



UGS Longlife Polycarbonate is a widely used engineering thermoplastic which is characterised by outstanding mechanical, optical and thermal properties. Produced from high quality virgin Bayer polycarbonate resin, UGS Longlife polycarbonate sheet is an ideal material for a wide range of architectural roofing and glazing applications. UGS Longlife polycarbonate sheet offers excellent impact strength, weather resistance, heat insulation, high transparency, UV-stability, flame resistance and electrical and dielectric properties.

TYPICAL APPLICATIONS

- **ARCHITECTURAL GLAZING** - With outstanding clarity and weatherability UGS Longlife Polycarbonate has many glazing applications, such as greenhouses, awnings and roof covers, hotel atriums and shopping centres, factory and warehouse. Examples of applications include glazing in roof and walls, skylights, acoustic barriers, agricultural greenhouses, indoor partitions, advertising and signage, protective barriers and safety guards, and so on.
- **INTERIOR DESIGN** - UGS Longlife Polycarbonate sheet has various colours and textures available for various decorative applications. Make a feature with diffused light or create an attractive partition.
- **SOUND BARRIERS** - UGS Longlife Polycarbonate not only has good acoustic insulation quantities in both residential and commercial applications, but can create privacy screens that look attractive.
- **SAFETY & SECURITY** - Due to its high impact resistance and transparency, UGS Longlife Polycarbonate is suitable for machine guards and protective barriers.
- **MANUFACTURING** - Shatterproof containers and shapes can be formed from UGS Longlife Polycarbonate. An endless range of sizes and shapes are obtainable with its outstanding dimensional stability and ease of fabrication.

ADVANTAGES

- **HIGH IMPACT STRENGTH** - Our polycarbonate sheet is virtually unbreakable and able to withstand extreme abuse. Its impact strength is 25 times greater than tempered glass and 10 times greater than acrylic. Thus, it is not easily damaged during transportation or installation.
- **GOOD LIGHT TRANSMISSION** - Providing long-lasting clarity over a wide range of weather conditions and environments. Up to 86% light transmission, UGS Longlife solid polycarbonate is ideally suited to a wide variety of building and construction applications which requires good light transmission.
- **SOUND REDUCTION** - Installing our polycarbonate sheet into single or in over-glazing with glass meets the acoustic requirements for today's glazing.
- **EASY INSTALLATION** - Recommended for curved installations, our polycarbonate sheet can be cold formed into gentle curve which make it ideal for skylights, covered walkways, barrel vaults etc.
- **LIGHT WEIGHT** - Another reason why polycarbonate is used in many construction projects. At half the weight of glass, it can be installed quickly and reduces handling equipment and installation cost.
- **LONGEVITY** - Superior longevity and resistance to the effects of weather is achieved by co-extruding a 50-micron UV protective layer onto both sides of each sheet.
- **FLAME RETARDANCY** - Self extinguishing, does not encourage flames or give off toxic gases.
- **THERMAL STABILITY** - Minimal property change within -20 to 120 degrees Celsius
- **THERMALLY EFFICIENT** - Good thermal insulation
- **ACOUSTIC INSULATION** - Superior sound insulation, ideal for creating sound barriers.
- **FORMABILITY** - Can be fabricated and formed with relative ease.

Weathering resistance

UGS Longlife Polycarbonate Sheets (Solid) show excellent weathering resistance, which guarantees their impact strength even after many years. Since their introduction the sheets have been examined in an intensive test program, including accelerated ageing tests and real-time outdoor exposure. The sheets are provided with a 10-year warranty on unbreakability and on optical properties.

Warranty

Universal Glazing Systems offers a full 10-year replacement Warranty on UGS Longlife Polycarbonate Sheet.

Caution: Polycarbonate glazing may be affected by certain substances that may result in surface cracking and premature degradation. Do not expose the sheets to petrol, benzene, ketones, acetone, phenols, aromatic and chlorinated hydrocarbons, abrasive solvents and cleaners, petroleum based paints, etc...

SIZE RANGE

Sheet Thicknesses	4mm	6mm	8mm	10mm
Sheet Widths	580mm-2100mm			
Sheet Lengths	up to 12,000mm			
Colours	Clear, Opal, Yellow, Green, Blue, Bronze, Silver, Green-Blue, Red, Gray, Titanium, Pearl, Platinum			
Finishes	Solar Control, Light Diffused, Abrasion Resistant, Embossed and Matt UV			

There is a large range of sizes, colours and finishes available however MOQ's and lead-times apply. Check www.UGS.co.nz for a list of locally stocked UGS Longlife Polycarbonate sheets.

Physical Properties	Typical Values				Test Conditions	Standard
Density	1200kg/m ³					ISO 1183-1
Area Weight	4mm = 4.8kg/m ²	6mm = 7.2g/m ²	8mm = 9.6kg/m ²	10mm = 12kg/m ²		
Water Absorb (saturation)	0.30%				Water temperature 23°C	ISO 62
Water Absorb (equilibrium)	0.12%				Water temp 23°C, 50%RH	ISO 62
Refractive Index	1.587				Procedure A	ISO 489
Light Transmission (Clear)	4mm = 87%	6mm = 86.5%	8mm = 85.5%	10mm = 84%		DIN 5036
Tensile Modulus	2350MPa				1mm/min	ISO 527-1,2
Minimum Bend Radius	4mm - 700mm	6mm = 900mm	8mm = 1200mm	10mm = 1500mm		
Yield Stress	>60Mpa				50mm/min	ISO 527-1,2
Yield Strain	6%				50mm/min	ISO 527-1,2
Nominal strain at break	>50%				50mm/min	ISO 527-1,2
Flexural Modulus	2350MPa				2mm/min	ISO 178
Flexural Strength	90 Mpa				2mm/min	ISO 178
Charpy impact strength	non-break				23°C, without notch	ISO 179-1eU
Charpy impact strength	80P				23°C, with 3mm notch	ISO 179-1eA
Izod impact strength	90P				23°C, with 3.2mm notch	ISO 180-A
Service Temperature	- 20°C to 120°C				Without load	
U Value	4mm = 5.33W/m ² .K	6mm = 5.09W/m ² .K	8mm = 4.84W/m ² .K	10mm = 4.6W/m ² .K		
Vicat softening temperature	148°C				50N, 50°C/h	ISO 306
Thermal conductivity	0.20 W/(m.K)				23-degree C	ISO 8203
Coefficient of linear thermal expansion	0.065mm/m.C				23°C to 55°C	ISO 11359-1,2
Temp of deflection under load	128°C				1.80MPa	ISO 75-1,2
Temp of deflection under load	140°C				0.45MPa	ISO 75-1,2
Electrical strength	34kV/mm				1mm	IEC 60243-1
Volume resistivity	1E14 Ohm.m					IEC 60093
Surface resistivity	1E16 Ohm					IEC 60093
Relative Permittivity	3.1				100Hz	IEC 60250
Relative Permittivity	3				1Hz	IEC 60250
Dissipation Factor	5 (10 to the power of 4)				100Hz	IEC 60250
Dissipation Factor	95 (10 to the power of 4)				1Hz	IEC 60250

* These values are measured on injection molded samples, and are not intended for specification purposes.

Fire Rating			Oxygen index (LOI) ISO 4589-2 Method A:28%	
	Standard	Rating	Thickness	Colour
Germany	DIN 4102	B2	4mm - 10mm	Clear
UK	BS 476 Part 7	Class 1Y	4mm - 10mm	Clear
France	NF P 92-501 & 505	M2	2mm - 15mm	Clear
	NF F 16-101 & 102	F2	2mm - 15mm	Clear
Europe	EN 13501-1	B s1 d0	4mm - 6mm	Clear
USA	UL94	V0	4mm - 10mm	Clear

Fire certificates are limited in time and scope. The indicated fire rating was tested on new/unweathered polycarbonate sheet in accordance with the indicated fire classification standards.

ORIENTATION

UV 2 - Sides - UGS Longlife polycarbonate has a UV protective layer on both sides, therefore either side can face the sun.

CURVING

UGS Longlife polycarbonate sheet can be bent without thermal processing. Refer to the specification table for minimum bending radius.

CUTTING

If cutting is required, use a circular saw with a fine tooth blade.

DRILLING

If holes are required, this material can be drilled, however, please consider drilling holes oversize {approx 50 % larger than the fastener diameter} to accommodate thermal expansion when using fasteners for fixing sheet in position.

ADHESIVES

Use only neutral cure adhesives with UGS Longlife Polycarbonate sheet. Caution : Do not use acidic or alkaline adhesives or sealants as this could cause this material to deteriorate prematurely.

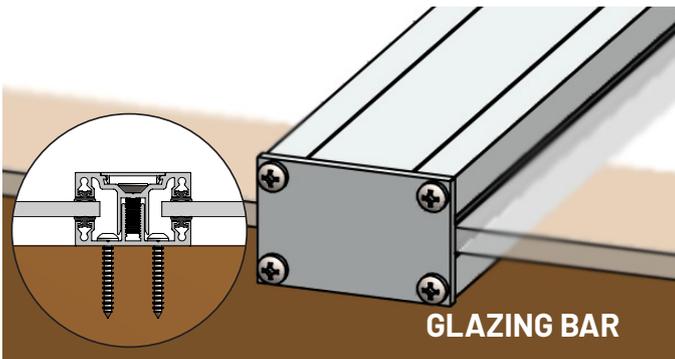
STORAGE

Sheets should be stored on a flat surface, indoors, or under shelter until they are ready for use. Do not leave stacked sheets exposed to direct sunlight for any prolonged period of time.

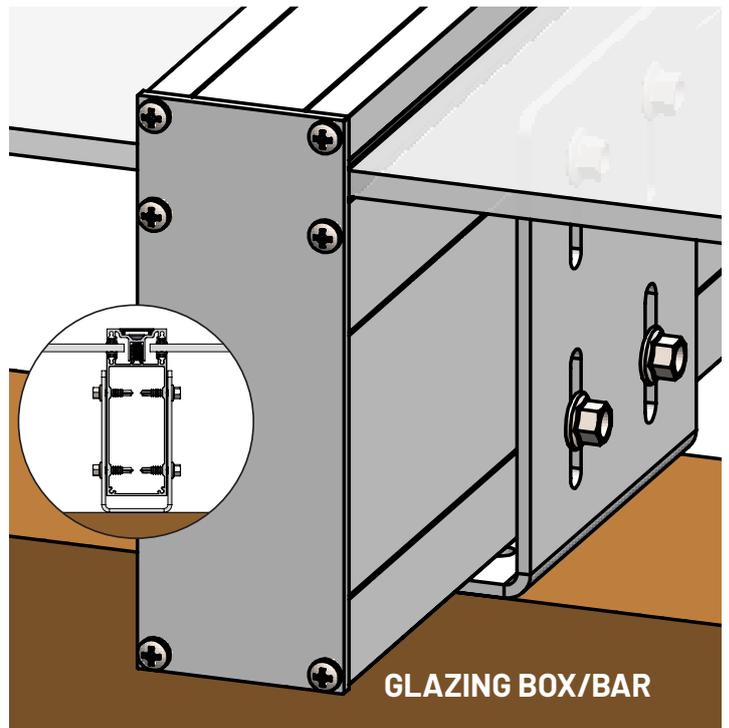
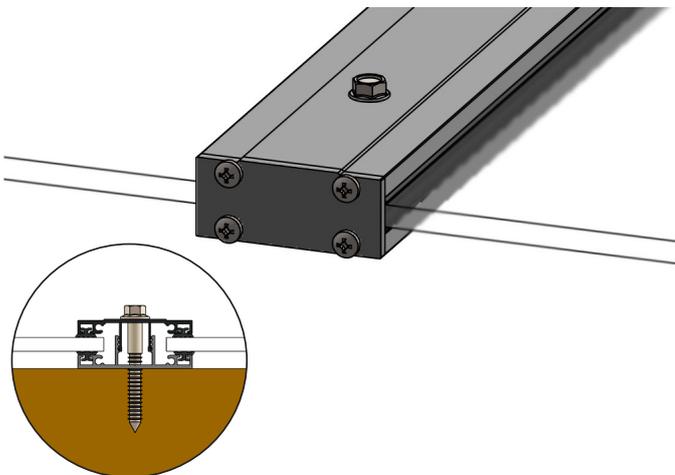
CLEANING

Clean the exterior surface of the sheet with warm water and mild soap (i.e. dish washing liquid). Use a soft sponge or cloth and gently wash in an up/down motion.

CLEARSPAN GLAZING SYSTEM- BAR AND BOX/BAR



ECONOGLAZE SYSTEM



Available From: