



# TECHNICAL DATA SHEET (TDS)

## POLYCARBONATE

### PRODUCT IDENTIFICATION

- **Product Name:** Polycarbonate
- **Material Type:** Thermoplastic – Polycarbonate (PC)
- **Details:**
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- **TDS Number:** MISCO – TDS - 005
- **TDS Date:** 01/12/2024
- TDS Version: 1

### PRODUCT DESCRIPTION

Polycarbonate is a durable, high-performance thermoplastic designed for applications requiring exceptional optical clarity and impact resistance. Offering up to 250 times the impact strength of glass and significantly outperforming acrylic in mechanical durability, Polycarbonate is a preferred material where safety, transparency, and toughness are critical. It maintains high light transmission even in thicker gauges and resists shattering under mechanical stress, making it ideal for protective glazing and machine guards.

The material also exhibits excellent dimensional stability, low moisture absorption, and good thermal resistance, with continuous service temperatures reaching up to 120°C. It performs reliably across a range of environmental conditions and remains stable under UV exposure when specified in UV-stabilised grades.

### NEMA GRADE

**NEMA Grade:** Not applicable. Polycarbonate is a thermoplastic material and is not classified under NEMA grades, which apply to thermoset insulating materials.

## CLASS

Polycarbonate typically meets UL 94 V-2 flammability classification, which is suitable for general-purpose electrical and industrial applications where moderate flame resistance is acceptable. For environments requiring enhanced fire performance, UL 94 V-0 flame-retardant grades are available on request.

Polycarbonate inherently exhibits self-extinguishing properties and does not readily support combustion, making it suitable for enclosures, guards, and covers in electrical assemblies. Specific grades can also meet additional requirements under EN 13501 or FMVSS 302 upon consultation and application review.

## MILITARY SPECIFICATIONS AND TYPE

Polycarbonate used in defence, aerospace and military applications is typically supplied under the following U.S. Military and Federal specifications:

### MIL-P-11268

- Historic military specification for polycarbonate sheet.
- Covers clear, high-impact, transparent plastic sheets for protective glazing.
- Replaced by Federal Specification L-P-393.

### L-P-393 (Federal Specification)

- Standard for Polycarbonate, Transparent, Impact-Resistant Sheets.
- Defines requirements for dimensions, optical clarity, impact performance and quality.
- Still referenced in defence and aviation support documentation.

### MIL-STD-810 (Environmental Test Standard)

Polycarbonate components may be required to meet environmental tests such as:

- Temperature cycling
- Humidity
- Shock & vibration.
- Sand, dust, salt fog.
- UV / solar exposure  
(This standard applies to *end-use parts*, not the raw material.)

### MIL-STD-454 (General Requirements for Electronic Equipment)

- Polycarbonate is commonly used for covers, shields and barriers acceptable under this standard.

## FAA / Aerospace Compliance (Related to Military-Airworthiness)

Although not a MIL spec, defence aviation often requires:

- FAR 25.853 – Flammability (for aircraft interior components)
- FAR 25.855 / 25.856 – Heat release & smoke emission (for speciality grades)

## MIL-I-24768 Series (Thermoset Composites Only)

*Note: Polycarbonate is not classified under MIL-I-24768 (phenolic/epoxy/thermoset specification).*

However, defence procurement documents often group materials together — this is simply clarification for MISCO customers.

## COMMON MILITARY APPLICATION TYPES (Polycarbonate Grades)

- **General Purpose Transparent** – clear impact-resistant sheet for shields, guards, and windows.
- **Flame-Retardant Grade** – UL 94 V-0 polycarbonate for electrical and defence assemblies.
- **Abrasion-Resistant / Hard-Coated Grade** – for visor lenses, protective panels, and high-wear viewing windows.
- **UV-Stabilised Grade** – outdoor, marine and field-equipment use.
- **Anti-Static / ESD Grade** – for electronics, avionics and sensitive equipment covers.
- **Optical Grade** – high-clarity, low-birefringence sheet for lenses, instrument panels and precision viewing ports.

## KEY PROPERTIES

- **High Impact Strength** – exceptional toughness; resists cracking and breakage under load, vibration, and shock.
- **Excellent Optical Clarity** – high light transmission with low haze and minimal distortion.
- **Dimensional Stability** – maintains shape and tolerances under mechanical stress and temperature variation.
- **Electrical Insulation** – strong dielectric properties suitable for switchboards, covers and viewing windows.

- **Thermal Resistance** – high heat deflection temperature and stable performance in warm environments.
- **Low Moisture Absorption** – reliable electrical/mechanical performance even in humid conditions.
- **Good Chemical Resistance** – tolerates oils, greases, lubricants, and common industrial fluids.
- **Lightweight** – significantly lighter than glass while offering superior strength.
- **Machinability & Formability** – easy to cut, drill, routing, thermoform and cold-bend.
- **Weatherable Grades Available** – UV-stabilised and hard-coated options for outdoor use.
- **Flame Performance Options** – available in UL 94 V-2 and V-0 flame-rated grades.
- **Long Service Life** – resists wear, impact fatigue and environmental degradation.

## APPLICATIONS

- **Machine Guards & Safety Screens** – impact-resistant protection for CNC equipment, robotics, and automated lines.
- **Switchboard & Electrical Covers** – clear viewing windows and insulated inspection panels.
- **Busbar & Control Cabinet Sight Windows** – durable, transparent access points for monitoring live equipment.
- **Protective Enclosures & Housings** – shields for electrical, mechanical and process equipment.
- **Instrumentation & Monitoring Panels** – gauge covers, sensor windows and test-rig observation panels.
- **Lighting & Optical Components** – diffusers, lens covers and high-clarity protective fronts.
- **Transport, Rail & Automotive** – anti-vandal glazing, inspection covers and internal protective screens.
- **Aerospace, Defence & Military Systems** – tough transparent panels, protective visors, and impact-resistant housings.
- **Laboratory, Medical & Scientific** – splash guards, containment windows and equipment shields.
- **HVAC & Thermal Systems** – clear duct panels, airflow windows and inspection ports.

- **Food, Packaging & Pharmaceutical** – hygienic machine guards and clear operator-viewing panels.
- **General Engineering & OEM Fabrication** – CNC-machined polycarbonate plates, brackets, and custom components.

## INDUSTRIES SERVED

- **Switchboard Manufacturing & Electrical Distribution** – clear viewing windows, insulated covers, and protective guards.
- **Transformer, Motor & Generator Manufacturing / Rewinds** – inspection panels and protective housings.
- **Industrial Machinery, Automation & Robotics** – machine guards, operator screens and safety barriers.
- **Power Generation & Renewable Energy** – protective covers, sight windows and equipment shields.
- **Aerospace, Defence & Military Systems** – high-toughness transparent panels and protective enclosures.
- **Rail, Rolling Stock & Transport Infrastructure** – vandal-resistant glazing and inspection panels.
- **Automotive, EV & Heavy Vehicle Manufacturing** – internal guards, covers and inspection windows.
- **Mining, Metals & Heavy Industrial Processing** – impact-resistant viewing windows and equipment protection.
- **Oil, Gas, Petrochemical & Refining** – chemical-tolerant covers and clear equipment guards.
- **Electronics, Semiconductor & High-Tech Manufacturing** – protective housings and inspection panels.
- **Construction, Commercial & Building Services** – clear screens, glazing and durable safety barriers.
- **HVAC, Heating & Ventilation Systems** – airflow windows, duct inspection panels and protective covers.
- **Marine, Shipbuilding & Offshore Energy** – corrosion-resistant clear panels and equipment windows.
- **Laboratories, Medical & Scientific Facilities** – containment panels, splash shields and equipment enclosures.
- **Food, Beverage & Pharmaceutical Manufacturing** – hygienic viewing panels and operator-safety guards.
- **General Manufacturing & OEM Fabrication** – CNC-machined polycarbonate components and custom assemblies.

## SPECIFICATIONS

Property	Details
<b>Product Form</b>	Sheets, rods, tubes, and CNC-machined components
<b>Standard Colour</b>	Clear (water-clear) — tinted and smoked options available
<b>Sheet Sizes</b>	1220 × 2440 mm 2050 × 3050 mm Custom cut-to-size available
<b>Thickness Range</b>	1.0 mm to 12 mm standard Up to 20–30 mm available on request
<b>Manufactured To</b>	ASTM D3935 (Polycarbonate resin) L-P-393 (Transparent, impact-resistant PC sheet) ISO 527 / ISO 178 / ISO 6603 (mechanical & impact)
<b>Flame Rating</b>	UL 94 V-2 (standard) UL 94 V-0 (flame-retardant grades)
<b>Compliance</b>	RoHS & REACH compliant Halogen-free & BPA-free grades available
<b>Finish Options</b>	Gloss clear (standard) Matte / anti-glare UV-stabilised Hard-coated (abrasion-resistant) Anti-static (ESD) grades
<b>Density</b>	~1.20 g/cm <sup>3</sup>
<b>Thermal Class</b>	Continuous service temperature: 115–120 °C

## TOLERANCES ON SHEET THICKNESS

Typical industry tolerances for extruded Polycarbonate sheets. Actual values may vary slightly by manufacturer and grade.

Nominal Thickness	Typical Tolerance
<b>1.0 – 2.0 mm</b>	± 0.15 mm
<b>3.0 – 6.0 mm</b>	± 0.20 mm
<b>8.0 – 12.0 mm</b>	± 0.30 mm
<b>12.0 – 20.0 mm</b>	± 0.40 mm
<b>25 mm and above</b>	± 0.50 mm

## MECHANICAL PROPERTIES

Typical values (general-purpose Polycarbonate)

Property	Unit	Typical Value	Test Method / Standard
<b>Density</b>	g/cm <sup>3</sup>	~1.20	ASTM D792
<b>Tensile Strength</b>	MPa	60–70	ASTM D638
<b>Tensile Modulus</b>	GPa	2.2–2.4	ASTM D638
<b>Tensile Elongation at Yield</b>	%	6–8	ASTM D638
<b>Tensile Elongation at Break</b>	%	80–120	ASTM D638
<b>Flexural Strength</b>	MPa	90–100	ASTM D790
<b>Flexural Modulus</b>	GPa	2.2–2.4	ASTM D790
<b>Compressive Strength</b>	MPa	70–90	ASTM D695
<b>Shear Strength</b>	MPa	55–60	ASTM D732
<b>Shear Modulus</b>	GPa	0.80–0.90	ASTM D732
<b>Izod Impact Strength (Notched)</b>	J/m	600–900	ASTM D256
<b>Izod Impact Strength (Unnotched)</b>	J/m	No break	ASTM D256
<b>Charpy Impact Strength</b>	kJ/m <sup>2</sup>	60–70	ISO 179
<b>Hardness (Rockwell)</b>	–	R118	ASTM D785
<b>Coefficient of Friction</b>	–	0.30–0.35	ASTM D1894
<b>Poisson's Ratio</b>	–	0.37	ASTM E132
<b>Water Absorption (24 h)</b>	%	0.15	ASTM D570
<b>Water Absorption (Saturation)</b>	%	0.35	ASTM D570

## ELECTRICAL PROPERTIES

Typical values for general-purpose Polycarbonate. Values vary with grade.

Property	Unit	Typical Value	Test Method / Standard
<b>Dielectric Strength</b>	kV/mm	15–20	ASTM D149
<b>Dielectric Constant (1 MHz)</b>	–	2.9–3.2	ASTM D150
<b>Dielectric Constant (60 Hz)</b>	–	3.0	ASTM D150
<b>Dissipation Factor (1 MHz)</b>	–	0.001–0.02	ASTM D150
<b>Dissipation Factor (60 Hz)</b>	–	0.0009	ASTM D150
<b>Volume Resistivity</b>	$\Omega$ -cm	$1 \times 10^{16}$	ASTM D257
<b>Surface Resistivity</b>	$\Omega$	$1 \times 10^{15}$	ASTM D257
<b>Arc Resistance</b>	Seconds	120–150	ASTM D495
<b>Comparative Tracking Index (CTI)</b>	Volts	250–600 (grade-dependent)	IEC 60112
<b>Insulation Resistance</b>	$\Omega$	Very high ( $10^{15}$ – $10^{16}$ )	ASTM D257
<b>Dielectric Breakdown Voltage</b>	kV	30–40 (depending on thickness)	ASTM D149

## THERMAL PROPERTIES

Typical values for general-purpose Polycarbonate.

Property	Unit	Typical Value	Test Method / Standard
Heat Deflection Temperature @ 1.8 MPa	°C	125–135	ASTM D648
Heat Deflection Temperature @ 0.45 MPa	°C	138–142	ASTM D648
Glass Transition Temperature (T <sub>g</sub> )	°C	~147	DSC / ASTM D3418
Continuous Service Temperature	°C	115–120	Manufacturer Data
Thermal Conductivity	W/m·K	0.19–0.22	ASTM E1530
Coefficient of Thermal Expansion	×10 <sup>-5</sup> / °C	6.5–7.0	ASTM D696
Specific Heat Capacity	J/kg·K	1200	ASTM E1269
Brittleness Temperature	°C	Below –20	ASTM D746
Flammability Rating	–	UL 94 V-2 (Standard) UL 94 V-0 (FR Grades)	UL 94
Ignition Temperature	°C	~450	Manufacturer Data
Thermal Index (Electrical)	°C	115–130	UL 746B
Thermal Index (Mechanical)	°C	110–125	UL 746B

## CHEMICAL RESISTANCE

General-purpose Polycarbonate. Performance varies with temperature, stress, and exposure duration.

Chemical / Group	Resistance	Notes
<b>Water (Hot/Cold)</b>	Excellent	Stable; very low moisture absorption.
<b>Oils &amp; Lubricants</b>	Excellent	Resistant to mineral oils, hydraulic oils, greases.
<b>Diesel, Kerosene</b>	Good	Slight swelling possible with prolonged exposure.
<b>Alcohols (Methanol, Ethanol, IPA)</b>	Poor–Fair	Can cause stress cracking; avoid prolonged contact.
<b>Acids – Dilute</b>	Fair–Good	Resistant to weak acids; monitor for stress cracking.
<b>Acids – Strong (HCl, H<sub>2</sub>SO<sub>4</sub>, HNO<sub>3</sub>)</b>	Poor	Not recommended.
<b>Alkalis – Dilute</b>	Fair	Limited resistance; may haze or embrittle over time.
<b>Alkalis – Strong (Sodium Hydroxide, Ammonia)</b>	Poor	Causes cracking and degradation.
<b>Salts &amp; Brines</b>	Excellent	Highly resistant; suitable for marine splash zones.
<b>Bleach (Sodium Hypochlorite)</b>	Poor	Causes stress cracking and surface whitening.
<b>Aromatic Solvents (Toluene, Xylene)</b>	Poor	Rapid attack; avoid all contact.
<b>Ketones (Acetone, MEK)</b>	Poor	Severe stress cracking and dissolution.
<b>Esters</b>	Poor	Causes crazing and cracking.
<b>Hydrocarbons (Aliphatic)</b>	Fair–Good	Generally safe at lower temperatures.
<b>Glycols</b>	Good	Compatible in controlled industrial environments.
<b>Detergents &amp; Mild Cleaners</b>	Good	Avoid highly alkaline or solvent-based cleaners.

## KEY NOTES

- Polycarbonate is not solvent-resistant — avoid alcohols, ketones, esters, and aromatic solvents.
- Stress + solvent exposure = rapid cracking (very common failure mode in industry).
- For cleaning: use mild detergents only, never solvent-based cleaners.
- UV-stabilised grades improve outdoor durability but do not improve solvent resistance.

## PROCESSING AND MACHINING CONSIDERATIONS

### General Machining

- Polycarbonate machines cleanly using standard woodworking and metalworking tools.
- Sharp carbide tooling is recommended to minimise heat build-up and prevent edge whitening or stress.
- Maintain consistent feed rates to avoid melting and gumming on the tool.

### Cutting

- CNC routing, sawing, and laser cutting are suitable.
- Use fine-tooth blades designed for plastics.
- Support sheets to prevent vibration and ensure straight, clean cuts.

### Drilling

- Use sharp, slow-helix drill bits designed for plastics.
- Drill at moderate speeds with light pressure to avoid stress cracking.
- Back the material with a rigid support to prevent breakout.

### Routing

- Carbide two-flute or single-flute cutters provide the best finish.
- Remove heat effectively—too much heat can cause melting at the edge.

### Bending & Forming

- Polycarbonate can be cold bent at shallow angles; deeper bends require heat forming.
- Pre-dry material at 120°C if thermoforming to remove moisture and prevent bubbles.
- Heat evenly to avoid internal stresses.

## **Thermoforming**

- Works well in controlled heating conditions (160–190°C typical forming range).
- Pre-drying is critical for thick sheets to avoid moisture-related defects.
- Cooling must be uniform to prevent warping.

## **Bonding & Assembly**

- Mechanical fastening is preferred for structural assemblies.
- Solvent bonding must be used cautiously — stress and solvent exposure can trigger crazing.
- Use compatible adhesives specifically designed for polycarbonate.

## **Finishing**

- Edges can be sanded and polished for optical applications.
- Hard-coated grades improve scratch resistance for high-wear environments.

## **Stress Relief**

- Annealing after machining reduces internal stresses and helps prevent cracking.
- Typical annealing temperature: ~120°C, followed by slow cooling.

## **Cleaning**

- Avoid all solvent-based cleaners.
- Use mild detergent and clean, non-abrasive cloths.
- Do not use alcohols, acetone, MEK, or ammonia-based cleaners — high risk of crazing.

## **CNC Considerations**

- Maintain moderate spindle speeds and high feed rates to reduce localised heating.
- Use air blast or light mist cooling where appropriate.
- Securely clamp sheets to prevent chatter and ensure dimensional accuracy.

## **SHEET HANDLING BEFORE MACHINING**

### **Storage Conditions**

- Store sheets flat and fully supported to prevent bowing or warping.
- Keep material in a dry, temperature-stable environment (ideally 15–25°C).
- Avoid direct sunlight, heat sources, or high-humidity areas.
- Leave the protective film intact until machining begins.

## Acclimatisation

- Allow sheets to reach workshop temperature before machining (minimum 24 hours).
- Sudden shifts from cold storage to warm machining conditions can cause warping and internal stress.

## Inspection Prior to Use

- Inspect both sides for scratches, abrasions, or impact marks — damaged areas can initiate cracking during machining.
- Check edges for chips or stress marks.
- Confirm sheet flatness; warped sheets should be conditioned or rejected.

## Moisture Considerations

- While polycarbonate absorbs minimal moisture, thicker sheets ( $\geq 6$  mm) may require:
  - Pre-drying at 105–120°C for 2–4 hours prior to thermoforming.
  - This prevents bubble formation and optical defects.
- For standard routing/cutting, pre-drying is typically not required unless moisture contamination is suspected.

## Protection of Surfaces

- Maintain the protective masking film during cutting, drilling, and routing to minimise scratching.
- Use clean, soft supports (rubber pads or MDF) beneath the sheet to prevent imprinting.

## Handling & Lifting

- Lift vertically with two people for large sheets — bending under its own weight can create stress lines.
- Use suction lifters or rigid carriers for oversized or thick-gauge sheets.
- Avoid dragging sheets across benches or stacking surfaces.

## Fixturing Preparation

- Ensure the sheet is fully supported and clamped evenly across its surface.
- Use anti-vibration supports to prevent chatter and sheet movement during CNC machining.

## Contamination Control

- Keep the work area free of oils, solvents, and coolant overspray — solvents can immediately craze polycarbonate.

- Only use mild, non-residue cleaners if required before machining.

## ENVIRONMENTAL COMPLIANCE

- **RoHS 3 Compliant**

Polycarbonate contains no restricted heavy metals or hazardous substances under the EU RoHS Directive (2015/863).

- **REACH Compliant**

Free from Substances of Very High Concern (SVHC) above allowable limits. Fully compliant with EU REACH regulations.

- **Halogen-Free Options Available**

Certain grades are formulated without halogenated additives to support low-toxicity, low-smoke applications.

- **BPA-Free Grades Available**

Food-contact and medical-grade formulations can be supplied on request.

- **Asbestos-Free**

Contains no asbestos fibres or mineral reinforcements.

- **Environmentally Safe & Non-Toxic**

Polycarbonate is stable, non-leaching, and does not release hazardous compounds under normal industrial use.

- **Low Emissions During Processing**

Produces minimal particulates and no significant VOC emissions during CNC machining or cutting.

- **Recyclable (Category 7 – Other Plastics)**

Can be mechanically recycled where facilities permit. Offcuts and scrap can be collected for reprocessing.

- **Meets Global Product Stewardship Requirements**

Compatible with sustainability and environmental management frameworks including ISO 14001 principles.

## **SUSTAINABILITY AND ENVIRONMENTAL IMPACT**

### **Material Longevity**

Polycarbonate delivers a long service life due to its exceptional impact resistance, durability, and stability under thermal and mechanical stress. Its extended lifespan reduces the frequency of replacement, lowering total material consumption over time.

### **Recyclability**

Polycarbonate is recyclable under Category 7 (Other Plastics). Offcuts, scrap, and end-of-life components can be mechanically reprocessed where appropriate recycling facilities exist. Many industrial recyclers accept PC for repelletising and secondary-use applications.

### **Low Emissions During Fabrication**

CNC machining and forming generate minimal particulate dust and no hazardous VOCs. The material does not release toxic fumes under standard machining conditions, supporting safer workshop environments.

### **Non-Toxic Composition**

Polycarbonate is inherently asbestos-free, free from restricted heavy metals, and available in halogen-free and BPA-free grades. It does not leach harmful chemicals during normal industrial use, making it suitable for environments with hygiene or safety sensitivity.

### **Reduced Waste Through Durability**

High impact strength and shatter resistance reduce the likelihood of breakage during handling or operation, significantly lowering waste volumes in comparison to brittle materials such as acrylic or glass.

### **Energy Efficiency in Use**

Because polycarbonate is lightweight, it can reduce system loads on frames, hinges, and support structures, contributing indirectly to lower energy demand in transport, automated systems, and industrial machinery.

### **Environmental Stability**

The material resists moisture absorption, corrosion, and degradation, making it suitable for long-term installations without requiring frequent replacement. UV-stabilised grades further extend outdoor service life.

### **Supports Sustainable Manufacturing Practices**

Polycarbonate production and use align with environmental management frameworks such as ISO 14001, enabling manufacturers and downstream users to adhere to sustainability and product stewardship obligations.

### **End-of-Life Considerations**

Although not biodegradable, polycarbonate is stable and non-leaching in landfill. Where recycling facilities are available, reclaiming and reprocessing the material significantly reduces environmental impact.

## **SAFETY INFORMATION**

### **General Safety**

- Polycarbonate is non-toxic, non-irritating, and safe to handle under normal industrial conditions.
- No hazardous ingredients are present in solid sheet, rod, or tube form.
- Material is asbestos-free, halogen-free (selected grades), and compliant with global chemical safety regulations.

### **Handling & Storage**

- Avoid dragging sheets across benches to prevent scratching or surface damage.
- Store flat, fully supported, and away from direct sunlight or heat sources.
- Keep protective masking in place until machining or installation.

### **Machining Safety**

- Cutting, drilling, and CNC machining may generate fine particulate chips — not hazardous but should be controlled.
- Use standard dust extraction or local ventilation to maintain clean air.
- Wear safety glasses, cut-resistant gloves, and standard PPE during fabrication.
- Avoid overheating during machining; excessive heat can cause molten chips that may adhere to skin or equipment.

### **Thermal Hazards**

- Polycarbonate is stable under normal heat exposure, but
  - Avoid open flames.
  - Avoid temperatures above 200°C, which may cause material decomposition.
- In the rare event of thermal decomposition (e.g., fire), use appropriate firefighting methods; combustion may release carbon monoxide or aromatic compounds.

### **Chemical Exposure**

- Do not expose polycarbonate to solvents such as acetone, MEK, toluene, xylene, alcohols, or strong alkalis.
- These substances can cause stress cracking, whitening, or rapid material failure.

- Avoid solvent-based cleaners entirely.

### **Cleaning**

- Use only mild soap and water or approved plastic cleaners.
- Never use ammonia-based, alcohol-based, or solvent-based cleaning agents.

### **Personal Protective Equipment (PPE)**

- Safety glasses or face shield during machining.
- Cut-resistant gloves when handling sharp-edged offcuts.
- Hearing protection if working with high-speed CNC or saw equipment.
- Dust mask or P2 respirator if machining generates airborne particles.

### **Fire Safety**

- Standard grades are UL 94 V-2; flame-retardant grades are UL 94 V-0.
- In case of fire, extinguishing media include water spray, foam, dry chemical, or CO<sub>2</sub>.
- Burning polycarbonate may produce smoke and gases — avoid inhalation.

### **Environmental & Disposal**

- Offcuts and scrap can be recycled where facilities exist (Plastic Identification #7).
- Dispose of waste polycarbonate in accordance with local regulations — material is non-hazardous.

### **Refer to Safety Data Sheet (SDS) for full details before handling.**

## **WARRANTY**

MISCO Australia warrants that all polycarbonate products supplied are free from defects in material and workmanship at the time of dispatch. This warranty applies only when the product is stored, handled, and installed in accordance with recognised industry practices and MISCO Australia's recommended guidelines.

### **Scope of Warranty**

- Covers defects arising from manufacturing faults, material non-conformance, or incorrect supply.
- Applies to products used under normal operating conditions within the stated mechanical, thermal, and electrical limits.

## **Exclusions**

This warranty does not cover failures or defects resulting from:

- Improper handling, storage, or installation
- Machining or fabrication practices outside recommended parameters
- Exposure to solvents, harsh chemicals, or incompatible cleaners
- UV exposure or weathering when non-UV-stabilised grades are used outdoors.
- Misuse, modification, excessive loading, or impact beyond design limits.
- Normal wear, cosmetic scratching, or surface abrasion
- Damage caused by transport, third-party handling, or accidental events.

## **Liability Limitations**

- MISCO Australia's liability is strictly limited to replacement of the product or refund of the purchase price, at MISCO's discretion.
- MISCO Australia is not responsible for labour costs, consequential losses, downtime, or indirect damages.
- No other warranties, expressed or implied, including fitness for purpose, apply unless confirmed in writing.

## **Customer Responsibilities**

- Inspect materials upon receipt and prior to machining or installation.
- Report suspected defects within 7 days of delivery.
- Provide proof of purchase, batch details, and reasonable evidence of the claimed defect.

## **Product Suitability**

As applications and operating environments vary, the customer is responsible for ensuring the product is suitable for its intended use. MISCO Australia can provide guidance; however, final assessment rests with the end user.

## DISCLAIMER

The information provided in this data sheet is intended as a general guide for the use and handling of material. It is based on current knowledge, testing, and is believed to be accurate and reliable as of the date of publication. However, **MISCO Australia** makes no warranties, express or implied, regarding the material's performance, suitability, or fitness for any specific application.

Users are responsible for determining the material's suitability for their intended purpose, including conducting independent tests and evaluations as necessary. MISCO Australia does not accept any liability for any loss, damage, or injury resulting from the use of this information, the products described, or reliance on the provided recommendations.

Specifications are subject to change without notice as part of MISCO Australia's ongoing product improvement initiatives.

Always refer to the latest version of this data sheet before proceeding with critical applications.

All sales are subject to MISCO Australia's standard terms and conditions of sale.

Revision	Date Issued	Prepared / Reviewed By	Description of Change	Approved By
1.0	January 2025	MISCO Australia	Initial release of Data Sheet for Polycarb	Director, MISCO Australia

### Document Control:

- **Document Title:** Polycarbonate Technical Data Sheet
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## End of Technical Data Sheet.