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- Sheet Plastics
- Cut to size & shape
- CNC Router cutting
- Fabrication
- Vacuum Forming
- Boat Screens & windows
- Signs & Displays
- Engineering Plastics
- Ecoscreen Plastic Lattice
- C/S Acrovyn
- Bld/Lic RL155051

updated:1/8/05

POLYPROPYLENE TECHNICAL DATA AND INFORMATION SHEET

Polypropylene is an economical material that offers a combination of outstanding physical, chemical, mechanical, thermal and electrical properties not found in any other thermoplastic. Compared to low or high density polyethylene, it has a lower impact strength, but superior working temperature and tensile strength.

Polypropylene possesses excellent resistance to organic solvents, degreasing agents and electrolytic attack. It has a lower impact strength, but its working temperatures and tensile strength are superior to low or high density polyethylene. It is light in weight, resistant to staining, and has a low moisture absorption rate. This is a tough, heat-resistant, semi-rigid material, ideal for the transfer of hot liquids or gases. It is recommended for vacuum systems and where higher heats and pressures are encountered. It has excellent resistance to acids and alkalies, but poor aromatic, aliphatic and chlorinated solvent resistance.

Features:

Lightweight, High tensile strength, Impact resistant, High compressive strength, Excellent dielectric properties, Resists most alkalis and acids, Resists stress cracking, Retains stiffness and flex, Low moisture absorption, Non-toxic, Non-staining, Easily fabricated, High heat resistance.

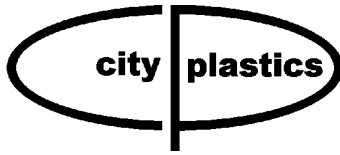
Fabrication:

Polypropylene can be easily fabricated using the following techniques:

Hot air welded, spin welded, fusion & butt welded, machined with wood or metal working tools, vacuum formed, ultra-sonic welded.

Applications:

Chemical resistant tanks & linings, laboratory consoles, sinks & ducts, plating barrels & tanks, lavatory partitions, pump components & housings, die cutting pads, clean room walls, floors & ceilings.



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Typical properties of Polypropylene

ASTM or UL test	Property	Value
PHYSICAL		
D792	Specific gravity	0.905
D792	Specific volume (in. ³ /lb.)	30.8-30.4
D570	Water absorption, 24 hours, 1/8 inch thick (%)	0.01-0.03
MECHANICAL		
D638	Tensile strength (psi)	5,000
D638	Elongation (%)	10-20
D638	Tensile modulus (10~5 psi)	1.6
D790	Flexural modulus (10~5 psi)	1.7-2.5
D256	Impact strength, izod (ft-lb/in. of notch)	0.5-2.2
D785	Hardness, Rockwell R	80-110
THERMAL		
C177	Thermal conductivity (10~4 cal-cm/sec-cm~2-°)	2.8
D696	Coefficient of thermal expansion (10~5 in./in.-°)	3.2-5.7
D648	Deflection temperature (°) At 264 psi	125-140
D648	Deflection temperature (°) At 66 psi	200-250
UL94	Flammability rating	HB
ELECTRICAL		
D149	Dielectric strength (V/mil) short time, 1/8-in. thick	500-660
D150	Dielectric constant At 1kHz	2.2-2.6
D150	Dissipation factor At 1kHz	0.0005-0.0018
D257	Volume resistivity (ohm-cm) At 73°, 50% RH	10~17
D495	Arc resistance(s)	160

These values are representative of those obtained under standard ASTM conditions and should not be used to design parts which function under different conditions

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