

BRAID REINFORCED

- The construction of a typical reinforced tube consists of a substrate layer, braided or coiled layer and an exterior layer.
- Substrates can include Polyimide, PTFE Composites or Pure PTFE liners. Pure PTFE liners and PTFE Composites offer reduced surface friction.
- The exterior layer is typically constructed of Polyimide, but can consist of thermoplastics like Pebax, Nylon & Urethanes for varying durometer & color.
- The most common braid/coil material is 304V stainless steel. Both round and flat wires are available.
Common wire sizes:
Round wire 0.0010" to 0.0020"
Flat wire 0.0005" x 0.0025" and larger
- "PIC" count = per inch crosses (Braid)
"WPI" count = wraps per inch (Coil)
- Higher PIC counts improve flexibility, while a lower PIC count increases longitudinal stiffness.
- The PIC count can be varied within a specific length to provide variable flexibility. This can also be achieved via selective laser removal of OD layers.
- Selective laser removal of Polyimide top-layers increases flexibility and helps in secondary processes & assembly.
- Coil reinforced designs offer better overall flexibility.
- Axial reinforcement provides added tensile strength and minimized elongation.
- Band swaging



Braid reinforced
with laser cut slits

MicroLumen offers custom braid and coil reinforced tube shafts. The primary advantages of reinforcement include increased column strength, torque transmission and increased burst strength. Reinforced tubes are available in a wide range of diameters and configurations.

