

## Hippe UP GM 205 Woven Glass Mat Reinforced Polyester (unsaturated) Resin - Sheet

Category : Polymer , Thermoset , Polyester, TS , Thermoset Polyester Glass Filled BMC

### Material Notes:

Used in mechanical and electrical applications. Very high mechanical properties at ambient temperatures. Good mechanical properties at elevated temperatures. Flame retardant. Information provided by Hippe.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Hippe-UP-GM-205-Woven-Glass-Mat-Reinforced-Polyester-unsaturated-Resin-Sheet.php](http://www.lookpolymers.com/polymer_Hippe-UP-GM-205-Woven-Glass-Mat-Reinforced-Polyester-unsaturated-Resin-Sheet.php)

Physical Properties	Metric	English	Comments
Specific Gravity	1.50 - 1.90 g/cc	1.50 - 1.90 g/cc	IEC 1212-2 8.1

Mechanical Properties	Metric	English	Comments
Tensile Strength	>= 120 MPa	>= 17400 psi	IEC 1212-2 5.7
Flexural Strength	>= 250 MPa	>= 36300 psi	Perpendicular to laminations; IEC 1212-2 5.1
Flexural Modulus	>= 10.0 GPa	>= 1450 ksi	IEC 1212-2 5.2
Compressive Strength	>= 250 MPa	>= 36300 psi	Perpendicular to laminations; IEC 1212-2 5.3
Shear Strength	>= 20.0 MPa	>= 2900 psi	Parallel to laminations; IEC 1212-2 5.6
Izod Impact, Unnotched (ISO)	>= 44.0 kJ/m <sup>2</sup>	>= 20.9 ft-lb/in <sup>2</sup>	Parallel to laminations; IEC 1212-2 5.5.3
Charpy Impact Unnotched	>= 5.00 J/cm <sup>2</sup>	>= 23.8 ft-lb/in <sup>2</sup>	Parallel to laminations; IEC 1212-2 5.5.2

Thermal Properties	Metric	English	Comments
Flammability, UL94	V-0	V-0	IEC 1212-2 7.2

Electrical Properties	Metric	English	Comments
Insulation Resistance	>= 5.00e+8 ohm	>= 5.00e+8 ohm	After immersion in water; IEC 1212-2 6.3
Dielectric Constant	<= 4.5	<= 4.5	IEC 1212-2 6.2
	@Frequency 48.0 - 62.0 Hz	@Frequency 48.0 - 62.0 Hz	
	<= 4.5	<= 4.5	IEC 1212-2 6.2
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	

Electrical Properties	Metric	English	Comments
<b>Dielectric Breakdown</b>	$\geq 35000$ V	$\geq 35000$ V	IEC 1212-2 6.2; IEC 1212-2 6.2
	@Temperature 90.0 °C	@Temperature 194 °F	
<b>Dissipation Factor</b>	$\leq 0.050$	$\leq 0.050$	IEC 1212-2 6.2
	@Frequency 48.0 - 62.0 Hz	@Frequency 48.0 - 62.0 Hz	
	$\leq 0.050$	$\leq 0.050$	IEC 1212-2 6.2
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
<b>Comparative Tracking Index</b>	$\geq 600$ V	$\geq 600$ V	IEC 1212-2 6.4

Descriptive Properties	Value	Comments
<b>Proof Tracking Index</b>	500	IEC 1212-2 6.4
<b>Thermal Endurance</b>	140 T.I.	IEC 1212-2 7.1
<b>Water Absorption</b>	< 101 mg	IEC 1212-2 8.2; Test piece 50 x 50 x 10 mm

## Contact Songhan Plastic Technology Co.,Ltd.

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