

### **About Quantum Polymers**Stock Shape Products for the 21st Century

Located in Delaware, our state-of-the-art facility is equipped with the latest manufacturing and logistics technology to produce cost effective, high quality products with unparalleled flexibility in delivery time. Quantum's dedicated team of experts has a proven track record in the stock-shape industry. For the past 25 years, the team has successfully deployed high performance plastic materials in the aerospace, biomedical, energy, food processing, pharmaceutical, semiconductor and oil and gas industries.

At Quantum, our practice of "continuous innovation" enables us to develop process technology and custom formulated materials for the most demanding applications.



#### **Replacing Metals With Plastics**

Components machined from stock shape plastic products offer distinct advantages over metal parts in terms of lower overall cost, low maintenance, reduced noise and vibration, simplified design, lower weight, better chemical resistance and high energy efficiency. With a wide variety of standard off-the-shelf engineering and high-performance plastics products, Quantum offers a wide selection of materials in order to perfectly match your application requirements with the most cost effective material.

Quantum offers custom formulated reinforced materials to tailor a solution to meet your precise requirements.

### **Frequently Asked Questions**

#### Where are Quantum Polymers' products made?

All of our stock shapes – rods, tubular bars, plates, etc. are all manufactured in the United States in our 23,000 square foot facility in Newark, Delaware.

### Does Quantum Polymers also make CNC machined parts?

No, our focus is on our core competency which is to provide the best quality extruded shapes. Unlike many of our competitors, we do not believe in competing with our machine shop customers. We believe in supporting a healthy manufacturing eco system in the U.S.

### I've tried your competitors' products and I prefer Quantum Polymers stock shapes as they have better quality and machine flawlessly. What is the reason for this?

It is important to know that every stock shape manufactured by Quantum Polymers is extruded from 100% prime virgin materials only. Secondly, our manufacturing equipment is optimized for the intricacies of extruding high performance polymers. This allows for porosity-free stock shapes, especially critical for large diameter rod and thick cross section slabs. A porosity-free shape is essential to flawless machining. Lastly, we anneal 100% of our stock shapes with our proprietary annealing technique that results in machined parts with no residual stress.

### Please explain the importance of extruding stock shapes with 100% prime virgin raw materials.

Our high performance stock rods, tubular bars and slabs are typically machined and ultimately used in mission critical applications in Aerospace, Defense, Healthcare and O&G markets. We take this responsibility very seriously and provide the highest possible quality materials with authentic 100% Prime Virgin Materials. We purchase our raw materials directly from our resin suppliers.



Quantum Polymers extrudes engineering and high temperature FST conformed stock shapes for demanding aerospace applications. Our products provide a balance of excellent strength and chemical resistance at high temperatures, with long term reliability. We offer custom formulated reinforced rods, plates and tubular bars to meet specific requirements.

### **FAST Service for FST Shapes:**

Quantum Polymers knows the daunting task faced by design engineers seeking higher-performance parts for aircraft interiors – how to quickly procure small quantities of solid rod or plate stock that can be machined to size then tested before molds are built for injection molding. From fasteners, to hinge assemblies, to panel latches, the need for small quantities and fast turnaround is apparent and growing. Quantum's FAST Service for FST Shapes offers design engineers the ability to chose extruded rods or plates from typical FST resin families such as PC, PEI, PPSU or PEEK in neat or custom formulations in three weeks or less, without the penalty of large minimum order requirements.

### **Quantum Advantage:**

Our manufacturing is optimized to offer the following advantages to our customers:

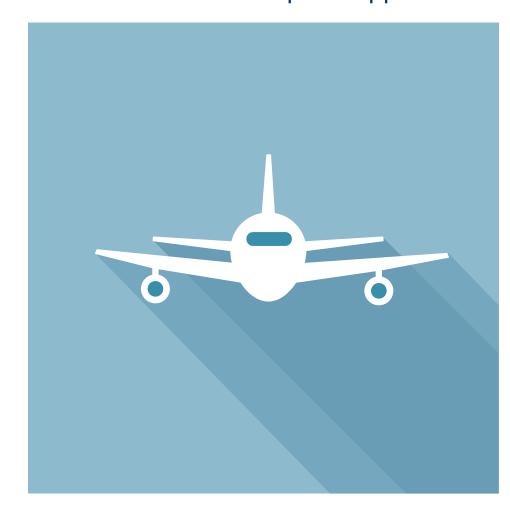
- Custom sizes resulting in higher yields of machined parts
- Short delivery times typically 2 to 3 weeks after receipt of an order
- Large inventory of rods, plates and tubular bars of various polymers and sizes

## Our extruded stock shapes for the aerospace industry are available in the following grades and sizes:

Material	Tubular Bar	Rod	Plate/Sheet
	OD	DIA	Thickness
PEEK Unfilled/GF30/CF30	3"- 6"	3/8"- 8"	3/8" - 4"
PEEK Bearing Grade	3"- 6"	1/2" - 6"	3/8" - 4"
PEEK-HT Unfilled/GF30/CF30	3"- 4"	1/2" - 4"	3/8" - 3"
AVASPIRE AV651 Unfilled - PAEK	3"- 6"	3/8" - 6"	3/8" - 3"
EXTEM XH1005 - PI	3"- 6"	3/8" - 4"	3/8" - 3"
Radel R7000 - PPSU	3"- 6"	3/8" - 12"	3/8" - 4"
ULTEM 9085 – PEI	3"- 6"	3/8" - 12"	3/8" - 4"
ULTEM 1000/2300/CRS5X01 - PEI	3"- 6"	3/8" – 12"	3/8" – 4"
LEXAN CFR5630 - PC	3"- 6"	3/8" – 10"	3/8" – 3"
LEXAN 104, 3412, 3414 - PC	3"- 6"	3/8" – 12"	3/8" – 4"
ULTRASON E - PES	3"- 6"	3/8" – 12"	3/8" – 4"
NORYL LS6010 - PPO	3"- 6"	3/8" – 10"	3/8" – 3"



# High Performance Polymer Stock Shapes Tubular Bars, Rods & Plates for Aerospace Applications





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