

## Hippe UP GM 203 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. Good stability of electrical properties under high humidity. Good mechanical properties at moderate temperature. Flame retardant. With improved resistance to arcing and tracking compared to UP GM 202. Information provided by Hippe.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Hippe-UP-GM-203-Woven-Glass-Mat-Reinforced-Polyester-unsaturated-Resin-Sheet.php](http://www.lookpolymers.com/polymer_Hippe-UP-GM-203-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	>= 70.0 MPa	>= 10200 psi	IEC 1212-2 5.7
Flexural Strength	>= 130 MPa	>= 18900 psi	Perpendicular to laminations; IEC 1212-2 5.1
Flexural Modulus	>= 8.00 GPa	>= 1160 ksi	IEC 1212-2 5.2
Compressive Strength	>= 200 MPa	>= 29000 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)	>= 35.0 kJ/m <sup>2</sup>	>= 16.7 ft-lb/in <sup>2</sup>	Parallel to laminations; IEC 1212-2 5.5.3
Charpy Impact Unnotched	>= 4.00 J/cm <sup>2</sup>	>= 19.0 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	@Frequency 1.00e+6	

Electrical Properties	Hz Metric	Hz English	Comments
Dielectric Breakdown	>= 35000 V @Temperature 90.0 °C	>= 35000 V @Temperature 194 °F	In oil, parallel to laminations; IEC 1212-2 6.2
Dissipation Factor	<= 0.050 @Frequency 48.0 - 62.0 Hz	<= 0.050 @Frequency 48.0 - 62.0 Hz	IEC 1212-2 6.2
	<= 0.050 @Frequency 1.00e+6 Hz	<= 0.050 @Frequency 1.00e+6 Hz	IEC 1212-2 6.2
Comparative Tracking Index	>= 600 V	>= 600 V	IEC 1212-2 6.4

Descriptive Properties	Value	Comments
Proof Tracking Index	500	IEC 1212-2 6.4
Thermal Endurance	130 T.I.	IEC 1212-2 7.1
Tracking and Erosion Resistance	IB 2.5	IEC 1212-2 6.5
Water Absorption	< 101 mg	IEC 1212-2 8.2; Test piece 50 x 50 x 10 mm

## Contact Songhan Plastic Technology Co.,Ltd.

Website : [www.lookpolymers.com](http://www.lookpolymers.com)

Email : [sales@lookpolymers.com](mailto:sales@lookpolymers.com)

Tel : +86 021-51131842

Mobile : +86 13061808058

Skype : lookpolymers

Address : United North Road 215,Fengxian District, Shanghai City,China