

PTFE DIELECTRIC COAXIAL CORE

Optinova supplies PTFE Dielectric Coax Core as a component to manufacturers of flexible and semi-rigid coaxial cables.

Conductors are stranded or solid silver-plated copper or copper weld. Dielectric values are tightly controlled to meet the requirements of each finished cable as specified by the cable producer.

Longer lengths are available thanks to ultra-long extruders. Our coaxial core solution is designed for superior dielectric and dimensional performance and control. A variety of conductors are available for this product.

Available in all standard sizes and dimensions, our high-performance fluoropolymer tubing can also be customized to meet your unique needs to ensure maximum protection, reliability, and performance.

KEY ADVANTAGES

- Longer length means less scrap during cable manufacturing
- Higher yields and more electrically stable cable constructions
- 83% minimum dielectric concentricity

APPLICATIONS

High performance flexible and semi-rigid coaxial cables are used in both military and commercial wireless communication systems and other high frequency test and measurement equipment.

SIZES AND COMPARISONS

Size, AWG	Conductor Diameter (in/mm)	Dielectric Diameter Tolerance (in/mm)	Dielectric Concentricity
32-28	0.0080/0.203 - 0.0126/0.0320	0.001/0.025	83% min
28-24	0.0126/0.320- 0.0201/0.511	0.002/0.051	83% min
24-18	0.0201/0.511- 0.0403/1.024	0.002/0.051	90% min
18-12	0.0403/1.024- 0.0808/2.052	0.003/0.076	90% min
12-9	0.0808/2.052- 0.1144/2.906	0.005/.0127	90% min
117/0.0314"	0.096/2.438	0.005/0.127	90% min

Contact our sales offices or visit our website for more information about samples and specifications!

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PTFE MATERIAL PROPERTIES

	Property	Specification	Unit	
General	Continuous service temperature	Maximum	°C	260
		Maximum	°F	500
	Chemical resistance			Excellent
	Specific gravity	D 792		2.15
Electrical	Dielectric constant	D 150 at 10 ³ Hz		2.1
		D 150 at 10 ⁶ Hz		2.1
	Dielectric dissipation factor	D 150 at 10 ³ Hz		0.0002
		D 150 at 10 ⁶ Hz		0.0002
	Dielectric strength	D 149	Volt/mil	> 1 400
	Volume resistivity	D 257	Ohm • cm	> 10 ¹⁸
Environmental	Water absorption	D 570	%	< 0.01
	Weather resistance			Excellent
	Oxygen index	D 2863	%	> 95
	Flammability	UL 94		V-0
Mechanical	Tensile strength	D 1708, D 638	psi	3 500
	Elongation	D 1708, D 638	%	300
	Compressive strength	D 695	psi	3 500
	Impact strength	D 256 at 23°C	Ft-Lb/in	3.5
	Flexural modulus	D 790 at 23°C	psi	90 000
	Tensile modulus	D 638	psi	80 000
	Hardness	D 2240		D-60
Thermal	Melting point		°C	327
			°F	620
	Thermal conductivity	C-177	BTU/hr/ft ² /°F.in	1.7
	Deflection temperature			
	66 psi	D 648	°C	122
	264 psi	D 648	°C	55
	Deflection temperature			
	66 psi	D 648	°F	252
	264 psi	D 648	°F	131

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