

Ultramid® 8233G HS BK-102

Polyamide 6

BASF Corporation

Message:

Ultramid 8233G HS BK-102 is a heat stabilized, black pigmented,33% glass fiber reinforced PA6 injection molding compound. The higher glass fiber reinforcement results in excellent strength, stiffness, high temperature performance and dimensional stability with a high resistance to creep under load. The heat stabilizer system extends properties at elevated temperatures. It offers easy processing and good aesthetics. It maintains its inherent chemical resistance to greases, oils and hydrocarbons. It is suited for metal replacement.

Applications

Ultramid 8233G HS BK-102 is generally recommended for applications such as chain saw, power tool housings, weed trimmer components, gears, automotive window hardware, under hood applications including cables, fittings, cooling fans, electrical connectors and coil bobbins.

General Information	
UL YellowCard	E36632-231130
Filler / Reinforcement	Glass Fiber,33% Filler by Weight
Additive	Heat Stabilizer
Features	Good Chemical Resistance
	Good Creep Resistance
	Good Dimensional Stability
	Good Processability
	Good Stiffness
	Grease Resistant
	Heat Stabilized
	High Strength
	Hydrocarbon Resistant
Uses	Oil Resistant
	Automotive Applications
	Automotive Under the Hood
	Bobbins
	Connectors
	Fittings
	Gears
	Housings
	Lawn and Garden Equipment
	Metal Replacement
Agency Ratings	Power/Other Tools
	Wire & Cable Applications
	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	10300	--	MPa	
23°C	10200	5600	MPa	
80°C	4820	--	MPa	
121°C	4010	--	MPa	
Tensile Strength				
Break, -40°C	230	215	MPa	ASTM D638
Break, 23°C	180	99.0	MPa	ASTM D638
Break, 80°C	90.0	70.0	MPa	ASTM D638
Break, 121°C	70.0	60.0	MPa	ASTM D638
Break, -40°C	230	--	MPa	ISO 527-2
Break, 23°C	170	99.0	MPa	ISO 527-2
Break, 80°C	90.0	--	MPa	ISO 527-2
Break, 121°C	70.0	--	MPa	ISO 527-2
Tensile Elongation				
Break, -40°C	3.0	2.5	%	ASTM D638
Break, 23°C	3.5	7.0	%	ASTM D638
Break, 80°C	7.0	6.5	%	ASTM D638
Break, 121°C	7.0	6.5	%	ASTM D638
Break, 23°C	3.0	7.0	%	ISO 527-2
Flexural Modulus				
23°C	8990	--	MPa	ASTM D790
23°C	8500	5200	MPa	ISO 178
Flexural Strength				
23°C	280	--	MPa	ASTM D790

23°C	245	130	MPa	ISO 178
Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179
-30°C	10	--	kJ/m ²	
23°C	10	--	kJ/m ²	
Charpy Unnotched Impact Strength (23°C)	65	--	kJ/m ²	ISO 179
Notched Izod Impact (23°C)	110	--	J/m	ASTM D256
Drop Impact Resistance (23°C)	4.07	--	J	Internal Method
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
RTI Elec				UL 746
0.710 mm	130	--	°C	
1.50 mm	140	--	°C	
3.00 mm	140	--	°C	
RTI Imp				UL 746
0.710 mm	115	--	°C	
1.50 mm	115	--	°C	
3.00 mm	120	--	°C	
RTI Str				UL 746
0.710 mm	130	--	°C	
1.50 mm	140	--	°C	
3.00 mm	140	--	°C	
Flammability	Dry	Conditioned		Test Method
Flame Rating				UL 94
0.600 mm	HB	--		
1.50 mm	HB	--		
3.00 mm	HB	--		
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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