

Ultramid® 8333G HI

Polyamide 6

BASF Corporation

Message:

Ultramid 8333G HI is a 33% glass reinforced, impact modified PA6 injection molding compound developed for applications requiring improved dry as molded toughness in combination with a balance of strength, stiffness and excellent moldability/surface aesthetics. It is also available in heat stabilized (Ultramid 8333G HI HS) and/or pigmented versions.

Applications

Ultramid 8333G HI is generally recommended for application such as front wheel chair wheels, bicycle wheels, power tool housings, chain saw housings, clips and fasteners, hose clamps and window hardware.

General Information				
UL YellowCard		E36632-231151		
Filler / Reinforcement		Glass Fiber,33% Filler by Weight		
Additive		Impact Modifier		
Features		Good Moldability		
		Good Stiffness		
		Good Strength		
		Impact Modified		
Uses		Fasteners		
		Housings		
		Power/Other Tools		
		Wheels		
Agency Ratings		EC 1907/2006 (REACH)		
RoHS Compliance		RoHS Compliant		
Appearance		Colors Available		
Forms		Pellets		
Processing Method		Injection Molding		
Physical	Dry	Conditioned	Unit	Test Method
Specific Gravity	1.34	--	g/cm ³	ASTM D792, ISO 1183
Molding Shrinkage - Flow (3.18 mm)	0.30	--	%	
Water Absorption				
24 hr	0.90	--	%	ASTM D570
23°C, 24 hr	0.90	--	%	ISO 62
Saturation	5.5	--	%	ASTM D570
Saturation, 23°C	5.5	--	%	ISO 62
Equilibrium, 50% RH	1.5	--	%	ASTM D570
Equilibrium, 23°C, 50% RH	1.5	--	%	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	9200	--	MPa	
23°C	9300	4610	MPa	
121°C	2660	--	MPa	
Tensile Strength				
Break, 23°C	152	90.0	MPa	ASTM D638
Break, 23°C	145	90.0	MPa	ISO 527-2
Tensile Elongation (Break, 23°C)	3.5	6.0	%	ASTM D638, ISO 527-2
Flexural Modulus				
-40°C	8820	9500	MPa	ASTM D790
23°C	8000	4830	MPa	ASTM D790
65°C	4040	3290	MPa	ASTM D790
90°C	3280	3250	MPa	ASTM D790
121°C	3040	2970	MPa	ASTM D790
23°C	7200	5030	MPa	ISO 178
Flexural Strength				
-40°C	310	297	MPa	ASTM D790
23°C	241	124	MPa	ASTM D790
65°C	130	110	MPa	ASTM D790
90°C	105	100	MPa	ASTM D790
121°C	89.0	90.0	MPa	ASTM D790
23°C	215	120	MPa	ISO 178
Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179
-30°C	10	--	kJ/m ²	
23°C	20	--	kJ/m ²	
Charpy Unnotched Impact Strength (23°C)	78	--	kJ/m ²	ISO 179
Notched Izod Impact				
23°C	240	--	J/m	ASTM D256
-40°C	14	--	kJ/m ²	ISO 180
23°C	21	--	kJ/m ²	ISO 180
Drop Impact Resistance (23°C)	4.88	--	J	Internal Method
Thermal	Dry	Conditioned	Unit	Test Method
Heat Deflection Temperature				
0.45 MPa, Unannealed	220	--	°C	ISO 75-2/B

1.8 MPa, Unannealed	210	--	°C	ASTM D648
1.8 MPa, Unannealed	205	--	°C	ISO 75-2/A
Peak Melting Temperature	220	--	°C	ASTM D3418, ISO 3146
CLTE				
Flow	2.4E-5	--	cm/cm/°C	
Transverse	8.4E-5	--	cm/cm/°C	
RTI Elec				UL 746
0.800 mm	105	--	°C	
1.50 mm	105	--	°C	
3.00 mm	105	--	°C	
RTI Imp				UL 746
1.50 mm	85.0	--	°C	
3.00 mm	95.0	--	°C	
RTI Str				UL 746
0.800 mm	130	--	°C	
1.50 mm	140	--	°C	
3.00 mm	140	--	°C	
Electrical	Dry	Conditioned	Unit	Test Method
Volume Resistivity				
1.50 mm	> 1.0E+13	--	ohms·cm	ASTM D257
--	> 1.0E+13	--	ohms·cm	IEC 60093
Electric Strength	43	--	kV/mm	IEC 60243-1
Dielectric Constant				IEC 60250
100 Hz	3.60	--		
1 MHz	3.40	--		
Dissipation Factor				IEC 60250
100 Hz	0.010	--		
1 MHz	0.010	--		
Comparative Tracking Index	600	--	V	IEC 60112
Flammability	Dry	Conditioned	Unit	Test Method
Flame Rating				UL 94
0.800 mm	HB	--		
1.50 mm	HB	--		
3.00 mm	HB	--		
Injection	Dry	Unit		
Drying Temperature	80.0		°C	
Drying Time	2.0 to 4.0		hr	
Suggested Max Moisture	0.080		%	
Rear Temperature	245 to 275		°C	
Middle Temperature	260 to 285		°C	
Front Temperature	270 to 295		°C	

Nozzle Temperature	270 to 295	°C
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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