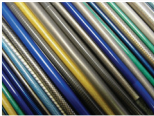
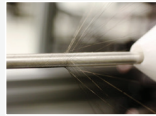


## REINFORCED SHAFTS AND COMPLEX COMPONENTS



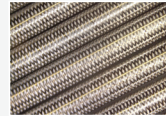
Coil-Reinforced Shafts



Fiber/Non-Metallic Braiding



16, 32, and 48 Carrier Braiders



Variable Pitch Braid-Reinforced Shafts

## CUSTOM BRAID-REINFORCED SHAFT CAPABILITIES

Minimum Inner Diameter:	0.004" (0.3F)
Maximum Outer Diameter:	0.420" (32F)
Liner Materials:	PTFE, FEP, HDPE, Pebax <sup>®</sup> , Nylon, Urethane, TPE, Multi-layers, Polyimide, Polyimide w/Particle Composites, Polyamide-imide, Polyester, Polyphenylsulfone, and others
Outer Jacket Materials:	All medical-grade polymers, including Nylon, Pebax <sup>®</sup> and Urethane, Polyimide, Polyimide w/Particle Composites, Polyamide-imide, Polyester, Polyphenylsulfone
Reinforcement Materials:	Stainless steel round and flat wire, Nitinol, Kevlar <sup>®</sup> , PLLA, UHMWPE, PP, Aramid, and others
Typical Flat Wire Size Range	0.0005" x 0.0025" – 0.001" x 0.007" (0.013 x 0.064 mm – 0.025 x 0.178 mm)
Typical Round Wire Size Range	0.001" – 0.007" (0.025 mm – 0.178 mm)
Variable-Pitch Braiders	16, 32, and 48 carriers
Additional Features	Multi-lumen, variable-stiffness continuous processing, multi-durometer, radiopaque fillers, variable-pitch, braid-over-braid, braid-over-coil

### Secondary-Processing Capabilities

- Soft tips
- Grinding
- Forming
- Tapering
- Hole punching
- Pad printing
- Performance testing
- Overmolded hubs
- Radiopaque marker bands

**Vention can manufacture a variety of complex shafts in as little as 2 weeks!**

### Braiding Capabilities

Vention Medical has an extensive portfolio of advanced component technologies for the development and manufacture of catheter-based devices. Our new braided shaft center of excellence further enhances our already extensive offering of medical balloons, catheters, multi-layer extrusions, heat-shrink tubing, polyimide, and micro-tubing for a variety of catheter assemblies and minimally invasive medical devices.

### Reinforced Shafts and Complex Components

Reinforcement is ideal for medical device components including:

- Braided catheters
- Deflectable/Steerable shafts
- Variable-pitch braided shafts
- Multi-lumen braid-reinforced shafts
- Multi-durometer braided shafts
- Tapered braided shafts
- Coil-reinforced shafts
- Hybrid braided/coiled shafts

### Unique Applications

- Micro-catheters
- High pressure systems
- TAVI devices
- Fiber optics
- MRI-compatible devices
- Energy delivery systems

Let Vention partner with your engineering team to provide leading-edge solutions at a fraction of the time and cost.

**CONTACT US TODAY FOR MORE INFORMATION ABOUT  
REINFORCED SHAFTS OR COMPLEX COMPONENTS.**

INNOVATION AT THE SPEED OF VENTION

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