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Polyglas® Pultruded Products

Glass Roving Reinforced

Property	Test Method	Condi- tion	Units	Value		
Grade				Polyester	EHS	Supersil
Mechanical						
Ultimate Tensile Strength	ASTM-D-638	RT	Psi	70,000	100,000	70,000
Flexural Strength	ASTM-D-790	RT	Psi	70,000	100,000	70,000
		100 C	Psi	25,000	—	35,000
		150 C	Psi	15,000	—	20,000
Flexural Modulus	ASTM-D-790	RT	Psi	3 x 10 ⁶	6 x 10 ⁶	3 x 10 ⁶
		100 C	Psi	2 x 10 ⁶	—	2.5 x 10 ⁶
		150 C	Psi	1.5 x 10 ⁶	—	2.0 x 10 ⁶
Impact Strength	ASTM-D-256	RT	Ft. lb./ in. notch	30	50	30
Compressive Strength Flatwise	ASTM-D-695	RT	Psi	20,000	20,000	20,000
		RT	Psi	40,000	40,000	40,000
Lengthwise						
Electrical						
Electrical Strength	ASTM-D-149	In Oil	VPM	300	300	400
Perpendicular		In Oil	KV/in.	50	50	50
Parallel						
Power Factor 60 Hz	ASTM-D-150	—	—	0.03	0.03	0.03
Dielectric Constant 60 Hz	ASTM-D-150	—	—	5.0	5.0	5.0
Arc Resistance	ASTM-D-495	—	Sec.	100	100	120
Other						
Thermal Coefficient of Expansion	ASTM-D-696	—	in./in./°F	3 x 10 ⁻⁶	3 x 10 ⁻⁶	3 x 10 ⁻⁶
Thermal Conductivity	—	—	Btu/hr./ sq. ft./ in./°F	4	5	4
Weight Loss	200 hrs @ 150 C	—	%	1.0	—	0.17
	200 hrs @ 200 C	—	%	6.1	—	0.75
Extractables in Freon 22	—	—	%	1.05	—	0.19
Specific Gravity	ASTM-D-792	—	—	1.95	1.95	1.95
Water Absorbtion	ASTM-D-349	24 hrs.	%	0.3	0.1	0.3
Color (standard)	—	—	—	White	Clear	Gray
Other Grades Available						
FR	Flame Retardant — Electrical Grade		} UL Listing E55403			
TR	Track Resistant — Flame Retardant Electrical Grade					

Glass Mat Reinforced

Property	Test Method	Condition	Units	Value	
Grade				M – Standard Polyester	FM – Flame Retardant Polyester
Mechanical					
Ultimate Tensile Strength	ASTM-D-638	RT	Psi	35,000	35,000
Flexural Strength	ASTM-D-790				
Longitudinal		RT	Psi	40,000	40,000
Longitudinal		100 C	Psi	25,000	—
Longitudinal		150 C	Psi	15,000	—
Transverse		RT	Psi	12,000	12,000
Flexural Modulus	ASTM-D-790				
Longitudinal		RT	Psi	2.5×10^6	2.5×10^6
Longitudinal		100 C	Psi	2.0×10^6	—
Longitudinal		150 C	Psi	1.5×10^6	—
Transverse		RT	Psi	0.8×10^6	0.8×10^6
Impact Strength	ASTM-D-256	RT	Ft. Lbs./in. notch	23	23
Compressive Strength	ASTM-D-695				
Edgewise-Longitudinal		RT	Psi	30,000	30,000
Edgewise-Transverse		RT	Psi	12,000	12,000
Electrical					
Electrical Strength	ASTM-D-149				
Perpendicular		In Oil	VPM	300	300
Parallel		In Oil	KV/in.	35	35
Power Factor 60 Hz	ASTM-D-150	—	—	0.03	0.03
Dielectric Constant 60 Hz	ASTM-D-150	—	—	5.0	5.0
Arc Resistance	ASTM-D-495	—	Sec.	100	100
Other					
Flame Resistance	Federal Test Method STD-406-2023	—	Ignition Time/ Burn Time (sec.)	—	75/85
Flamibility	ASTM-D-635	—	—	—	Self Extinguishing
Thermal Coefficient of Expansion	ASTM-D-696	—	In./in./°F	5×10^{-6}	5×10^{-6}
Thermal Conductivity	—	—	Btu/hr./sq. ft./in./°F	4.0	4.0
Specific Gravity	ASTM-D-792	—	—	1.80	1.80
Water Absorbion	ASTM-D-349	24 hrs.	%	0.5	0.5
Color (standard)	—	—	—	Gray/Green	Red
UL Listing					E55403
Other Grades Available					
F – Flame Retardant – Conforms to MIL-R – 21607C					
TM – Flame Retardant – Track Resistant – UL Listing E55403					
C – Chemical Resistant					