

Optinova FEP Heat Shrink Tubing

Solutions for Medical Applications.



Optinova's customizable FEP Heat Shrink is ideal for lamination and bonding, with the industry's highest shrink ratio up to 2.1:1 and our unique QuickShrink™ low-temp solution.

Optinova provides an off-the-shelf FEP HS toolbox for fast prototyping and offers custom shrink ratios upon request.



Key advantages

- **Tight tolerances:** Customizable shrink ratios ranging from 1.3:1 to 2.1:1, ensures tight, uniform jacketing during reflow, without compromising the underlying structure
- **Stable Performance:** Consistent batch-to-batch reliability, lowers scrap
- **Minimal Length Change:** Post-shrink length change is minimal with a maximum of 10% (optional 4%), outperforming the industry standard of 10-15%, which improves yield and lowers scrap
- **Superior cut to length:** Consistent clean, straight cuts with no defects
- **Toolbox Inventory:** Ensures FEP HS availability for quick-turn R&D prototyping demands
- **Scalability:** Enables rapid growth in production

Advantages of QuickShrink™ for 1.6:1

- **Fast shrinking process:** Fast Shrinkage within 30 seconds which results in shorter production cycle and reduced costs
- **Low Shrink Temperature:** FEP QuickShrink™ has a low and adjustable shrink temperature between (80°C - 210°C / 176°F - 410°F) compared with conventional heat shrink (215°C / 420°F). Ideal for temperature sensitive substrates.
- **Versatile Properties:** High lubricity, transparency, chemical resistance and anti-stick surface make QuickShrink™ ideal for tube bonding, reflow processing, and forming.

Applications

- Catheter lamination
- Tip forming
- Balloon bonding
- Tube bonding
- Marking

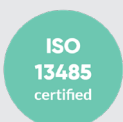
Toolbox Specifications

FEP HS 1.6:1
FEP HS 2.0:1

QuickShrink FEP HS 1.6:1

Optinova's **decades of innovation with superb customer service** in combination with our **commitment for quality** at every step of production make us a **scalable solution** for high performing **catheter applications**.

Medical-grade certifications



We empower customers through highly reliable tubing solutions.



Properties

General	Unit	Shrink Ratio 1.3:1	Shrink Ratio 1.6:1	Shrink Ratio 2.0:1
Expanded ID	mm (in)	0.7-13 (0.028-0.512)	0.8-13 (0.032-0.512)	2.90-11.46 (0.114 -0.451)
Recovered Wall	mm (in)	0.15-0.30 (0.006-0.012)	0.15-0.30 (0.006-0.012)	0.36-0.84 (0.015-0.033)
Environmental				
Water absorption	%	<0.01		
Oxygen index	%	>95		
Flammability		V-0		
Weather resistance		Excellent		
Chemical resistance		Excellent		
Specific gravity		2.15		
Transparency		Very good		
Sterilization		EtO, Steam		
Thermal				
Melting temperature	°C (°F)	260-265 (500-509)		
Continuous service temp	°C (°F)	200 (390)		
Shrink temperature	°C (°F)	149-232 (300-450)		
Deflection temp (66 psi)	°C (°F)	59 (138)		
Deflection temp (264 psi)	°C (°F)	57 (134)		
Mechanical				
Tensile strength at break	MPa	25-28		
Elongation at break	%	320		
Compressive strength	psi	15.2		
Impact strength	Ft-Lb/in	No Break		
Flexural Modulus	MPa	654.6		
Tensile Modulus	psi	344.5		
Hardness	Shore D	D-55		
Electrical				
Dielectric const at 10 ³ Hz		2.1		
Dielectric const at 10 ⁶ Hz		2.1		
Dielectric DF at 10 ³ Hz		0.0001		
Dielectric DF at 10 ⁶ Hz		0.0008		

About Us

Founded in 1971, Optinova is a world-leading extrusion partner for advanced medical and industrial tubing. With sales offices around the world and four extrusion plants in Finland, Thailand, and the US, we are serving partners from 50+ countries across industries.

Contact Us

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