

Ultramid® 8233G HS BK-106

Polyamide 6

BASF Corporation

Message:

Ultramid 8233G HS BK-106 is a heat stabilized, weather resistant, 33% glass fiber reinforced PA6 injection molding compound offering excellent strength, stiffness, high temperature performance and dimensional stability. This balance of engineering properties in combination with excellent processability make it ideal in applications replacing metal, resulting in an overall cost and weight savings.

Applications

Ultramid 8233G HS BK-106 is generally recommended for applications such as weed trimmer components, gears, automotive window hardware, electrical connectors and coil bobbins and all external parts exposed to the environment.

General Information				
UL YellowCard		E36632-231130		
Filler / Reinforcement		Glass Fiber,33% Filler by Weight		
Additive		Heat Stabilizer		
Features		Good Dimensional Stability		
		Good Processability		
		Good Stiffness		
		Good Weather Resistance		
		Heat Stabilized		
		High Strength		
Uses		Automotive Applications		
		Automotive Exterior Parts		
		Bobbins		
		Connectors		
		Gears		
		Metal Replacement		
Agency Ratings		EC 1907/2006 (REACH)		
RoHS Compliance		RoHS Compliant		
Appearance		Black		
Forms		Pellets		
Processing Method		Injection Molding		
Physical	Dry	Conditioned	Unit	Test Method
Specific Gravity	1.39	--	g/cm ³	ASTM D792, ISO 1183
Molding Shrinkage - Flow (3.18 mm)	0.30	--	%	
Water Absorption				
24 hr	1.1	--	%	ASTM D570
23°C, 24 hr	1.1	--	%	ISO 62
Saturation	6.4	--	%	ASTM D570

Saturation, 23°C	6.4	--	%	ISO 62
Equilibrium, 50% RH	1.8	--	%	ASTM D570
Equilibrium, 23°C, 50% RH	1.8	--	%	ISO 62
Hardness	Dry	Conditioned	Unit	Test Method
Rockwell Hardness (R-Scale)	121	--		ASTM D785
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus				ISO 527-2
-40°C	10400	11500	MPa	
23°C	10500	7700	MPa	
80°C	4660	4600	MPa	
121°C	4020	4200	MPa	
Tensile Strength				
Break, -40°C	210	215	MPa	ASTM D638, ISO 527-2
Break, 23°C	160	100	MPa	ASTM D638
Break, 80°C	85.0	70.0	MPa	ASTM D638, ISO 527-2
Break, 121°C	70.0	60.0	MPa	ASTM D638, ISO 527-2
Break, 23°C	155	100	MPa	ISO 527-2
Tensile Elongation				
Break, -40°C	3.0	2.5	%	ASTM D638
Break, 23°C	2.0	6.0	%	ASTM D638, ISO 527-2
Break, 80°C	7.0	6.5	%	ASTM D638
Break, 121°C	7.0	6.5	%	ASTM D638
Flexural Modulus				
23°C	8990	--	MPa	ASTM D790
23°C	8700	--	MPa	ISO 178
Flexural Strength				
23°C	280	--	MPa	ASTM D790
23°C	225	--	MPa	ISO 178
Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179
-30°C	5.5	--	kJ/m ²	
23°C	8.0	--	kJ/m ²	
Charpy Unnotched Impact Strength (23°C)	55	--	kJ/m ²	ISO 179
Notched Izod Impact				
23°C	110	--	J/m	ASTM D256
-40°C	6.0	--	kJ/m ²	ISO 180
23°C	8.5	--	kJ/m ²	ISO 180
Thermal	Dry	Conditioned	Unit	Test Method
Deflection Temperature Under Load				

0.45 MPa, Unannealed	218	--	°C	ASTM D648
0.45 MPa, Unannealed	215	--	°C	ISO 75-2/B
1.8 MPa, Unannealed	208	--	°C	ASTM D648
1.8 MPa, Unannealed	205	--	°C	ISO 75-2/A
Peak Melting Temperature	220	--	°C	ASTM D3418, ISO 3146
CLTE - Flow	3.8E-5	--	cm/cm/°C	ASTM E831
Electrical	Dry	Conditioned	Unit	Test Method
Volume Resistivity				
1.50 mm	> 1.0E+13	--	ohms·cm	ASTM D257
--	> 1.0E+15	--	ohms·cm	IEC 60093
Additional Information	Dry	Conditioned	Unit	Test Method
Drop Weight Impact Strength (23°C)	4.07	--	J	Internal Method
Injection	Dry	Unit		
Drying Temperature	83.0		°C	
Drying Time	2.0 to 4.0		hr	
Suggested Max Moisture	0.15		%	
Processing (Melt) Temp	270 to 295		°C	
Mold Temperature	80.0 to 95.0		°C	
Injection Pressure	3.50 to 12.5		MPa	
Injection Rate	Fast			

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