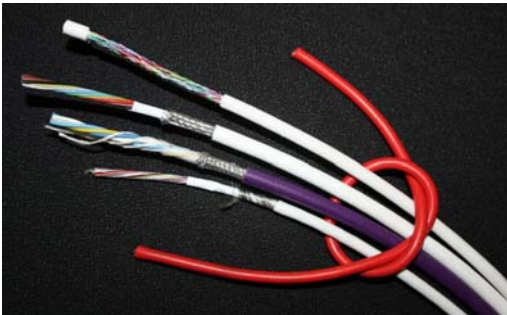


Common Wire Insulations

Material	SPECIFIC GRAVITY (nominal)	VOLUME RESISTIVITY (nominal) (ASTM D257) (OHM-CM AT R T)	VOLTAGE BREAKDOWN (nominal) (ASTM D149) (VOLTS/MIL)	RESISTANCE TO COLD FLOW	RESISTANCE TO ABRASION	DIELECTRIC CONSTANT (nominal) (ASTM D150)	FLAME RETARD PROPERTIES	FLEXIBILITY	WEATHERABILITY	TEMP RANGE °C (nominal)
Rubber	0.93	10 ¹⁵	150-500	Exc.	Exc.	2.3-3.0	Poor	Exc.	Poor	-40 to 70
Silicone Rubber	0.97	10 ¹⁴	500-600	Good	Poor	3.2	Poor	Exc.	Exc.	-60 to 200
Neoprene	1.25	10 ¹¹	150-600	Exc.	Exc.	9.0	Good	Exc.	Exc.	-30 to 90
Hypalon†	1.15	10 ¹⁴	500	Good	Exc.	7.0-10.0	Good	Good	Exc.*	-30 to 105
Plyvinyl Chloride (PVC) - Standard	1.3	10 ¹¹	500	Fair	Fair	7.0	Exc.	Good	Exc.	-20 to 80
Polyvinyl Chloride (PVC) Premium	1.3	10 ¹²	500	Fair	Good	7.0	Exc.	Good	Exc.	-55 to 105
Polyethylene - Solid	0.95	10 ¹⁸	600	Poor	Good	2.5	Poor	Fair	Exc.*	-60 to 80
Polyethylene - Foam	0.5	10 ¹⁸	N.A.	Poor	Poor	1.5	Poor	Good	Exc.*	-60 to 80
Teflon† (TFE & FEP)	2.2	10 ¹⁸	600	Fair	Exc.	2.1	Exc.	Fair	Exc.	**70 to 250
Nylon	1.07	10 ¹⁴	450	Good	Exc.	4.0	Poor	Poor	Exc.	-40 to 120
Polypropylene	0.91	10 ¹⁵	650	Good	Exc.	2.2	Poor	Poor	Exc.*	-40 to 105
Rulan†	1.3	10 ¹⁷	420	Poor	Good	2.8	Exc.	Good	Exc.	-50 to 80
Irradiated Polyvinyl Chloride (PVC)	1.3	>10 ¹²	500	Fair	Good	5.0	Exc.	Good	Exc.	-55 to 115
Irradiated Polyolefin ¹ (Polyalkene)	1.3	>10 ¹⁵	600	Fair	Good	2.5	Exc.	Good	Exc.	-50 to 125
Kynar ²	1.76	2x10 ¹⁵	250	Good	Exc.	5.0-6.0	Exc.	Good	Exc.	-40 to 150
Irradiated Kynar	1.8	2x10 ¹⁵	>250	Good	Exc.	5.0-6.0	Exc.	Good	Exc.	-55 to 175
Polyurethane	1.1	10 ¹¹⁻¹⁴	500	Good	Exc.	5.0-8.0	Poor	Exc.	Exc.	-50 to 80
Polysulfone	1.24	5x10 ¹⁶	400	Good	Good	3.1	Exc.	Good	Good	-55 to 150
Kapton†	1.4	10 ¹⁸	4	Good	Exc.	3.5	Exc.	Exc.	Exc.	-40 to 200
Ethylene-Propylene Copolymer (EPR)	0.86	10 ¹⁷	900	Good	Good	3.3	Poor	Exc.	Exc.	-40 to 80
Fluorosilicone	1.4	10 ¹⁴	350	Good	Exc.	7.0	Exc.	Exc.	Exc.	-60 to 200
Tefzel 280†	1.7	>10 ¹⁶	400	Good	Exc.	2.6	Exc.	Fair	Exc.	-70 to 180
Teflon PFA†	2.1	10 ¹⁸	600	Good	Exc.	2.1	Exc.	Fair	Exc.	-70 to 250
Halar ⁵	1.68	10 ¹⁵	490	Good	Exc.	2.6	Exc.	Fair	Exc.	-70 to 165



* When properly pigmented to resist ultraviolet light

† Trademark of DuPont

**FEP Teflon 200°C Max.

1. Flame retarded

2. Trademark of Pennsalt

3. Values are for 1/8" slab. A number of materials such as Kynar, irradiated polyolefin, and Kapton have significantly improved voltage breakdown characteristics when used as thin wall wire insulation.

4. Voltage breakdown for 1 mil thickness is 7 kV/mil. for Kapton.

5. Trademark of Allied Chemical Corp.

Wires are selected according to normal industry standards -- DEF, BS, MIL, CSA, and Underwriter Laboratories.

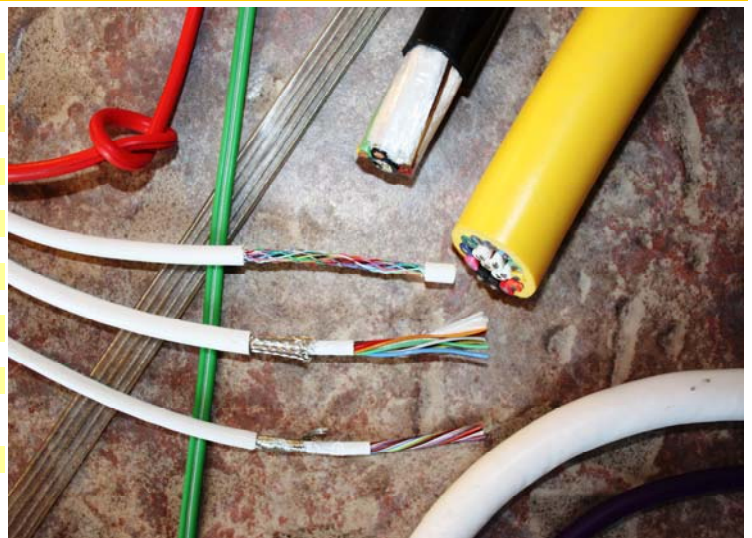
Conversion Chart

LENGTH

Centimeters	x	0.3937	Inches
Feet	x	12	Inches
Feet	x	0.3048	Meters
Inches	x	25,400	Microns
Inches	x	25.4	Millimeters
Kilometers	x	0.621	Miles
Meters	x	3.281	Feet
Meters	x	39.37	Inches
Meters	x	1.093	Yards
Microns	x	0.03937	Mils
Mile	x	1.609	Kilometers
Millimeters	x	0.03937	Inches
Mils	x	0.0254	Millimeters
Yards	x	36	Inches
Yards	x	0.9144	Meters

TEMPERATURE

Degree C	x 1.8	+ 32	degrees F
Degree F	- 32	÷ 1.8	degrees C



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