

Material Options



Materials Selection

What material is right for you?

Most thermoplastic materials used in our manufacturing process can be classified into one of the following types of plastics: Polyethylene, PVC, Acrylic, Polycarbonate, Polystyrene, ABS, Polypropylene and TPO. Listed here are materials we currently use in vacuum and pressure forming. We insist on the highest quality sheet requirements, to ensure we can deliver the highest quality products for our customers.

Our materials produce parts that are visually identical to injection-molded or structural foam molded parts at a fraction of the tooling cost and lead-time.

Material type and thickness are based on your specific application and finished part requirements, however the chart below will give you a brief introduction to material choices.

Material	Description
ABS	One of the most widely used thermoplastic materials due to its impact strength, rigidity and abrasion resistance. ABS material has good chemical resistance, works well in high temperatures and is moisture resistant. Combines clarity, weatherability and impact strength.
Acrylic PETG	A transparent copolyester with high impact and chemical resistance properties. It is versatile, tough and well suited for a variety of demanding applications.
Polycarbonate	For customers who require high heat deflection, outstanding toughness and dimensional stability in demanding engineered thermoplastic applications.
Polyethylene	A highly versatile material with high impact, rigidity, excellent flexibility and outstanding chemical resistance.
Polystyrene	Most often used for packaging applications within the medical and electronics market, the high impact version offers a good balance of processing capabilities with stiffness and high impact strength.
PVC/ABS	Used for applications where fire-rated sheet is required. The combination of PVC and ABS provide very high impact strength with excellent ductility and formability.
PVC/Acrylic	Used for applications where fire rated sheet is required. The combination of PVC and Acrylic provides very high impact strength and formability with a greater resistance to a broad range of corrosive chemicals and cleaning solutions.
TPO	Used for interior and exterior applications that require low temperature toughness and dimensional stability. This material has excellent chemical resistance and can be manufactured with UV stabilizers.



If you seek further information on these or other materials please contact Gary Bowers: Garyb@rayplastics.com or call (800) 423-7859.



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