



## Injection Molding Materials Mechanical Properties

Resin generic name	Some brand names	Strength	Impact resistance	High temperature	Relative cost
Acetal	Delrin, Celcon	Medium	Medium	Medium-Low	Medium
Nylon 6/6	Zytel	Medium	High	Low	Medium
Nylon 6/6, glass filled	Zytel	High	Medium	High	Medium
Polypropylene	Maxxam, Profax	Low	High	Low	Low
High Density Polyethylene (HDPE)	Dow HDPE, Chevron HDPE	Low	High	Low	Low
Polycarbonate	Lexan, Makrolon	Medium	High	Medium High	Medium High
Acrylonitrile Butadiene Styrene (ABS)	Lustran, Cycolac	Medium-Low	High	Low	Low
Polycarbonate / ABS Alloy	Cycloy, Bayblend	Medium	High	Medium	Medium
Polybutylene Terephthalate	Valox, Crastin	Medium	High	Low	Medium High
Polybutylene and Polyethylene Terephthalate, glass-filled	Valox, Crastin, Rynite	High	Medium	Medium	Medium High
Polystyrene	Styron	Medium-Low	Low	Low	Low
Thermoplastic Elastomer	Isoplast, Santoprene	Low	High	Low	Medium-Low
Acrylic	Plexiglas, Acrylite	Medium	Low	Low	Medium



## Injection Molding Materials Moldability Characteristics

Resin generic name	Some brand names	Warp & dimensional accuracy, molded	Fills small features	Voids in thick sections	Sink in thick sections	Flash	High temperature hard on mold and ejectors	Relative Cost
Acetal	Delrin, Celcon	Fair	Fair	Poor	Good	Good	Fair	Medium
Nylon 6/6	Zytel	Fair	Excellent	Good	Fair	Poor	Fair	Medium
Nylon 6/6, glass filled	Zytel	Poor	Good	Excellent	Good	Fair	Fair	Medium
Polypropylene	Maxxam, Profax	Fair	Excellent	Poor	Poor	Poor	Good	Low
High Density Polyethylene (HDPE)	Dow HDPE, Chevron HDPE	Fair	Excellent	Unknown	Poor	Poor	Good	Low
Polycarbonate	Lexan, Makrolon	Good	Fair	Fair to Good	Fair	Good	Good	Medium High
Acrylonitrile Butadiene Styrene (ABS)	Lustran, Cycolac	Good	Fair	Good	Fair	Good	Good	Low
Polycarbonate / ABS Alloy	Cycloy, Bayblend	Good-Excellent	Fair	Good	Fair	Good	Good	Medium
Polybutylene Terephthalate	Valox, Crastin	Fair	Fair	Unknown	Fair	Fair	Good	Medium High
Polybutylene and Polyethylene Terephthalate, glass-filled	Valox, Crastin, Rynite	Poor	Fair	Good	Good	Fair	Fair	Medium High
Polystyrene	Styron	Good	Good	Unknown	Fair	Fair	Good	Low
Thermoplastic Elastomer	Isoplast, Santoprene	Poor	Excellent	Excellent	Good	Poor	Excellent	Medium-Low
Acrylic	Plexiglas, Acrylite	Good	Fair	Excellent	Good	Good	Good	Medium