

Insulation and Jacket Properties

TYPICAL PROPERTIES OF COMMON INSULATING MATERIALS

PARAMETER	PVC	PE	PP	XLPE	NYLON	EPDM	TFE	BUTYL RUBBER	SILICONE RUBBER	TPR
Specific Gravity	1.37	0.92	0.89	0.93-1.18	1.09	1.43	2.17	1.40	1.60	1.16-1.20
Dielectric Constant										
(a) 60 Hz	6.0	2.26	2.6	3.0	4.6	3.4	2.1	4.1	3.3	2.8
(b) 1000 Hz	5.0	2.25		3.0	4.5	3.4	2.1	4.0	3.1	2.8
Dielectric Strength, v/mil										
(a) 0.010" wall	1800	2100	850	-	1000	700	2000	700	600	625
(b) 0.040" wall	800	1050	450	700	470	500	950	500	400	
Tensile Strength, PSI x 1000	1.5-3.8	1.4-2.4	2.9-4.5	1.8-2.5	8.8-11.9	0.8-1.2	2.0-6.0	0.5-1.5	0.6-1.2	2.3
Service Temp. Range, °C	-55/+105	-90/+90	-40/+105	-55/+105	-55/+105	-55/+105	-90/+260	-40/+90	-80/+200	-55/+90
Elongation, %	200-375	350-550	700	250-400	150-380	250-450	200-500	200-400	125-400	500
Water Absorption, % in 24 hr	<0.75	<0.02	<0.02	<0.01	2.5	<0.1	<0.01	<1.0	<1.0	<0.6
Flame Resistance	Self-Extinguishing	Support Flame	Support Flame	Slow Flame	Self-Extinguishing	Supports Flame	Non-Flammable	Slow Burning	Slow (Non-Cond. Ash)	Flammable
Ozone Resistance	Excellent	Good	Excellent	Good	Good	Excellent	Excellent	Excellent	Excellent	Excellent
Flexibility	Good	Good	Good	Good-Fair	Good-Fair	Excellent	Good	Excellent	Excellent	Excellent
Abrasion Resistance	Good	Good	Fair	Excellent	Excellent	Fair	Excellent	Poor	Poor	Good-Fair
Acid Resistance	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Good	Excellent
Base Resistance	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Good	Good	Excellent
Hydraulic Fluid Resistance	Good-Fair	Fair-Poor	Fair	Good-Fair	Good-Fair	Good-Fair	Excellent	Poor	Fair-Poor	Poor
Organic Solvent Resistance	Fair-Poor	Poor	Fair	Fair	Good-Fair	Fair-Poor	Excellent	Good-Fair	Poor	Poor

NOTE: The above is representative of performance. For specific compound performance, consult factory.

TYPICAL PROPERTIES OF COMMON JACKETING MATERIALS

PARAMETER	PVC	PE	NYLON	CPE	TFE	SILICONE RUBBER	NEOPRENE	POLY-URETHANE	TPR
Specific Gravity	1.37	0.92	1.09	1.46	2.17	1.24	1.52	1.3	1.16-1.20
Tensile Strength, PSI x 1000	1.5-3.8	1.4-2.4	8.8-119	1.2-2.0	2.0-6.0	0.6-1.2	1.5-2.5	>3.5	2.3
Elongation, %	200-375	350-550	150-380	300-500	200-500	125-400	300-500	540-700	500
Service Temp. Range, °C	-55/+105	-80/+75	-55/+105	-50/+105	-90/+200	-80/+200	-65/+90	-65/+75	-55/+90
Ozone Resistance	Excellent	Good	Good	Excellent	Excellent	Excellent	Excellent	Good	Excellent
Weatherability	Good-Fair	Excellent-Good	Fair-Poor	Excellent	Excellent	Excellent	Good	Good	Excellent
Flame Resistance	Self-Extinguishing	Supports Flame	Flammable	Self-Extinguishing	Non-Flammable	Slow-Burn (Non-Cond. Ash)	Self-Extinguishing	Slow-Burn	Flammable
Flexibility	Good	Good	Good-Fair	Excellent	Good	Excellent	Excellent	Excellent	Excellent
Abrasion Resistance	Good	Good	Excellent	Good	Excellent	Poor	Excellent	Excellent	Good-Fair
Acid Resistance	Excellent	Excellent	Poor	Good	Excellent	Poor	Good	Fair	Excellent
Base Resistance	Excellent	Excellent	Excellent	Excellent	Excellent	Good	Good	Fair	Excellent
Hydraulic Fluid Resistance	Good-Fair	Fair-Poor	Good-Fair	Good	Excellent	Fair-Poor	Good	Poor	Good
Organic Solvent Resistance	Fair-Poor	Poor	Good-Fair	Good	Excellent	Poor	Good	Poor	Poor
Resistance to Tearing	Good	Good	Excellent	Good	Good	Fair	Good	Excellent	Good-Fair

NOTE: The above is representative of performance. For specific compound performance, consult factory.