

DATA SHEET

GPO-1 (PAGE 1)

	Unit	ASTM/UL Test No.	TSF	UTS
Part Number			1312	1478
Color, Standard			Brown	Red
MECHANICAL PROPERTIES				
NEMA Grade			GPO-1/GPO-1P	GPO-2/GPO-2P
Military Specification			LP-509/GPO-1	LP-509/GPO-2
Tensile Strength	Psi	D638	9,400	8,900
Tensile Modulus	Psi x 10 ⁶	D638	1.7	1.9
Flexural Strength	Psi	D790	22,300	24,600
Flexural Strength - Hot	Psi	D790	15,400	14,900
Test Temperature	°C	D790	130	130
Flexural Modulus	Psi x 10 ⁶	D790		
Compressive Strength	Psi	D695	38,900	39,000
Shear Strength	Psi	D732	13,400	13,400
Shear Strength - Hot	Psi	D732		
Test Temperature	°C	D732		
IZOD Impact Strength (notched)	Ft. lb./in.	D256	8.0	10.7
Water Absorption	% by wt.	D570	0.3	0.6
Specific Gravity		D792	1.78	1.97
ELECTRICAL PROPERTIES				
Electric Strength - Perpendicular S/T in air	Vpm	D149	417	433
Electric Strength - Perpendicular S/T in oil	Vpm	D149	493	567
Electric Strength - Parallel S/S in air	kV	D149	44	51
Arc Resistance	Sec.	D495	127	130
Inclined Plane Track Resistance	Min.	D2303		
IEC Track Resistance (CTI)	V.	UL746A		500+
UL High Voltage Track Rate	In./Min.	UL746A		0
Permittivity, 60 Hz		D150	4.2	4.1
Dissipation Factor, 60 Hz		D150	0.0095	0.011
Permittivity, MHz		D150	4.2	3.9
Dissipation Factor, MHz		D150	4.2	0.010
Insulation Resistance	Ohm x 10 ¹²	D257	2.4	270.0
FLAME RESISTANCE PROPERTIES				
UL Subject 94		UL94	HB	VO
UL Hot Wire Ignition	Sec.	UL746A		300+
UL High Amp Ignition	#Exposure	UL 746A		200+
UL Standard 723 Flame Spread		E84		
UL Standard 723 Smoke Developed		E84		
UL Standard 723 Fuel Contributed		E84		
Radiant Panel - Flame Spread		E162		
Oxygen Index	%O ₂	D2863	21.8	36.0
Flame Resistance		D229-II		
Ignition Time	Min.			81
Burn Time	Min.			48
THERMAL PROPERTIES				
Coefficient of Thermal Expansion	In/In/ °C x 10 ⁻⁵	D696	2.2	2.0
Thermal Conductivity	BTU/Hr/Ft ² /In/°F	C177	1.8	1.8
UL Temperature Index	Electrical °C	UL746B		130
	Mechanical °C	UL746B		160
UL Recognition File Number				E81928
UL Classification Number				



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	UTR	1580	SG-200	FHT	1911	1119
Part Number	1494	1580	1906	1800	1911	1119
Color, Standard	Red	White	Nat./Tan	Nat./Cream	Black	White
MECHANICAL PROPERTIES						
NEMA Grade	GPO-3/GPO-3P	GPO-3/GPO-3P				
Military Specification						
Tensile Strength	7,800	8,400	12,500	10,500	15,500	8,800
Tensile Modulus	1.7	1.8	1.7			
Flexural Strength	22,100	24,600	29,000		33,000	20,000
Flexural Strength - Hot	13,100	8,470			15,000	
Test Temperature	130	130			130	
Flexural Modulus					1.8	1.0
Compressive Strength	33,100	31,200	36,000	14,000	55,000	35,000
Shear Strength	11,600	12,000	11,100		16,000	12,500
Shear Strength - Hot					9,000	
Test Temperature					200	
IZOD Impact Strength (notched)	8.9	8.9	12.0	10.0	10.0	8.0
Water Absorption	0.4	0.2	0.3	1.1		0.12
Specific Gravity	1.81	1.83	1.70	1.60		1.80
ELECTRICAL PROPERTIES						
Electric Strength - Perpendicular S/T in air	450	425	500	450	300	340
Electric Strength - Perpendicular S/T in oil	584	577	625	570	477	509
Electric Strength - Parallel S/S in air	47	47	50	60	60	
Arc Resistance	180	181	120/180 ²	139	147	170
Inclined Plane Track Resistance	685+					
IEC Track Resistance (CTI)	500+	500+	500+	500+		
UL High Voltage Track Rate	0	0	0	0		
Permittivity, 60 Hz	4.1	4.2	4.6	6.4		4.8
Dissipation Factor, 60 Hz	0.013	0.011	0.037	0.070		
Permittivity, MHz	4.1	4.0	3.7	4.2		3.9
Dissipation Factor, MHz	0.010	0.010	0.013	0.033		
Insulation Resistance	3.1	823.0	145.0			
FLAME RESISTANCE PROPERTIES						
UL Subject 94	VO	VO	HB	HB	HB	VO
UL Hot Wire Ignition	300+	300+	0.028 in./35 0.058 in./39	0.028 in./49 0.058 in./102		
UL High Amp Ignition	200+	200+	200+	200+		
UL Standard 723 Flame Spread						15
UL Standard 723 Smoke Developed						500
UL Standard 723 Fuel Contributed						0
Radiant Panel - Flame Spread						7.8
Oxygen Index	35.0	39.0	21.8	21.8	25.1	89.0
Flame Resistance						
Ignition Time	85	84				
Burn Time	49	23				
THERMAL PROPERTIES						
Coefficient of Thermal Expansion	2.0	2.0	2.0			2.0
Thermal Conductivity	1.9	1.9	1.7			1.7
UL Temperature Index	Electrical	130	120	210	0.028 in./190 0.058 in./200	
		Mechanical	160	140	210	0.028 in./190 0.058 in./200
UL Recognition File Number	E81928	E81928	E81928	E81928		
UL Classification Number						R9599

