

Prototyping properties of Plastics



ABS

- *Good for structural applications
- *High impact strength
- *Bonds well
- *Available in sheets and rods

Polycarbonate(Lexan ®)

- *High impact strength
- *High tensile strength
- *Transparent in thickness up to 1/2"
- *Available in colors
- *Available in sheets, rods, tubes

Polymethyl methacrylate(Plexiglas™)

- *Excellent optical clarity
- *Good impact strength and durability

Acrylic

- *Transparent applications
- *Fairly brittle
- *Useful in sheets

Nylon

- *Low coefficient of friction
- *High strength
- *Good for medical and food-processing applications
- *Available in sheets, bars, rods, and tubes

Delrin

- *Machines well
- *Durable, excellent toughness
- *Resists many solvents
- *Does not bond well
- *Available in sheets, bars, rods, and strips

Teflon™

- *Low coefficient of friction
- *High impact resistance
- *Good for medical and food-processing applications
- *Available in sheets and rods

Prototyping properties of Plastics



APT Mold
Amazing Prototype and Tooling



Ultra high molecular weight polyethylene(UHMW)

- *Low coefficient of friction
- * “Poor person’s Teflon™”
- *Available in sheets and rods

Polycarbonate blend ABS

- *High-impact strength even at low temperature,
working temperature: $-40^{\circ}\text{C} \sim 120^{\circ}\text{C}$
- *With good strength, high-impact strength,
good dimension stable
- *Application: Prototypes, Mechanical part, Automotive, Electronics products
- *Available in sheets