 16 | 20 | 2100 | 2700 | >27 |
| 7Xwall | 20 | 20 | 2100 | 2800 | >27 |
| Fivewall | 25 | 20 | 2100 | 3400 | >27 |
| 7Xwall | 25 | 20 | 2100 | 3100 | >27 |
| Sevenwall | 32 | 20 | 2100 | 3600 | >27 |
| Sevenwall | 35 | 20 | 2100 | 3900 | >27 |
| Tenwall | 32 | 20 | 1250 | 3600 | >27 |
| Tenwall | 35 | 20 | 1250 | 3900 | >27 |
| Tenwall | 40 | 20 | 1250 | 4200 | >27 |
| Tenwall | 55 | 20 | 1250 | 5000 | >27 |

PHYSICAL PROPERTIES

| PROPERTIES | | TEST METHOD | VALUE | UNITS |
|-----------------------|-------------------------------------|-------------|----------------------|-------------------|
| Mechanical Properties | Tensile strength at yield | DIN 53455 | >60 | MPa |
| | Tensile Strength at break | DIN 53455 | >70 | MPa |
| | Elongation at yield | DIN 53455 | 6-8 | % |
| | Elongation at break | DIN 53455 | >100 | % |
| | Modulus of elasticity | DIN 53457 | >2300 | MPa |
| | Charpy notched impact strength | DIN 53453 | >50 | kJ/m ² |
| Physical Properties | Specific gravity | DIN 53479 | 1.20 | g/cm ³ |
| | Refractive index nD25 | DIN 53491 | 1.586 | |
| | Water absorption, 24h @23°C | DIN 53495 | 0.35 | % |
| | Water permeability (thickness 1mm) | DIN 53122 | <2.28 | g/m ² |
| Thermal Properties | Softening temperature Vicat 'B' | DIN 53460 | 148 | °C |
| | Deflection temperature, load 1.8MPa | DIN 53461 | 142 | °C |
| | Linear thermal expansion | DIN 53752 | 6.8X10 ⁻⁵ | m/m.K |
| | Thermal conductivity | DIN 52612 | 0.2 | W/m.K |
| | Maximum service temperature | | Permanent 100 | °C |
| | - no loading | | Short Term 130 | °C |

ACCESSORIES

- U profiles
- H profiles
- Polycarbonate Connecting Profiles
- F profiles
- Aluminium Glazing Bars
- Aluminium Glazing Tape
- Ventilating Tape
- Flashing Tape
- Fixings
- Silicone Sealer



FIRE PERFORMANCE

Marlon ST will in most cases meet the following classifications

| TEST METHOD | CLASSIFICATION |
|-------------|----------------|
| EN 13501 | B-s1, d0 |

Classification is subject to structure and thickness.
For further details please contact our technical department.

WARRANTY



Marlon polycarbonate is also available in a range of flat, corrugated and corrugated multiwall sheet options. A range of accessories is also available. For further details please visit our website.



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