

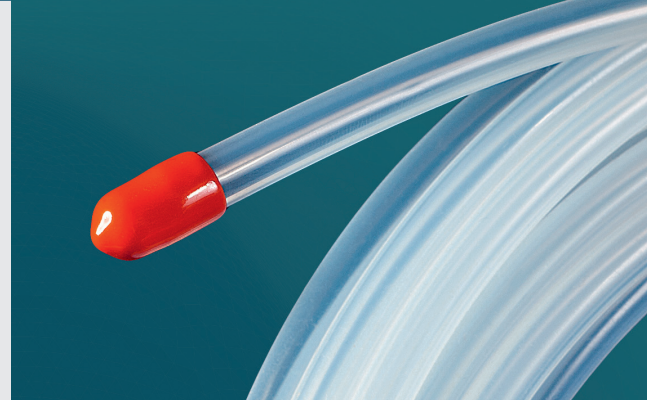
# Optinova High Purity PFA Tubing

Solutions for Industrial Applications.



Optinova SEMICON solutions offer high-quality tubing for semiconductor manufacturing. Our high-purity PFA tubing handles aggressive chemicals and ultra-pure water, while matching PFA welding rods support welding needs.

For less critical applications, we provide cost-effective alternatives like modified PTFE and PVdF tubing.



## Key advantages

- High purity tubing material prevents wafer contamination.
- Smooth inner surfaces enhance slurry supply.
- Save transport of chemicals like HF, HCl, H<sub>2</sub>SO<sub>4</sub>, H<sub>3</sub>PO<sub>4</sub> and others.
- Improved stress life and chemical stress crack resistance.
- Uncompromised quality and highly consistent tubing performance at high temperatures gives higher yield.
- Excellent weldability towards other PFA components by using welding rods in same quality.

## Applications

- Bulk chemical distribution systems (BCD)
- Chemical mechanical planarization (CMP)
- Wafer cleaning and packing
- Ultra-pure water supply
- Chemical waste collection

### Industrial-grade certifications



In addition to our **high-purity** options, we offer a **wide range of tubing** materials available in both metric and imperial sizes to **meet your specific needs.**

### Technical specifications

<b>Diameter range:</b>
ID 1,59 mm (1/16") up to 101,60 mm (4")
OD 3,18 mm (1/8") to 108,00 mm (4 1/4")
Wall thicknesses 0,79 mm (1/32") to 5,00 mm (1/5")
Tight tolerances from +/-0,05 mm ( +/-0,002")
<b>Materials available:</b>
450HP, 451HP, 950/951HP PLUS (Chemours)
AP230, AP230SH, AP231SH (Daikin)
<b>Regulatory:</b>
Extractables tested to SEMI F57-0622 (F40-0621E:85°C, 7d, UPW)
Inner surface roughness tested to SEMI C90 standards
Produced in ISO9001:2015, ISO14001:2015 and ISO13485 environment
<b>Supply:</b>
Fixed length of 25/30/50/100 or 200 m per coil
Coils with endcaps in double plastic bags
Straight pieces up to 6 mtr available in boxes upon request

For more technical information, please contact us at our sales offices or visit our website: [optinova.com/contacts](https://www.optinova.com/contacts)



# We empower customers through highly reliable tubing solutions.



Properties	Specification	Unit	
<b>General</b>			
Continuous service temperature	Maximum	°C/ °F	260/500
Chemical resistance		-	Excellent
Specific gravity	D792		2.15
Transparency	-	-	Excellent
Sterilization			Eto, Steam
<b>Environmental</b>			
Water absorption	D570	%	<0.03
Weather resistance	-	-	Excellent
Oxygen index	D2863	%	>95
Flammability	UL 94	-	V-0
<b>Thermal</b>			
Melting Point		°C / °F	305/581
Thermal Conductivity		BTU/(h.ft.°F)	1.3
Deflection Temperature	D648		
66 psi		°C / °F	74 / 166
264 psi		°C / °F	48 / 118
<b>Mechanical</b>			
Tensile strength	D1798, D638	psi	4 000
Elongation	D1798, D638	%	300
Compressive strength	D695	psi	2 200
Impact strength	D256 (+23 °C)	Ft-Lb/in	No Break
Flexural Modulus	D790 (+23 °C)	psi	100 000
Tensile Modulus	D638	psi	40 000
Hardness	D2240	-	D-160
Coefficient of friction	-	-	0.21
<b>Electrical</b>			
Dielectric constant	D150 (103 Hz), D150 (106 Hz)	-	2.1
Dielectric dissipation factor	D150 (103 Hz),	-	0.0002
	D150 (106 Hz)	-	0.0003
Diaelectric strength (short term)	D149	Volt/mil	2 000
Volume resistivity	D257	Ohm • cm	>10 <sup>18</sup>

## 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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