

Roland Subtractive Rapid Prototyping Systems help you succeed by giving you the ability to produce prototypes from a wide variety of nonproprietary materials. The following descriptions will help you determine the best material for your application.

**ABS** - is used for structural components, housings, support blocks, models & fixtures, automotive parts and machined prototypes. ABS provides good tensile strength, dimensional stability, good surface hardness, rigidity, electrical insulating characteristics, and is resistant to abrasion, chemicals and heat. It can easily be painted, glued, and also exhibits good impact strength.

Coefficient of Thermal Expansion	Tensile Strength	Density
ASTM D 696, $5.3 \times 10^{-5}$ °F	ASTM D 638, 6,000 psi	ASTM D 792, 65.5 lb/ft <sup>3</sup>

**Delrin®/Acetal/PolyAcetal** - is used for gears, bushings, bearings, wear pads, jigs, fixtures, electrical components, pump & valve parts, and machined prototypes. Acetal has physical properties that are not available with metals or most other plastics. These properties include self lubrication, high mechanical strength, rigidity, low coefficients of friction, low moisture absorption, excellent dimensional stability, fatigue endurance, and resistance to abrasion and creep.

ASTM D 696, $6.1 \times 10^{-5}$ °F	ASTM D 638, 9,800 psi	ASTM D 792, 88.0 lb/ft <sup>3</sup>
-------------------------------------	-----------------------	-------------------------------------

**Polycarbonate** - is used for structural applications when optical clarity and impact strength are essential. These applications include lenses, manifolds, site glasses, and machine guards. Machine grade polycarbonate provides high impact strength, good stiffness, and excellent dimensional stability. It can also be used for electrical applications as it has low moisture absorption, good insulating properties, and excellent flame resistance. It can also be painted and glued.

ASTM D 696, $3.8 \times 10^{-5}$ °F	ASTM D 638, 9,000 psi	ASTM D 792, 74.9 lb/ft <sup>3</sup>
-------------------------------------	-----------------------	-------------------------------------

**Machineable Wax** - can be used as a technical school training material, machine setup, and proving designs. This wax is specially formulated for producing accurate molds, prototypes and master patterns. Machineable wax offers excellent surface detail, great quality of finish, and dimensional accuracy. It's self releasing properties make it an excellent choice for master models of epoxies and polyurethane.

ASTM D 3386, $9.5 \times 10^{-6}$ °F	ASTM D 882, 850 psi	ASTM D 792, 57.4 lb/ft <sup>3</sup>
--------------------------------------	---------------------	-------------------------------------

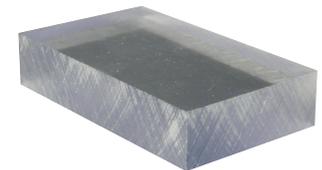
**Medium/Light Tooling Board** - Tooling boards are used for making tooling and modeling prototypes. Tooling boards offer the user a wide range of characteristics and low cost alternatives depending on the grade of material. They are easy to machine, offer excellent dimensional stability, good edge definition and produce low levels of chip particles.

**Medium density** - is used for master models, CNC styling models, prototypes, and visual models. Medium tooling board can be cut at high speeds, has good surface finish with excellent edge definition, and produces little tool wear.

ASTM D 3386, $11.1 \times 10^{-7}$ °F	ASTM D 638, 1,300 psi	ASTM D 792, 34.3 lb/ft <sup>3</sup>
---------------------------------------	-----------------------	-------------------------------------

**Light density** - is the most economical tooling board. It is typically used for concept models and quick design studies.

ASTM D 3386, $15.3 \times 10^{-7}$ °F	ASTM D 638, 800 psi	ASTM D 792, 15.6 lb/ft <sup>3</sup>
---------------------------------------	---------------------	-------------------------------------



<b>US-SRP-KIT</b>	Kit containing 1 block each of the materials listed below	\$99
<b>US-SRP-ABS</b>	Black ABS, 6 pack, 1" x 3" x 5"	\$79
<b>US-SRP-DEL</b>	White Delrin/Acetal, 6 pack, 1" x 3" x 5"	\$99
<b>US-SRP-POLY</b>	Clear Polycarbonate, 6 pack, 1" x 3" x 5"	\$199
<b>US-SRP-WAX</b>	Blue Machinable Wax, 6 pack, 1.5" x 3" x 5"	\$79
<b>US-SRP-MD</b>	Medium Density Tooling Board, 6 pack, 1.5" x 3" x 5"	\$79
<b>US-SRP-LT</b>	Light Density Tooling Board, 6 pack, 2" x 3" x 5"	\$49

**Note:** Material properties were supplied by the original manufacturers.