



# THE GUND COMPANY

MANUFACTURERS & FABRICATORS OF ENGINEERED MATERIAL SOLUTIONS

## U205 (GPO-5)

<b>Item:</b>	<b>U205 (GPO-5) Glass Polyester Laminate</b>			
<b>Description:</b>	U205 (GPO-5) is a 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.			
<b>Standards:</b>	NEMA GPO-5 • IEC 60893 UP GM 205			
<b>Availability:</b>	<b>Laminate Sheets:</b>	Thickness <sup>1</sup> :	English Units (in) 0.031 - 0.094	SI Units (mm/cm) 0.8 - 2.39 (mm)
		Sheet Size <sup>1</sup> :	36 x 72 / 48 x 96	91 x 182 / 121 x 244 (cm)
	<b>Fabricated Parts:</b>	The Gund Company custom fabricates insulation materials to the exact specifications and drawings specified by our customers.		

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

### Additional Engineering Properties

Key Characteristics	Test Method	Units	Typical Values
Standard Color	--	--	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
Compressive Strength, Perpendicular	EN ISO 604	MPa	410
Compressive 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

### IEC 60893-2 UPGM 205 Required Properties

Property	Test Method	Units	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>^2</sup>	1 x 10 <sup>^6</sup>
Insulation Resistance (After Immersion in Water)	IEC 60167	MΩ	Minimum	5 x 10 <sup>^2</sup>	1 x 10 <sup>^3</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

Data supplied above are typical values and are not to be considered specification values. All of the information, suggestions and recommendations pertaining to the properties and uses of the products herein are based upon tests and data believed to be accurate; however, the final determination regarding suitability of any material described herein for the contemplated application, the manner of such use, and whether the use infringes any patents is the sole responsibility of the user. There is no warranty, expressed or implied, including, without limitation warranty of merchantability or fitness for a particular purpose. Under no circumstances shall we be liable for incidental or consequential loss or damage.