

GUR® GHR 8110

High Density Polyethylene

Celanese Corporation

Message:

GHR 8110 is a linear polyolefin resin in powder form with a high molecular weight of ca. 600,000 g/mol calculated using Margolies' equation. This grade is melt processable and has good impact strength and abrasion resistance relative to many other resins, but not on the level of UHMW-PE. This resin is normally processed by compression molding.

General Information			
UL YellowCard	E223637-101046349		
Features	Good Abrasion Resistance		
	Good Impact Resistance		
	High Molecular Weight		
RoHS Compliance	Contact Manufacturer		
Forms	Powder		
Processing Method	Compression Molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity			
--	0.948	g/cm ³	ASTM D792
--	0.950	g/cm ³	ISO 1183
Melt Mass-Flow Rate (MFR) (190°C/21.6 kg)	1.4	g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR) (190°C/21.6 kg)	1.85	cm ³ /10min	ISO 1133
Water Absorption			ISO 62
Saturation, 23°C	< 0.010	%	
Equilibrium, 23°C, 50% RH	< 0.010	%	
Viscosity Number	600	cm ³ /g	ISO 307
Intrinsic Viscosity	5.8	dl/g	ISO 1628-3
Abrasion Loss	250		Internal Method
Wear by Sandslurry Method ¹	250		Internal Method
Charpy Impact Strength ²	25.0	kJ/m ²	ISO 1152-2
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness			
Shore D	63		ASTM D2240
Shore D, 15 sec	63		ISO 868
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	1060	MPa	ISO 527-2/1A/1
Tensile Stress (Yield)	21.0	MPa	ISO 527-2/1A/50
Tensile Strain (Yield)	10	%	ISO 527-2/1A/50

Nominal Tensile Strain at Break	> 50	%	ISO 527-2/1A/50
Tensile Creep Modulus			ISO 899-1
1 hr	680	MPa	
1000 hr	340	MPa	
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature			
0.45 MPa, Unannealed	75.0	°C	ISO 75-2/B
1.8 MPa, Unannealed	44.0	°C	ISO 75-2/A
Vicat Softening Temperature	80.0	°C	ASTM D1525, ISO 306/B50
CLTE - Flow	2.0E-4	cm/cm/°C	ASTM D696, ISO 11359-2
Specific Heat			Internal Method
--	1840	J/kg/°C	
23°C	1840	J/kg/°C	
Thermal Conductivity (23°C)	0.41	W/m/K	Internal Method
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity			
--	> 1.0E+13	ohms	ASTM D257
--	> 1.0E+12	ohms	IEC 60093
Volume Resistivity			
--	> 1.0E+15	ohms·cm	ASTM D257
--	> 1.0E+14	ohms·cm	IEC 60093
Electric Strength	40	kV/mm	IEC 60243-1
Dielectric Constant			
1 MHz	2.90		ASTM D150, IEC 60250
100 Hz	2.90		IEC 60250
Dissipation Factor			
100 Hz	2.0E-4		
1 MHz	4.0E-4		
Comparative Tracking Index	600	V	IEC 60112
Flammability	Nominal Value	Unit	Test Method
Flame Rating (1.60 mm)	HB		UL 94
NOTE			
1.	Based on GUR 4120=100		
2.	14° V-notch both sides		

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Recommended distributors for this material

Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519

Phone: +86 13424755533

Email: sales@su-jiao.com

No. 215, Lianhe North Road, Fengxian District, Shanghai, China

