



Minnesota Wire & Cable Co.

RAPID PROTOTYPING

"Fabrication of a physical, three-dimensional part or arbitrary shape directly from a numerical description (typically a CAD model) by a quick, highly automated and totally flexible process." "Rapid Prototyping Report," October 1992

SLA Prototyping

SLA, or stereolithography, is a rapid prototyping process where a product prototype is created using 3-D CAD software, laser technology and a liquid resin polymer.

A 3-D solid model is exported from the CAD software and is used by the SLA machine's laser to create a detailed prototype part that exhibits precise dimensions and shape.



Investment Casting

Imported from 3-D CAD software, shrink factors are precalculated, CAD profiles are manipulated and wax patterns are generated with dimensional conformity.

This wax pattern is repeatedly dipped in a ceramic slurry until a strong shell coating surrounds the pattern. Once the process is completed, the shell is heated and the wax pattern is melted out to leave a cavity in the mold. This mold is then used for casting metal.



RTV Molding/Urethane Casting

A RTV (room temperature vulcanizing) mold is created from a master pattern and is used to create a rubber mold. This rubber mold creates a negative image for the polyurethane to be cast into.

Urethane is the most typical material used for the castings due to its large selection of properties including thermal properties, color properties and surface texture. In addition, a urethane cast can be machined, sanded, painted or have color cast into the part.

