

POLYESTER (PET) **Heat Shrink Tubing**

Experience the world's thinnest, smallest, and strongest heat shrink tubing. Nordson MEDICAL's polyester (PET) heat shrink tubing is ultra-thin-walled, high-strength, optically clear or pigmented and heat shrinkable. This technology was developed specifically for the medical device industry, and has been at the leading edge of medical device tubing since its creation.

UNIQUE MATERIAL CHARACTERISTICS

- Ultra-thin wall, ultra-high strength, and high dielectric strength
- Can be recovered at relatively low temperatures
- Axial shrinkage pulls components together
- Can be transformed into custom parts by drawing/shrinking onto a shaped mandrel (conical, square, triangular, etc.)
- Can be "heat-set" so that it is stable up to a prescribed temperature
- Can be printed for shaft marking/indicating

APPLICATIONS

- Braid termination
- Insulation
- Encapsulation, bundling, and strain relief
- Masking for coating procedures
- Micro-hose clamps
- Tube joining (variable stiffness catheters)
- Balloon bonding
- Shaft lamination
- Tipping
- General reflow (RX ports, braided shaft lamination, etc.)

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PROCESSING GUIDELINES

Sizing

- Diameter range: 0.006" - 0.5" (0.15 mm - 12.7 mm)
- Wall thickness range: 0.0001" - 0.004" (0.0025 mm - 0.10 mm)
- Tight fit is best: 15% gap or less*
- Shrink ratios: 1.1:1 up to 3:1**

Reflow Settings

- Material shrink temp range: 185°F to 374°F (85°C to 190°C)
- Material melt temp: 473°F (245°C)
- Recommended hot box range: 300°F to 450°F (149°C to 232°C)

Material Compatibility

PET releases easily from most common thermoplastics. However, some low-durometer urethanes tend to tack to the PET and may require a resting period (~1hr) or may not be compatible. Run test samples with these materials

***NOTE:** PET should be sized no larger than 15% above the maximum diameter of your part. Recommended approach is to use a heat shrink tube with a minimum expanded ID that just clears the maximum diameter of your part.

****NOTE:** Recovery >20% can be achieved by drawing or holding the ends of the heat shrink as it is heated.

ADDITIONAL MECHANICAL/ELECTRICAL PROPERTIES OF PET

- Very high tensile strength up to and exceeding 20,000 psi depending upon tubing design
- One of the highest dielectric strength ratings of any thermoplastic material (>4,000 V/mil (60Hz))
- Extremely smooth surface finish of ID transfers to processes components
- Available in a clear, white, and black (other colors may be available upon request)
- Can be bonded using a wide range of adhesives (surface treatment recommended: plasma etching, corona treating, or mechanical roughening)
- Can be sterilized using ethylene oxide, gamma radiation, e-beam, or autoclaving (repeat autoclaving is not recommended)
- Meets USP Class VI and ISO 10993 requirements