



# THE GUND COMPANY

Manufacturers & fabricators of engineered material solutions

Item:	U205 Glass Polyester Laminate		
Description:	U205 is a European grade Class F, 155°C glass polyester laminate that offers excellent track, arc, and flame resistance. It has excellent mechanical properties and thermal performance. Common applications include traction transformers, oil filled power transformer components such as step blocks, coil and core support blocks along with generator rotor coil blocking and end winding support blocks.		
Standards:	IEC 60893 UP GM 205		
Availability:		English Units (in)	SI Units (mm/cm)
	Laminate Sheets:	Thickness <sup>1</sup>	0.118 to 2.362
		Sheets Size <sup>1</sup>	36 x 72
Fabricated Parts:	The Gund Company custom fabricates insulation materials to the exact specifications and drawings of our customers.		

<sup>1</sup> Other sizes available upon request

## IEC 60893-2 UPGM 205 Required Properties

Property	Test Method	Unit	Min/Max	IEC Req.	Typical Values
Flexural Strength at 23°C	EN ISO 178	MPa	Minimum	250	260
Flexural Strength at 150°C	EN ISO 178	MPa	Minimum	125	130
IZOD Impact Strength ( Parallel to Laminations)	EN ISO 180	kJ/m <sup>2</sup>	Minimum	44	115
Dielectric Strength in Oil at 90°C (Parallel)	IEC 60243-1	kV/mm	Minimum	9	13
Breakdown Voltage in Oil at 90°C (Parallel)	IEC 60243-1	kV	Minimum	35	38
Insulation Resistance (Before Immersion in Water)	IEC 60167	MΩ	Minimum	5 x 10 <sup>12</sup>	1 x 10 <sup>13</sup>
Insulation Resistance (After Immersion in Water)	IEC 60167	MΩ	Minimum	5 x 10 <sup>12</sup>	1 x 10 <sup>9</sup>
Proof Tracking Index (CTI)	IEC 60112	V	Minimum	500	500
Flammability	UL 94	Category	--	V-0	V-0
Water Absorption at 10mm Thickness	ISO 62	mg	Maximum	101	83

## Additional Engineering Properties

Property/Key Characteristics	Test Method	Units	Typical Values
Standard Colors	--	--	Cream, Blue <sup>2</sup>
Specific Gravity	--	g/cc	1.9
Modulus of Elasticity at 23°C	ISO 178	MPa	20,000
Modulus of Elasticity at 150°C	ISO 178	MPa	19,000
Compression Strength (Perpendicular)	EN ISO 604	MPa	410
Compression Strength (Parallel)	EN ISO 64	MPa	210
Tensile Strength	EN ISO 527	MPa	150
Glow-Wire Ignitability	IEC 60695-2-13	C	>960
Splitting Load	DIN 53463	N	3,500

<sup>2</sup> Custom colors available upon request