



Introduction to Plastics

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Introduction to Plastics:

Thermo-Set: Epoxy & Polyester Resins, Rubber and Urethanes

Thermoplastic: Styrene, ABS, PVC, Acrylic and Polycarbonate

The **CLEAR** Choices: The three most common Clear Plastics used in Model Making.

Styrene: Available at hobby shops in small sheets and used by model kit companies like PIKO and POLA for windows. NOT UV Stable and is NOT recommended for use Outdoors.

Acrylic: Very Clear and is UV Stable. Thin sheets can be cut by scoring and snapping, thicker sheets are cut on a table saw, band saw or router. Acrylic is also available as rods and tubes. Easily solvent welded together to make a permanent joint. Can crack if not cut and drilled with the proper tools.

Polycarbonate: Very High Impact plastic. Easily cut, drilled and even bent w/o heat. Polycarbonate also solvent welds easily. It is available in very thin sheets. Not as UV stable and tends to scratch easier than acrylic.

Opaque Plastics for Model Making: Strong and Waterproof

Hi-Impact Styrene: This material cuts easily and solvent welds together for very strong joints. Styrene is easily formed using heat. NOT UV Stable so must be painted if used outdoors. TAP stocks styrene in 1/16" and 1/8" thickness

ABS: This also cuts, heat forms and glues up easily and is more UV stable than styrene. TAP stocks black ABS in .040", .093", 1/8", 3/16", 1/4" and 3/8" thickness.

PVC: TAP stocks Expanded foamed PVC (Sintra, Celtec, et al) and solid Grey and UltraWhite PVC. The expanded PVC cuts very easily and all of the PVC's can glue together quickly with PVC cement. Only somewhat UV stable, this material also takes paint well.

Engineering Plastics: What sets these apart is that they CANNOT be glued. TAP stocks UHMW, VHMW LDPE and HDPE Polyethylene sheets. TAP also stocks Acetal (DELRIN) sheet and rod