

## GUR® 4150 | UHMWPE

Physical properties	Value	Unit	Test Standard
Density	<b>930</b>	kg/m <sup>3</sup>	ISO 1183
Mass melt-flow rate (MFR) 190°C/21.6 kg		g/10 min	ISO 1133
Water absorption (23°C-sat)		%	ISO 62
Humidity absorption (23°C/50%RH)		%	ISO 62
Elongational Stress F (150/10)	<b>0.51</b>	MPa	ISO 11542-2
Intrinsic viscosity	<b>3150</b>	ml/g	ISO 1628-3
Viscosity number	<b>3850</b>	cm <sup>3</sup> /g	ISO 307, 1157, 1628

Mechanical properties	Value	Unit	Test Standard
Tensile modulus (1mm/min)	<b>680</b>	MPa	ISO 527-2/1A
Tensile stress at yield (50mm/min)	<b>17</b>	MPa	ISO 527-2/1A
Tensile strain at yield (50mm/min)	<b>20</b>	%	ISO 527-2/1A
Nominal strain at break (50mm/min)	<b>&gt;50</b>	%	ISO 527-2/1A
Tensile creep modulus (1h)	<b>430</b>	MPa	ISO 899-1
Tensile creep modulus (1000h)	<b>220</b>	MPa	ISO 899-1
Charpy impact strength (14° V-notch both sides)	<b>130</b>	kJ/m <sup>2</sup>	ISO 11542-2
Shore hardness D scale 15 sec value	<b>61</b>	-	ISO 868
Ball indentation hardness 30 sec value	<b>35</b>	N/mm <sup>2</sup>	ISO 2039-1
Wear by sandslurry method (based on GUR 4120=100)	<b>80</b>	-	Internal

Thermal properties	Value	Unit	Test Standard
DTUL @ 1.8 MPa	<b>42</b>	°C	ISO 75-1/-2
DTUL @ 0.45 MPa	<b>65</b>	°C	ISO 75-1/-2
Vicat softening temperature B50 (50°C/h 50N)	<b>80</b>	°C	ISO 306
Coeff. of linear therm. expansion (parallel)	<b>2</b>	E-4/°C	ISO 11359-2
Flammability @ 1.6mm nom. thickn.	<b>HB</b>	class	UL94
thickness tested (1.6)	<b>1.6</b>	mm	UL94
Thermal conductivity at 23°C	<b>0.41</b>	W/(m K)	Internal
Specific heat at 23°C	<b>1.84</b>	kJ/(kg·°K)	Internal

Electrical properties	Value	Unit	Test Standard
Relative permittivity - 100 Hz	<b>2.1</b>	-	IEC 60250
Relative permittivity - 1 MHz	<b>3</b>	-	IEC 60250
Dissipation factor - 100 Hz	<b>3.9</b>	E-4	IEC 60250
Dissipation factor - 1 MHz	<b>10</b>	E-4	IEC 60250
Volume resistivity	<b>&gt;1E12</b>	Ohm*m	IEC 60093
Surface resistivity	<b>&gt;1E12</b>	Ohm	IEC 60093
Electric strength	<b>45</b>	kV/mm	IEC 60243-1
Comparative tracking index CTI	<b>600</b>	-	IEC 60112

Processing properties	Value	Unit	Test Standard
Powder	<b>Yes</b>	-	ASTM D638

Test specimen production	Value	Unit	Test Standard
Comp. molding mold temperature	<b>210</b>	°C	ISO 293
Comp. molding cooling rate	<b>15</b>	K/min	ISO 293