Professional Services

Place an Order Online
Get an instant quote & order parts online in less than 5 minutes for the following technologies.

3D Printing
FDM, SLA/DLP, SLS, Material Jetting, Binder Jetting, DMLS/SLM
Request a quote →

CNC Machining
CNC milling (3-, 4-, 5-axis), CNC turning (lathe), Mill-turning
Request a quote →

Injection Molding
Thermoplastic & silicones, overmolding, gas assisted
Request a quote →

Other Available Solutions
Request a quote through your Account Manager for the following technologies.

2D Profile Cutting
Laser, Water-Jet & Plasma

Sheet Metal
Bending & Punching

Metal Extrusion
Aluminum profiles

Tube Bending
Simple forms

Vacuum Casting
Rubber & soft plastics

Vacuum Forming
Thermoplastics

EDM
Die-sink, hole drilling & wire-cutting

Die & Investment Casting
Aluminum & mild steels

Additional Manufacturing Services

Certifications
ISO 9001, RoHS, Material certificates

Expedited production
As fast as 5 days lead time for CNC machining and 2 days for 3D Printing

Assembly
Welding, fastening, fitting, off-the-shelf components

Custom solution
Contact your account manager about your special requirements

Financial Services

Credit terms for certified businesses
NET30 or 50% down payment

Design Verification Programme
Premium first article inspection for productions of 100+ units

Blank Purchase Orders
Pre-pay for future orders

Contact us
CNC Capabilities

Materials

Aluminum
2014, 2017, 2024
5052, 5754, 5080, 5083
6061-T6, 6061-T651, 6063, 6082
7050, 7075, 7075-T6
A380, MIC6

Stainless Steel
301, 303, 304, 304L, 316, 316L
416, 420, 430, 440C
15-5, 17-4
2205 (Duplex)

Mild, Alloy & Tool Steels
1018, 1020, 1045
1214, 1215
A36, A1011
4130, 4140, 4340
A1, A2, A3, D2, H13, O1, S7

Plastics
POM, PC
ABS, ABS+PC (30%)
Nylon 6, Nylon+GF (30%), Nylon+PC (30%)
HDPE, PE, UHME-PE
PEEK, PEI, ULTEM,
PI, PAI
PTFE, Teflon

Plastics (cont.)
PET, PVC
PMMA (Acrylic)
PP, PP+GF (20%)
PPE, PPO, PPE+PPO, PPS, PSU
PBI, PBT, PES
Bakelite, Carbon fibre, fiberglass
Epoxy Tooling Board, FR4, UL 94-V0

Other Metals
Magnesium AZ19D, AZ31B, AZ80, AZ91B
Bronze/Copper, Beryllium/Copper
Brass, Bronze, Copper, Red Copper
Titanium Grade 5
Inconel 718
Invar

Other Steels
Q235B, Q345A
M2, M303E, P20, Spring steel
CRS, SGCC, SPCC, SPHC

Start Manufacturing →

Finishes

Surface finishing
Sand blasting
Glass bead blasting
Brushing, Smoothing
Vapour polishing
Electropolishing

Anodizing
Type II (clear or colored)
Type III (hardcoat)

Plating
Nickel, Zinc, Tin, Copper, Brass
Silver, Gold
Electroless Nickel or Copper
Teflon Impregnated
Electroless Nickel

Painting
Powder coating
Metallic spray painting
Plastic spray painting
Rubber oil painting
UV oil painting

Other finishes
Chromate coating/conversion
Alodine, Chem Film
Black oxide coating
UV protection coating
Teflon coating
Physical vapor deposition
Gilding (gold film)

Certifications
ISO 9001, Material certificates, RoHS

Standard Technical Capabilities

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Tolerance</th>
<th>Angularity</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 12” (30 cm)</td>
<td>± .005” (0.125 mm)</td>
<td>± 0.5°</td>
</tr>
<tr>
<td>&lt; 24” (60 cm)</td>
<td>± .010” (0.250 mm)</td>
<td>± 1.0°</td>
</tr>
<tr>
<td>&lt; 36” (90 cm)</td>
<td>± 1/64” (0.400 mm)</td>
<td>± 1.0°</td>
</tr>
</tbody>
</table>

Tightest tolerance
± .0008” (0.020 mm) Tighter tolerances are examined on a case by case basis.

Surface roughness

Standard
RA 3.2 µm (125 µin)

Smoothest finish
RA 0.25 µm (10 µin)

Size limitations

Max. part size       Min. part size       Min. diameter
1000 mm (40 in) *   0.5 mm (0.02 in)     φ 0.30 mm

* Larger parts are reviewed on request.

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3D Printing Capabilities

### Processes & Materials

<table>
<thead>
<tr>
<th>Process</th>
<th>Min. Thickness</th>
<th>Layer Height</th>
<th>Max. Build Size</th>
<th>Tolerances</th>
</tr>
</thead>
<tbody>
<tr>
<td>FDM</td>
<td>0.8 mm</td>
<td>20 - 400 µm</td>
<td>100 x 100 x 100 cm</td>
<td>± 0.5% (min: ± 0.5 mm)</td>
</tr>
<tr>
<td>SLA / DLP</td>
<td>0.5 mm</td>
<td>25 - 100 µm</td>
<td>150 x 75 x 50 cm</td>
<td>± 0.5% (min: ± 0.1 mm)</td>
</tr>
<tr>
<td>SLS / MJF</td>
<td>0.7 mm</td>
<td>80 - 120 µm</td>
<td>75 x 55 x 55 cm</td>
<td>± 0.3% (min: ± 0.3 mm)</td>
</tr>
<tr>
<td>Material Jetting</td>
<td>1.0 mm</td>
<td>16 - 32 µm</td>
<td>100 x 80 x 50 cm</td>
<td>± 0.1% (min: ± 0.05 mm)</td>
</tr>
<tr>
<td>DMLS / SLM</td>
<td>0.4 mm</td>
<td>20 - 50 µm</td>
<td>50 x 28 x 36 cm</td>
<td>± 0.1 mm</td>
</tr>
<tr>
<td>Binder Jetting</td>
<td>2.0 mm</td>
<td>50 - 200 µm</td>
<td>180 x 100 x 60 cm</td>
<td>± 0.2 - 0.3 mm</td>
</tr>
</tbody>
</table>

- **FDM**
  - For quick, low-cost prototyping
  - Price: $
  - Turnaround: < 2 days
- **SLS**
  - For functional parts & prototypes
  - Price: $$$
  - Turnaround: < 5 days
- **SLA/DLP**
  - For high-detail prototypes
  - Price: $
  - Turnaround: < 2 days
- **Material Jetting**
  - For best visual appearance
  - Price: $
  - Turnaround: < 2 days
- **DMLS/SLM**
  - For high-performance metal parts
  - Price: $
  - Turnaround: < 2 days
- **Binder Jetting**
  - For metal batch-production
  - Price: $
  - Turnaround: < 2 days

### Materials
- **FDM**
  - PLA, ABS, ASA, PETG, TPU
  - Nylon, Carbon-filled Nylon
  - Carbon-fiber reinforced Nylon
  - PEI (ULTEM)
- **SLS**
  - Nylon (PA12), TPU
  - Glass-filled Nylon
  - Aluminum-filled Nylon
- **SLA/DLP**
  - Standard resin, Clear resin
  - Tough resin, Durable resin
  - Rubber-like resin
- **Material Jetting**
  - Standard resin, Transparent resin
  - Rubber-like resin
- **DMLS/SLM**
  - Stainless steel 316
  - Aluminum
- **Binder Jetting**
  - Stainless steel 316 (sintered)
  - Stainless steel 316 (bronze-filled)

### Standard Technical Capabilities

Start Manufacturing →

### Quality assurance

The Performance & Quality of all Manufacturing Partners is closely curated by 3D Hubs.

ISO 9001 certification and Material Data Sheets are available upon request.

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