



## STL 3d printing rapid prototyping services FDM Perfect Prototyping Method

### Our Product Introduction

for more products please visit us on [cncmachining-prototype.com](http://cncmachining-prototype.com)

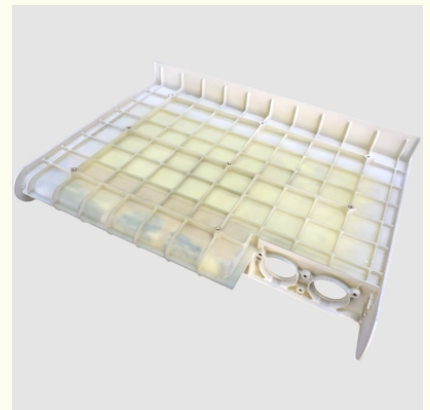
#### Basic Information

- Place of Origin: China Shenzhen
- Brand Name: Plastic ABS Similiar
- Certification: 3D Printing SLA SLS Printing
- Model Number: Polishing, Anodizing, Painting, Chrome Plating, Silkscreen
- Minimum Order Quantity: 1 piece
- Price: USD 30 piece
- Packaging Details: Carton, Plywood Box
- Delivery Time: 3 - 5 Days
- Payment Terms: T/T, Paypal
- Supply Ability: 1 piece per day



#### Product Specification

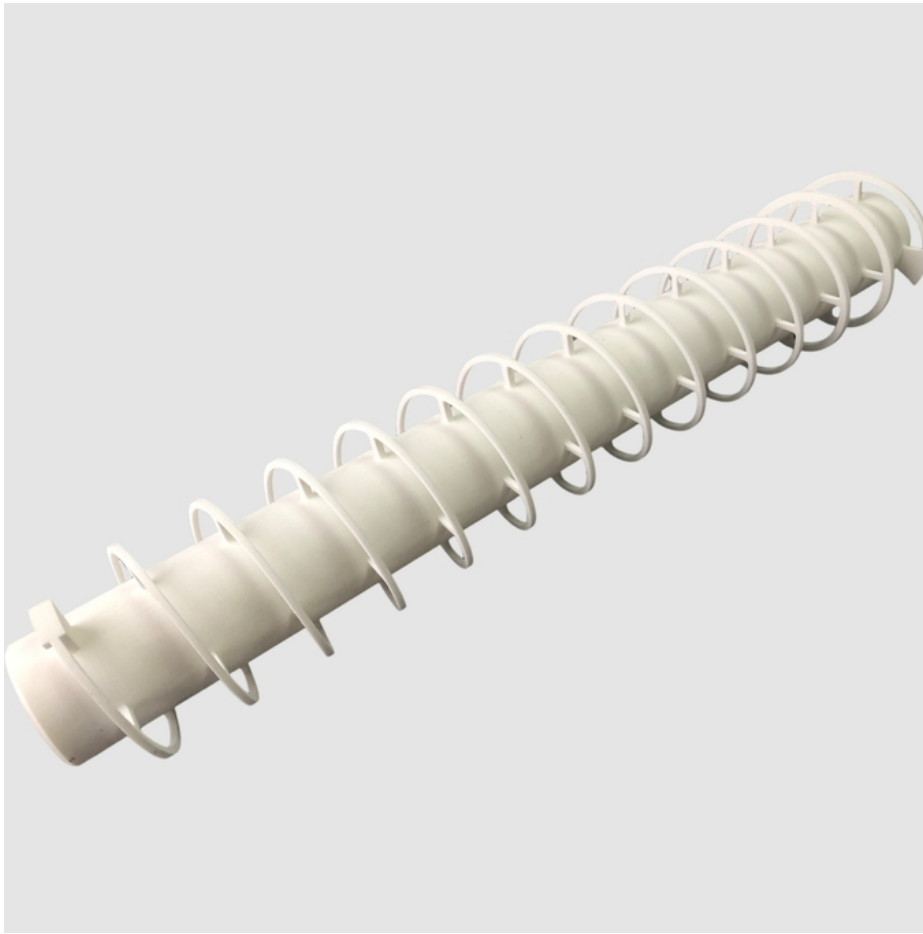
- Printing Technology: Fused Deposition Modeling (FDM)
- Material: Plastic ABS Similiar
- Surface Finish: Polish, Paint, Silkscreen
- Layer Resolution: 0.1-0.3 Mm
- Build Volume: Up To 300 X 300 X 400 Mm
- Supported File Formats: STL, OBJ, AMF
- Dimensions: 500 X 500 X 500 Mm
- Highlight: **STL 3d printing rapid prototyping services, 3d printing rapid prototyping 500x500x500 mm, STL 3d printing and prototyping**



## Product Description

### How to Choose the Right Rapid Prototyping Technique

Selecting the appropriate prototyping method depends on several factors, including budget constraints, part complexity, prototype functionality, and the project timeline. More sophisticated prototypes, while more costly and time-consuming to produce, offer a more accurate representation of the final product.



#### Consider the following questions when choosing a prototyping technique:

Will the prototype be a static display or fully operational?

Are there various interconnected components?

What is the desired surface texture and finish?

Which materials are to be utilized?

How vital are strength and durability?

To what extent should the prototype mirror the final product?

While it's impossible to address all factors here, these questions lay the groundwork for informed decision-making in rapid prototyping.



### **What is Rapid Prototyping?**

Rapid prototyping involves creating a physical model of a new product design to evaluate its feasibility before full-scale production. This process is crucial for ensuring that the final product will meet the desired specifications in terms of appearance, feel, and functionality. Product developers utilize rapid prototyping for functional testing, obtaining approvals, refining design iterations, supporting crowdfunding campaigns, creating trade show models, and facilitating the transition to low-volume manufacturing.



Automotive Industry: 3D printing plays a significant role in automotive prototyping and manufacturing. It enables the rapid production of concept models, functional prototypes, and even end-use parts. Automotive companies can use 3D printing to test and validate designs, reduce development cycles, and optimize part performance.



Consumer Electronics Industry: The consumer electronics industry is known for its fast-paced product development cycles. 3D printing allows for quick and cost-effective production of electronic enclosures, customized components, and functional prototypes. It enables companies to iterate designs, test form and fit, and speed up the time-to-market for new products.



**Aerospace and Defense Industry:** In the aerospace and defense sector, stringent requirements for lightweight and complex components make 3D printing highly valuable. It enables the production of intricate geometries, reduces weight, and offers cost-effective solutions for prototypes, tooling, and low-volume production of specialized parts.



**Medical and Healthcare Industry:** 3D printing has revolutionized the medical field, offering customized and patient-specific solutions. It allows for the production of anatomical models, surgical guides, prosthetics, and implants tailored to individual

patients. 3D printing also facilitates medical device prototyping and the development of innovative healthcare solutions.














**Industrial Manufacturing Industry:** Various sectors within industrial manufacturing benefit from 3D printing, including machinery, equipment, and industrial tooling. It enables the production of complex parts, custom jigs and fixtures, and low-volume manufacturing of specialized components. 3D printing also supports rapid design iterations and the optimization of production processes.





Architecture and Design Industry: 3D printing is increasingly utilized in architecture and design for producing architectural models, prototypes, and intricate structures. It allows designers and architects to visualize their concepts more tangibly, communicate ideas effectively, and explore complex geometries.

| Our Surface Finishing Services                                                                                                                                                                                                                  |                |                                                                                                                                                                                                                                              |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Barana Rapid has more than ten years of experience in surface treatment and excellent engineers, who are proficient in surface treatment of plastics, metals, and composite materials, and can turn your dream prototype or parts into reality. |                |                                                                                                                                                                                                                                              |
| Picture                                                                                                                                                                                                                                         | Technology     | Description                                                                                                                                                                                                                                  |
|                                                                                                                                                              | As Machined    | Coming out of the machine after machining, our parts are cleaned of any sharp edges and burrs while retaining marks. Without any added material, the part had a surface roughness of $3.2\text{ }\mu\text{m}$ ( $126\text{ }\mu\text{in}$ ). |
|                                                                                                                                                              | Band Blasting  | Band blasting cleans the surface of any impurities and peels coating through the propelling of blast media streams over the parts                                                                                                            |
|                                                                                                                                                              | Anodizing      | To increase surface hardness and dissipate heat, we use anodizing techniques to enhance the look of parts and blend well for painting and priming.                                                                                           |
|                                                                                                                                                              | Electroplating | Electroplating reduces metal cations in the electrolyte solution, producing a metallic coating on a metal surface. This process can be used for purposes of corrosion and wear resistance, as well as for decorative purposes.               |

|                                                                                     |                |                                                                                                                                                                                                          |
|-------------------------------------------------------------------------------------|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    | Polishing      | Working on metal and hard plastics, our polishing uses highly efficient machinery to get our parts between Ra 0.8~Ra0.1 for a cleaner surface.                                                           |
|    | Powder coating | We apply a thin layer of protective polymer with the corona discharge phenomenon to give our part a lasting finish that protects from impacts and prevents wearing down.                                 |
|    | Brushing       | Our brushing technique uses abrasive belts over the material to create diverse patterns that match the parts' structure and color.                                                                       |
|    | Painting       | Spray droplets can be dispersed uniformly or in fine amounts to cover a wide surface area and bring out greater color to the part.                                                                       |
|    | Black Anodized | Adding layers to metallic surfaces like steel, our black anodized technique improves appearance while maintaining durability.                                                                            |
|   | Alodine        | We use chromate conversion coating or alodine to protect aluminum and other materials from corrosive elements, usually done before priming and painting parts.                                           |
|  | Laser Carving  | Helpful in brand recognition or parts organization, we use laser carving that applies various printing methods during full-scale production to quickly embed barcodes, lettering and logos on the parts. |

## Inspections and Review for Every Stage of Production

To ensure quality from start to finish, Barana Rapid provides the following inspection and review services:

Thorough verification of incoming materials  
 Manufacturing design reviews for all provided quotes  
 Review of contracts upon purchase order receipt  
 Initial article and in-process inspections  
 Comprehensive final inspections and tests, complete with necessary reports and certifications



Visual inspection



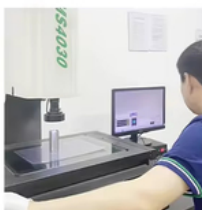
Touch test



Dimension inspection



High gauge



2D image measuring equipment



Hardness tester



Tensile tester



Salt-spray testing machine





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