



Optinova's PTFE Zebra (Spiral) heat shrink tubing is used for flexible endoscopic devices by being recovered on a guide wire.

Thanks to the low friction nature of PTFE, the heat shrink has exceptionally lubricious coating abilities. We offer shrink ratios of up to 4:1. The tubing can be sterilized using either EtO or Autoclave.

PTFE is also an excellent electrical insulator, covering a wide temperature range from -200°C to +260°C. The recovery temperature is 340°C±5°C and the recovery times vary, depending on the design.

# PTFE

## Zebra Heat Shrink

Providing customizable and personalized solutions is Optinova's trademark, we would be more than happy to tailor our tubing to your business' specific requirements. For over 50 years, we have led the industry with quality, innovation and customer experience.

### Key features

- Shrink ratios up to 4:1 with unique color pattern to aid surgeons during operation
- Lower friction, exceptionally lubricious coating abilities
- Resistant to heat, shock, corrosion, moisture and other extreme environmental conditions
- Custom sizes to meet specific customer requirements

### Why Optinova?

- Over 50 years of experience in extrusion
- Uncompromised quality and highly consistent tubing performance with higher yield
- On-time delivery
- Education in material properties
- Test report, biocompatibility documentation and certificate of compliance for traceability

	Unit	PTFE
Wall	mm (inches)	>0.1-5.0 (>0.004-0.2)
Density	g/m <sup>3</sup>	2.17
Specific gravity		2.15
Transparency		Good
Sterilization		EtO, Steam, Autoclave
<b>Environmental</b>		
Water absorption	%	<0.01
Oxygen index	%	>95
Flammability		V-0
Weather resistance		Excellent
Chemical resistance		Excellent
<b>Thermal</b>		
Melting point	°C (°F)	330 (626)
Thermal conductivity	BTU/h/ft/°F	1.7
Min/Max service temp	°C (°F)	-240/260 (-400/500)
Shrink temperature	°C (°F)	335-345 (635-653)
Deflection temp (66 psi)	°C (°F)	122 (252)
Deflection temp (264 psi)	°C (°F)	55 (131)
<b>Mechanical</b>		
Tensile strength at break	MPa	20-34
Elongation at break	%	200-400
Compressive strength	psi	3 500
Impact strength	Ft-Lb/in	3.5
Flexural Modulus	MPa	275-620
Tensile Modulus	psi	80 000
Hardness	Shore D	55-65
<b>Electrical</b>		
Dielectric const at 10 <sup>3</sup> Hz		2.1
Dielectric const at 10 <sup>6</sup> Hz		2.1
Dielectric DF at 10 <sup>3</sup> Hz		0.0002
Dielectric DF at 10 <sup>6</sup> Hz		0.0002
Volume resistivity (D 257)	Ohm	>10 <sup>18</sup>

We can offer unique color patterns that meet your specific needs and requirements.

### Specifications

- Min Wall: 0.08mm
- Smaller wall sizes need to be checked on case by case basis
- Pitch: max 16 stripes per inch
- Colors: black/yellow, black/pink, white/blue, black/green, white/green
- Other colors need to be checked on case by case basis).

### Examples

Guide wire  
0.64 mm (0.025")

- exp ID: 0.80mm (MIN)
- mandrel size 0.51mm
- rec OD over mandrel 0.64mm
- rec ID 0.25mm (MAX)

Guide wire  
0.80 mm (0.032")

- exp ID: 0.75mm (MIN)
- mandrel size 0.65mm
- rec OD over mandrel 0.80mm
- rec ID 0.25mm (MAX)

Guide wire  
0.89 mm (0.035")

- exp ID: 0.95mm (MIN)
- mandrel size 0.59mm
- rec OD over mandrel 0.89mm
- rec ID 0.25mm (MAX)