Ultramid® 8253 HS BK102

BASF Corporation - Polyamide 6

Monday, November 4, 2019

General Information

Product Description

Ultramid 8253 HS BK102 is a heat stabilized, pigmented black, impact modified type 6 nylon graft copolymer developed for both injection molding and extrusion applications. It exhibits varying levels of toughness and flexibility combined with excellent thermal and chemical properties.

Applications
Ultramid 8253 HS BK102 is generally recommended for applications such as plugs, receptacles, flexible connector covers, weed trimmer components, clips fasteners, flanges, key housings as well as many flexible tubing applications.

General			
Material Status	• Commercial: Active		
Availability	• North America		
Additive	• Heat Stabilizer	• Impact Modifier	
Features	• Chemical Resistant • Copolymer • Good Flexibility	• Good Toughness • Heat Stabilized • High Heat Resistance	• Impact Modified
Uses	• Fasteners • Housings	• Lawn and Garden Equipment • Plugs	• Protective Coverings • Tubing
Agency Ratings	• EC 1907/2006 (REACH)		
RoHS Compliance	• RoHS Compliant		
Automotive Specifications	• FORD WSK-M4D578-A		
Appearance	• Black		
Forms	• Pellets		
Processing Method	• Extrusion	• Injection Molding	

ASTM & ISO Properties [1]

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	1.09		ASTM D792
Density	1.09	g/cm³	ISO 1183
Molding Shrinkage - Flow (0.125 in)	0.012	in/in	
Water Absorption (24 hr)	1.5	%	ASTM D570
Water Absorption (24 hr, 73°F)	1.5	%	ISO 62
Water Absorption (Saturation)	8.1	%	ASTM D570
Water Absorption (Saturation, 73°F)	8.1	%	ISO 62
Water Absorption (Equilibrium, 50% RH)	2.3	%	ASTM D570
Water Absorption (Equilibrium, 73°F, 50% RH)	2.3	%	ISO 62
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus (73°F)	348000	psi	ISO 527-2
Tensile Strength (Yield, 73°F)	9430	psi	ASTM D638
Tensile Stress (Yield, 73°F)	8700	psi	ISO 527-2
Tensile Elongation (Yield, 73°F)	4.0	%	ASTM D638
Tensile Strain (Yield, 73°F)	4.0	%	ISO 527-2
Tensile Elongation (Break, 73°F)	> 100	%	ASTM D638
Nominal Tensile Strain at Break (73°F)	40	%	ISO 527-2
Flexural Modulus (73°F)	329000	psi	ASTM D790
Flexural Modulus (73°F)	276000	psi	ISO 178

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Mechanical	Nominal Value	Unit	Test Method
Flexural Strength (73°F)	12300	psi	ASTM D790
Flexural Stress (73°F)	9430	psi	ISO 178
Impact	**Nominal Value**	**Unit**	**Test Method**
Charpy Notched Impact Strength (73°F)	8.1	ft·lb/in²	ISO 179
Charpy Unnotched Impact Strength (73°F)	No Break		ISO 179
Notched Izod Impact (73°F)	2.8	ft·lb/in	ASTM D256
Notched Izod Impact Strength (73°F)	6.7	ft·lb/in²	ISO 180
Drop Impact Resistance (73°F)	200	ft·lb	Internal Method
Hardness	**Nominal Value**	**Unit**	**Test Method**
Rockwell Hardness (R-Scale)	82		ASTM D785
Thermal	**Nominal Value**	**Unit**	**Test Method**
Heat Deflection Temperature (66 psi, Unannealed)	320	°F	ISO 75-2/B
Deflection Temperature Under Load			ASTM D648
264 psi, Unannealed	140	°F	
Heat Deflection Temperature (264 psi, Unannealed)	131	°F	ISO 75-2/A
Peak Melting Temperature	428	°F	ASTM D3418
Melting Temperature (DSC)	428	°F	ISO 3146
CLTE - Flow	5.5E-5	in/in/°F	ASTM E831
RTI Elec			UL 746
0.028 in	221	°F	
0.030 in	221	°F	
0.06 in	221	°F	
0.12 in	221	°F	
0.24 in	221	°F	
RTI Imp			UL 746
0.028 in	203	°F	
0.030 in	203	°F	
0.06 in	221	°F	
0.12 in	221	°F	
0.24 in	221	°F	
RTI Str			UL 746
0.028 in	203	°F	
0.030 in	203	°F	
0.06 in	221	°F	
0.12 in	221	°F	
0.24 in	221	°F	
Flammability	**Nominal Value**	**Unit**	**Test Method**
Flame Rating			UL 94
0.030 in	HB		
0.06 in	HB		
0.12 in	HB		
0.24 in	HB		

Processing Information

Injection	Nominal Value	Unit
Drying Temperature	176	°F
Drying Time	2.0 to 4.0	hr
Suggested Max Moisture	0.20	%
Processing (Melt) Temp	464 to 518	°F

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Injection	Nominal Value	Unit
Mold Temperature	140 to 185	°F
Injection Pressure	508 to 1810	psi
Injection Rate	Fast	

Notes

[1] Typical properties: these are not to be construed as specifications.