

MATERIAL OVERVIEW

FATHOM's CNC machining services, milling and turning, accommodate a wide range of production-grade materials. Tight tolerances, excellent dimensional accuracy, superior finishing—FATHOM offers a bridge-to-production solution that results in high-end rapid prototypes and low-volume production parts.

Focused on accelerating and enhancing the product development process, FATHOM is blending advanced technologies with traditional manufacturing methods to drive greater innovation in ways not previously possible.

LEAD TIME FOR ALL STANDARD MATERIALS: AS SOON AS NEXT-DAY.

OTHER MATERIALS AVAILABLE UPON REQUEST

METALS	OPTIMAL QUANTITY	TOLERANCES (+/-)	ADVANTAGES & CONSIDERATIONS	FINISH & APPEARANCE
Stainless Steel	1-1000	0.01mm	<ul style="list-style-type: none"> • High Strength • High Corrosion Resistance • High Weldability 	<ul style="list-style-type: none"> • Standard Machined Finish • Tumbled • Bead Blasted (Sand or Glass) • Polished
Low Carbon Steel	1-1000	0.01mm	<ul style="list-style-type: none"> • Common Steel • High Machinability & Weldability • Can be Hardened • Not Corrosion Resistant 	<ul style="list-style-type: none"> • Standard Machined Finish • Tumbled • Bead Blasted (Sand or Glass) • Polished
Aluminum	1-1000	0.01mm	<ul style="list-style-type: none"> • High Strength, Low Weight • High Machinability • Low Cost 	<ul style="list-style-type: none"> • Standard Machined Finish • Tumbled • Bead Blasted (Sand or Glass) • Polished
Brass	1-1000	0.01mm	<ul style="list-style-type: none"> • Corrosion & Chemical Resistant • High Density & Strength • Non-Conductive 	<ul style="list-style-type: none"> • Standard Machined Finish • Tumbled • Bead Blasted (Sand or Glass) • Polished

PLASTICS	OPTIMAL QUANTITY	TOLERANCES (+/-)	ADVANTAGES & CONSIDERATIONS	FINISH & APPEARANCE
HDPE	1-100	0.2mm	<ul style="list-style-type: none"> • Medium Impact Strength • Flexible (Shore D70) • FDA Compliant • No Water Absorbision 	<ul style="list-style-type: none"> • Standard Machined Finish • Tumbled • Flame or Vapor Polished (Acrylic Only)
PC	1-100	0.2mm	<ul style="list-style-type: none"> • Medium Tensile & High Impact Strength • Maintains Properties Over Range of Temperatures • High Optical Clarity (Clear) 	<ul style="list-style-type: none"> • Standard Machined Finish • Tumbled • Flame or Vapor Polished (Acrylic Only)
ABS	1-100	0.2mm	<ul style="list-style-type: none"> • Medium Tensile & High Impact Strength • Electrical Insulator • High Machinability • Low Cost 	<ul style="list-style-type: none"> • Standard Machined Finish • Tumbled • Flame or Vapor Polished (Acrylic Only)
Acrylic	1-100	0.2mm	<ul style="list-style-type: none"> • High Tensile Strength • Can Be Polished for High Optical Clarity 	<ul style="list-style-type: none"> • Standard Machined Finish • Tumbled • Flame or Vapor Polished (Acrylic Only)
Nylon 6/6	1-100	0.2mm	<ul style="list-style-type: none"> • High Tensile & Medium Impact Strength • Maintains Properties Over Range of Temperatures 	<ul style="list-style-type: none"> • Standard Machined Finish • Tumbled • Flame or Vapor Polished (Acrylic Only)
Acetal (Delrin)	1-100	0.1mm	<ul style="list-style-type: none"> • Medium Tensile & Medium Impact Strength • Holds Machining Tolerances Well • Good Wear & Fatigue Resistance 	<ul style="list-style-type: none"> • Standard Machined Finish • Tumbled • Flame or Vapor Polished (Acrylic Only)
Ultem	1-100	0.2mm	<ul style="list-style-type: none"> • High Tensile Strength • High Working Temperature Range (335°F) • Electrical Insulator • High Optical Clarity (Clear) 	<ul style="list-style-type: none"> • Standard Machined Finish • Tumbled • Flame or Vapor Polished (Acrylic Only)

Need A Material Not Listed?

Please Speak With A FATHOM Expert Directly About Additional Material Options