

Technical Data Sheet

GEHR UHMWPE®



I. Physical Properties

	Test method	Unit	Value
1. Specific gravity	ASTM D792	g/cm ³	0.93
2.a Water Absorption (saturation)	ASTM D570	%	0.01
2.b Humidity Absorption (saturation)			0.01
3.a Maximum permissible service temp.	UL 746B	°F	194
3.b Lower permissible service temp.			-238

II. Mechanical Properties

1. Tensile strength at yield	ASTM D638	psi	3,100
2. Tensile Modulus		-	
3. Elongation at yield		%	20
4. Tensile strength at break		psi	-
5. Elongation at break		%	350
6. Impact strength	ASTM D256	ft-lb/in	38.7
7. Notch impact strength		ft-lb/in	-
8. Ball indentation / Rockwell hardness	ASTM D785	R-Scale	-
9. Shore-D	ASTM D2240	-	63
10. Flexural strength	ASTM D790	psi	-
11. Flexural Modulus			102,000

III. Thermal Properties

1. Vicat-softening point	VST/B/50	ASTM D1525	°F	176
	VST/A/50			-
2. Heat deflection temperature	HDT/B (66 psi)	ASTM D648	°F	149
	HDT/A (264 psi)			108
3. Coefficient of linear thermal expansion		ASTM D696	in/in/°F *10 ⁻⁵	11
4. Thermal conductivity at 73 °F		ASTM C177	BTU/hr-ft*°F	2.8
5. Glass transition temperature		ASTM D3418	°F	-
6. Melting temperature				271

IV. Electrical Properties

1. Volume resistivity	ASTM D257	Ω*cm	≥10 ¹⁵
2. Surface resistivity		Ω	≥10 ¹³
3. Dielectric constant at 1MHz	ASTM D150	-	3
4. Dielectric loss factor at 1 MHz		-	0.001
5. Dielectric strength	ASTM D149	V/mil	1100
6. Tracking resistance	IEC 60112	Grade	CTI 600

V. Additional Data

1. Bondability	-	-	no
2. Compliances	FDA	-	yes
	NSF	-	no
3. Flammability	UL 94	-	HB ⁷⁾
4. Limited Oxygen Index (LOI)	ASTM D2863	%	18
5. UV stabilization	-	-	no

⁷⁾Test results without UL registration

All values are attributes of the used raw materials.

The physical data contained in this table are typical values. They are obtained on test specimens under specific conditions and represent average values of a large number of tests. The results obtained on this tests specimens cannot be applied to finished parts without reservations, as behavior is influenced by processing and shaping. Reproduction only with our definite permission.