

Product Line Brochure

Heat Shrink Comparison Brochure

High-performance heat shrink options extruded for protection and customized to overcome complex design challenges.



zeusinc.com

Heat Shrink Portfolio

Limit costly insulation failures.

Heat Shrink Products

FluoroPEELZ® Peelable Heat Shrink: This optically clear, peelable heat shrink is designed to improve the reflow of the catheter jacket - the final step in the construction process. FluoroPEELZ® reduces downstream processing, increases yields, and produces minimal scrap for cost savings. FluoroPEELZ® is available in sizes from neurological builds to AAA profiles.

Dual-Shrink™: Can be used to splice wiring exposed to the most extreme environments. Constructed with an exterior of PTFE heat shrink and an inner layer of FEP, our Dual-Shrink™ provides a tight moisture-proof bond over wires, cables, connectors, splices, terminals and others.

PTFE Sub-Lite-Wall®: 4:1 & 2:1 Heat Shrink: We make the smallest heat shrink in the world - as thin as a human hair - with our PTFE-Sub-Lite-Wall® products. These products have wall thicknesses down to .0015" and tolerances of +/- .0005". Zeus also has PTFE Heat Shrink catalog sizes ranging to 4.00" expanded ID's with a maximum shrink ratio of 4:1 and meets the AS23053/12. These excellent insulators withstand high temperatures up to (500 °F / 260 °C).

PEEKshrink™: This product is ideal for difficult environments where abrasion, chemicals, or dielectric interference pose a threat to wires and electrical components.

Heat Shrink Property Comparison Chart

RESIN/ PRODUCT	OPERATING TEMP	SHRINK RATIOS	RECOVERY TEMP
FluoroPEELZ®	200 °C / 400 °F	Up to 1.65:1	215 °C / 420 °F +/- 10 °C / 50 °F
PEEKshrink™	260 °C / 500 °F	Up to 1.4:1	343 °C - 385 °C (650 °F - 725 °F)
Dual-Shrink™	232 °C / 450 °F	Varies by diameter	343 °C / 650 °F +/- 10 °C / 50 °F
Low-Temp Dual-Shrink™	302 °F / 150 °C		215 °C / 419 °F +/- 10 °C / 50 °F
PTFE Sub-Lite-Wall®	260 °C / 500 °F	Up to 4:1	343 °C / 650 °F +/- 10 °C / 50 °F
PTFE	260 °C / 500 °F	Up to 4:1	343 °C / 650 °F +/- 10 °C / 50 °F
FEP	205 °C / 400 °F	Up to 2:1	215 °C / 420 °F +/- 10 °C / 50 °F
FEP Roll Cover	205 °C / 400 °F	Up to 1.6:1	215 °C / 420 °F +/- 10 °C / 50 °F
FEP Lay-Flat™	205 °C / 400 °F	Up to 1.6:1	215 °C / 420 °F +/- 10 °C / 50 °F
ETFE	150 °C / 302 °F	Up to 1.6:1	174 °C / 345 °F +/- 10 °C / 50 °F
PFA	260 °C / 500 °F	Up to 1.6:1	210 °C / 410 °F +/- 10 °C / 50 °F
PET Lay-Flat™	145 °C / 293 °F	Varies	89 °C / 180 °F

**Always assure good ventilation in the immediate work area prior to beginning the heat shrink process. Caution: Fumes may cause nausea and dizziness. Heat guns can also be used to recover heat shrink material.*

DIELECTRIC STRENGTH ASTM D149	SPECIAL FEATURES	APPLICATIONS
2000 V/Mil	<ul style="list-style-type: none"> • Peelable • Clear • USP Class VI 	<ul style="list-style-type: none"> • Catheter manufacturing aid • Packaging
3500 V/Mil	<ul style="list-style-type: none"> • High temperature resistance • Abrasion resistant • Lightweight • Non-flammable 	<ul style="list-style-type: none"> • Wire splicing • Lead wire insulation • Replacement for Kapton® tape
2000 V/Mil	<ul style="list-style-type: none"> • Combines the best properties of PTFE & FEP for a dual-layer heat shrink • Keeps out moisture • Non-flammable 	<ul style="list-style-type: none"> • Environmental seal over wires, cables, connectors, splices, terminals and other components
	<ul style="list-style-type: none"> • Combines the best properties of FEP & EFEP for a dual-layer heat shrink. • Blocks Moisture • Non-flammable 	<ul style="list-style-type: none"> • Sensor encapsulation • Fiber Optic splice encapsulation and boot strain relief • Wire splicing/termination
800 V/Mil	<ul style="list-style-type: none"> • Thinnest recovered wall, globally • Smallest PTFE diameters • High temp resistance • Chemically resistant • Highly lubricious • UV resistant 	<ul style="list-style-type: none"> • Splice for fiber optics • Guide wire coating
800 V/Mil	<ul style="list-style-type: none"> • High temperature resistance • Chemically resistant • Lubricious • UV resistant • AS23053/12 	<ul style="list-style-type: none"> • Insulation • Protective Cover • High temperature shrink
2000 V/Mil	<ul style="list-style-type: none"> • High temperature resistance • Chemically resistant • Lubricious • UV resistant • Long lengths • Non-flammable • AMS 23053/11 (Excluding 2:1) 	<ul style="list-style-type: none"> • Insulation • Low temp shrink • Bulb encapsulation • Catheter construction • Catheter manufacturing aids
2000 V/Mil	<ul style="list-style-type: none"> • High temperature resistance • Chemically resistant • Lubricious • UV resistant • Long lengths • Larger diameters • AS23053/11 	<ul style="list-style-type: none"> • Thicker wall for durable covering of rollers
2000 V/Mil	<ul style="list-style-type: none"> • High temperature resistance • Thin walls combined with large diameters • Long lengths 	<ul style="list-style-type: none"> • Seamless composite release aid
1800 V/Mil	<ul style="list-style-type: none"> • Abrasion resistant • Chemical resistant • Non-flammable 	<ul style="list-style-type: none"> • Abrasion resistant wire insulation
2000 V/Mil	<ul style="list-style-type: none"> • Temperature resistant • More flexible than PTFE • Melt processable 	<ul style="list-style-type: none"> • High temperature insulation • Available in long lengths
N/A	<ul style="list-style-type: none"> • Low recovery temperature • Quick recovery • Long lengths • Easy shipping • Cost effective 	<ul style="list-style-type: none"> • Light bulb encapsulation

FEP Lay-Flat™ and Heat Shrink: When aerospace composite engineers need a more efficient alternative to films and tapes, they use ultra-thin FEP Lay-Flat™ heat shrink for composite forming applications. Available in a variety of diameters with wall thicknesses down to 0.004”, FEP Lay-Flat™ heat shrink’s easy removal increases productivity and leaves an improved surface finish. FEP is also an excellent choice for electrical insulation and has shrink ratios up to 2:1. FEP 1.3:1 and 1.6:1 meet AS23053/11 standard.

Heat Shrink Applications

Guide Wire Coatings: PTFE Sub-Lite-Wall® spiral stripe heat shrink is used to provide a lubricious jacket and indicate movement of guide wires.

Laparoscopic Insulation: FEP and PTFE heat shrinks provide insulation to protect the physician and patient during energy based procedures.

Battery Pack Encapsulation: Heat shrinks help protect battery packs from moisture and chemicals and offer an additional thermal barrier.

Wire Splicing: Use PEEKshrink™ to replace films and tape, turning the weakest point in coil windings into the strongest and most reliable. Dual-Shrink™ is commonly used for wire splicing and provides moisture proof encapsulation.

Core Sampling Encapsulation: Protect core samples and apply a durable skin that is a chemically inert, high-temperature, and transparent jacket.

Kapton® Replacement: Applications such as Electrical submersible pumps (ESP) replace Kapton® tape for PEEKshrink™ to splice wire.

Light Bulb Encapsulation: Make light bulbs safe by providing a shatterproof encapsulation with PET Lay-Flat™ heat shrink, or utilize FEP Lay-Flat™ heat shrink for germicidal light bulb encapsulation as it withstands ultra-violet (UV) light.

*Ovens are the most reliable way to recover heat shrink products due to their ability to ensure even heating and reduce the risk of overheating the material (which can lead to brittleness and cracking).

Get to know Zeus.



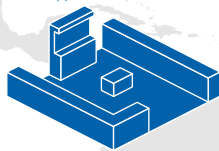
1,700+
EMPLOYEES



180
COUNTRIES
SERVED



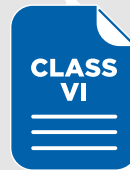
100+
SCIENTISTS, ENGINEERS,
AND R&D PERSONNEL



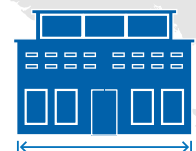
25+
DEVOTED
CLEAN ROOMS



CERTIFIED
ISO 9001 | AS 9100
ISO 13485 | IATF 16949



100+
CLASS VI APPROVED
RESINS & PIGMENTS



10
WORLD-CLASS
FACILITIES

— OUR MISSION —

PROVIDE SOLUTIONS · ENABLE INNOVATION · ENHANCE LIVES

For over 50 years, Zeus has been working to achieve excellence as a global supplier of quality extrusions by: putting customers at the heart of everything we do, inspiring compassion toward one another, and relentlessly pursuing perfection. We've dedicated ourselves to building partnerships, products, and services for the benefit of our customers.

Headquartered in Orangeburg, South Carolina, Zeus employs 1,700+ team members and operates 10+ facilities around the world.



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