

## PROTOTYPES

**Gestión de Compras** have the means to get prototypes with state-of-art processes according to customer drawings.

### PRODUCT:

Most manufacturing companies are involved in product development, a process wherein the product concept must be transitioned from engineering drawings to a working physical product. Prototyping is important for these companies because by it is possible verifying the form, fit, and function of a product.

- Decreasing development time.
- Decreasing costly mistakes.
- Minimizing sustaining engineering changes.
- Optimizing product lifetime by adding necessary features and eliminating redundant features early in the design.

This prototypes present a high unit cost because all the tooling costs are spread over a small number of parts. In addition, the fabrication of specialized tooling results in long lead times for getting the prototypes made and tested.



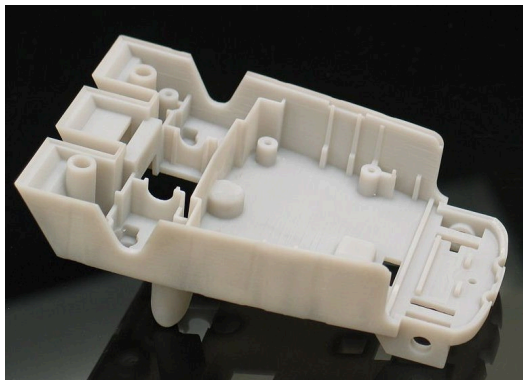
Nowadays with the emergence of Rapid prototyping methods (additive manufacturing and freeform fabrication), the product development process are cheaper and faster (made directly from drawings, no require special tooling), which can ultimately impact customer satisfaction and corporate profitability by helping the company get the product to market first. This prototypes can be made for different purposes:

- **Concept models.** - On the early stages of design, improve communication and make ergonomic tests.
- **Functionality tests.** - Verify the form, fits and function of the designs before full scale production.
- **Finite elements analysis.** - It facilitates finite element analysis directly over the part, improving collaboration between departments and localization of defects faster.
- **Presentation models.** – To carry out reviews based on the customer’s opinions.
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## PRODUCTION:

Exist over 40 different types of rapid prototyping processes have been identified in various stages of development. These processes can be classified into five basic groups:

- 1. Photopolymer-based.** Photopolymerization is the mode of material addition. Where the most important and representative is SLA (Stereolithography). Its high accuracy and good surface finish makes it the preferred choice for designer models, engineering verification and master patterns for silicone rubber molds.

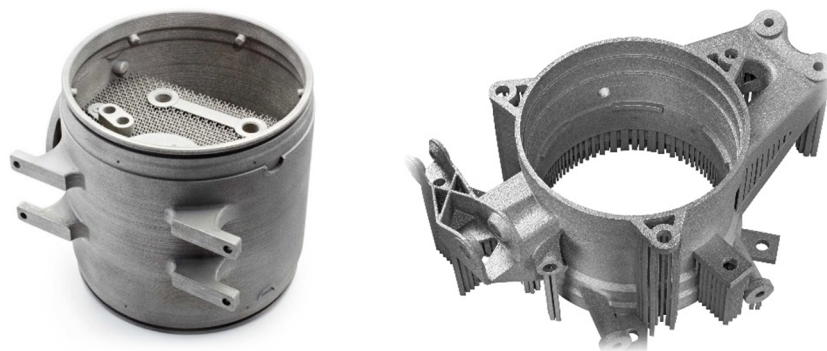


**2. Deposition-based.** Material is physically deposited. FDM (fused deposition modelling) is a method that extrudes material layer by layer to build a model. The system consists of a build platform, extrusion nozzle, and control system. The most significant materials used on FDM are Acrylonitrile Butadiene Styrene (ABS), Polylactic acid (PLA), Polycarbonate (PC), Polyamide (PA), and Polystyrene (PS).

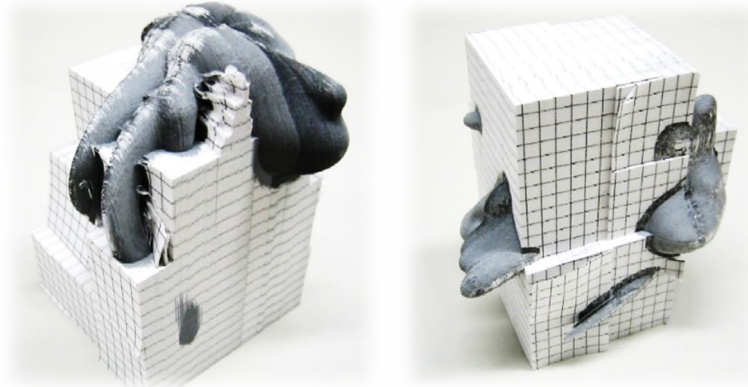


**3. Powder-based.** Powder is selectively bound together. SLS (Selective laser sintering). Is the rapid prototyping technology of choice for a range of functional prototype applications, including those with snap fits, living hinges and other mechanical joints. The most employed materials on SLS prototyping are PA, PA-GF, Rigid GF, PEEK, PS, alumide, carbonmide and elastomers.

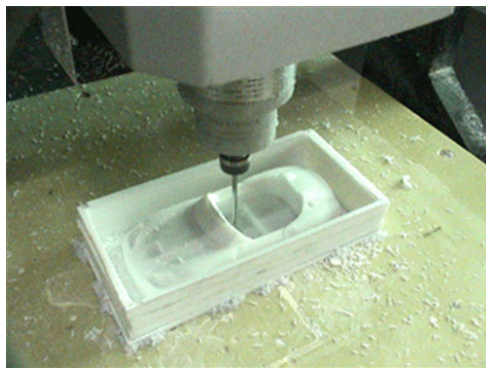
Another important process is DMLS (Direct metal laser sintering) that is similar to SLS but can produce titanium, aluminium and stainless steel parts.



- 4. Lamination-based.** Layers are bonded together and patterned. Most known specific process is called LOM (laminated object manufacturing). For this method most employed materials are sheet metal, wood and paper.



- 5. Rapid CNC prototyping.** Contrary to the above this is a subtractive method. Consist on the machining of parts with materials (aluminum, copper, brass, stainless steel and steel alloys) and characteristics similar to final product, usually to make functionality tests.



## STANDARD AND CERTIFICATES:

We have the means to ensure our products comply the general regulation and the specific certificated regulations in manufacturing products that requires them.

- ISO 9001.
- ISO 14001.
- OHSAS 18001.



## CONTACT:

In **Gestión de Compras** work with a wide range of customers from different sectors but have in common the search for products that suit your needs at the best Price and the guaranteed maximum quality. Check with us about any product. We have a qualified staff who will advise you.

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