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Product Handling Information Sheet

PC Industrial Grade

Product Data

Material	Polycarbonate (PC)
Supply form	Sheets and round rods
Colour	Natural (transparent, virtually colourless)
Density	1.20 g / cm^3
Burning behaviour (3 mm / 6 mm)	HB / HB to UL 94

Storage

Storage location	Dry, clean and dust-protected, laid flat on a level surface
Storage temperature	Room temperature; avoid large and rapid temperature changes
Light protection	Avoid direct sunlight and UV exposure
Stacking	Fully and evenly supported to avoid sagging; leave protective film on until processing
Storage duration	Not time-critical under proper storage conditions; regular visual inspection recommended

Mechanical Processing

Sawing	Circular or band saw with carbide-tipped, fine-tooth blades; adequate cooling/extraction to prevent heat build-up
Milling / Drilling	Sharp carbide tools with a large rake angle, moderate feed rates, adequate cooling; use a centre drill when drilling
Turning	Sharp, positively ground tools, high cutting speed, low feed rate for burr-free surfaces
Polishing	Mechanical polishing with progressively finer grit; thermal (flame) polishing is possible for optically clear edges and surfaces

Joining

Bonding	Solvent or reactive adhesives depending on requirements; prepare bonding surfaces free of grease and dust
Thermal joining	Hot-gas or heated-tool welding is generally possible but of minor practical importance
Screwing / Riveting	Pre-drill and avoid stress concentrations; for permanent joints, press-in nuts or thread inserts are recommended

Cleaning and Care

Cleaning agents	Mild soap solution and a soft, lint-free cloth
Not suitable	• Acetone, benzene and other aggressive solvents • Abrasive or alkaline cleaning agents • Dry wiping when heavily soiled (risk of scratching)

Chemical Resistance

Conditionally resistant	Dilute acids and alkalis, many oils and greases on brief contact
Not resistant	Aromatic and chlorinated hydrocarbons, ketones, esters, and many alcohol-based cleaners
Stress cracking risk	Contact with certain chemicals under mechanical stress can cause stress cracking; check compatibility beforehand if in doubt

Occupational Safety

Machining	Provide dust/chip extraction, wear safety glasses
Bonding with solvent-based adhesives	Ensure adequate ventilation, observe the safety data sheets of the auxiliary materials used
General	Observe the manufacturer's instructions for all auxiliary and process materials used (adhesives, cleaners, coolants)

Transport and Packaging

Packaging	Leave the factory protective film and edge protection in place until further processing
Transport	Transport flat and fully supported; avoid impacts, edge loading and point loading
Weather exposure	Protect from moisture, frost and direct sunlight during transport
Unloading	Lift flat using suitable lifting equipment; do not stand on edge or drag

Further Processing and Quality Assurance

Dimensional tolerances	Allow for cooling and relaxation time after machining before checking final dimensions
Stress relieving	For heavily machined or highly stressed parts, thermal post-treatment to relieve machining stresses is recommended
Visual inspection	Check parts for cracks, notches and chips at edges and bores before installation

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Design Guidelines for Components

Edges and bores	Avoid sharp internal edges and notches; use generous fillets at transitions and bore edges to reduce stress concentration
Wall thickness	Provide as uniform a wall thickness as possible; avoid abrupt cross-section transitions
Load introduction	Distribute point loads (e.g. screw heads) over washers or larger bearing surfaces
Media contact	Check compatibility in advance for parts in permanent contact with critical media (see Chemical Resistance)