GUR® GHR 8110

High Density Polyethylene

Celanese Corporation

Technical Data

Product Description			
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			
Material Status	• Commercial: Active		
Literature [1]	• Technical Datasheet - ASTM (English) • Technical Datasheet - ISO (English)		
UL Yellow Card [2]	• E223637-101046349		
Search for UL Yellow Card	• Celanese Corporation		
Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America • South America
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/cm³	ASTM D792
--	0.950	g/cm³	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	cm³/10min	ISO 1133
Water Absorption			ISO 62
Saturation, 23°C	< 0.010	%	
Equilibrium, 23°C, 50% RH	< 0.010	%	
Viscosity Number	600	cm³/g	ISO 307
Intrinsic Viscosity	5.8	dl/g	ISO 1628-3
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	
Abrasion Loss	250		Internal Method
Wear by Sandslurry Method [4]	250		Internal Method
Impact	**Nominal Value**	**Unit**	**Test Method**
Charpy Impact Strength [5]	25.0	kJ/m²	ISO 1152-2
Hardness	**Nominal Value**	**Unit**	**Test Method**
Durometer Hardness			
Shore D	63		ASTM D2240
Shore D, 15 sec	63		ISO 868
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