



Ultramid® 8350 HS BK102

BASF Corporation - Polyamide 6

Monday, November 4, 2019

General Information

Product Description

Ultramid 8350 HS BK102 is a type 6, black pigmented, impact modified graft copolymer developed for extrusion, tubing, and jacketing applications requiring a high level of toughness combined with a moderate level of flexibility.

Applications

Ultramid 8350 HS BK102 is generally recommended for applications such as automotive vacuum tubing, cable jacketing, and high pressure and hydraulic hoses.

General

Material Status	• Commercial: Active		
Availability	• North America		
Additive	• Impact Modifier		
Features	• Copolymer • Good Flexibility	• Good Toughness • Impact Modified	
Uses	• Automotive Applications • Cable Jacketing	• Hose • Hydraulic Applications	• Tubing
Agency Ratings	• EC 1907/2006 (REACH)		
RoHS Compliance	• RoHS Compliant		
Appearance	• Black		
Forms	• Pellets		
Processing Method	• Extrusion		

ASTM & ISO Properties ¹

Physical	Dry	Conditioned	Unit	Test Method
Density / Specific Gravity	1.07	--		ASTM D792
Density	1.07	--	g/cm ³	ISO 1183
Molding Shrinkage - Flow (0.125 in)	0.014	--	in/in	
Water Absorption (24 hr)	1.1	--	%	ASTM D570
Water Absorption (24 hr, 73°F)	1.1	--	%	ISO 62
Water Absorption (Saturation)	6.7	--	%	ASTM D570
Water Absorption Saturation, 73°F	6.7	--	%	ISO 62
Water Absorption Equilibrium, 50% RH	1.9	--	%	ASTM D570
Water Absorption Equilibrium, 73°F, 50% RH	1.9	--	%	ISO 62
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus (73°F)	261000	97900	psi	ISO 527-2
Tensile Strength (Yield, 73°F)	7980	4640	psi	ASTM D638
Tensile Stress (Yield, 73°F)	7540	4640	psi	ISO 527-2
Tensile Elongation (Yield, 73°F)	5.0	9.0	%	ASTM D638
Tensile Strain (Yield, 73°F)	4.5	9.0	%	ISO 527-2
Tensile Elongation (Break, 73°F)	> 100	> 100	%	ASTM D638
Nominal Tensile Strain at Break 73°F	> 50	> 50	%	ISO 527-2

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Mechanical	Dry	Conditioned	Unit	Test Method
Flexural Modulus (73°F)	274000	--	psi	ASTM D790
Flexural Modulus (73°F)	232000	--	psi	ISO 178
Flexural Strength (73°F)	9430	--	psi	ASTM D790
Flexural Stress (73°F)	7980	--	psi	ISO 178
Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength 73°F	39	--	ft·lb/in ²	ISO 179
Charpy Unnotched Impact Strength 73°F	No Break	--		ISO 179
Notched Izod Impact (73°F)	No Break	--		ASTM D256
Notched Izod Impact Strength -40°F	4.8	--	ft·lb/in ²	ISO 180
73°F	No Break	--		
Hardness	Dry	Conditioned	Unit	Test Method
Rockwell Hardness (R-Scale)	78	--		ASTM D785
Thermal	Dry	Conditioned	Unit	Test Method
Heat Deflection Temperature 66 psi, Unannealed	284	--	°F	ISO 75-2/B
Deflection Temperature Under Load 264 psi, Unannealed	133	--	°F	ASTM D648
Heat Deflection Temperature 264 psi, Unannealed	122	--	°F	ISO 75-2/A
Peak Melting Temperature	428	--	°F	ASTM D3418
Melting Temperature (DSC)	428	--	°F	ISO 3146
CLTE - Flow	5.9E-5	--	in/in/°F	ASTM E831
RTI Elec				UL 746
0.06 in	149	--	°F	
0.12 in	149	--	°F	
RTI Imp				UL 746
0.06 in	149	--	°F	
0.12 in	149	--	°F	
RTI Str				UL 746
0.06 in	149	--	°F	
0.12 in	149	--	°F	
Electrical	Dry	Conditioned	Unit	Test Method
Volume Resistivity (0.0591 in)	> 1.0E+15	--	ohms·cm	ASTM D257
Volume Resistivity	> 1.0E+15	--	ohms·cm	IEC 60093
Comparative Tracking Index	600	--	V	IEC 60112
Flammability	Dry	Conditioned	Unit	Test Method
Flame Rating				UL 94
0.06 in	HB	--		
0.12 in	HB	--		

Processing Information

Extrusion	Dry	Unit
Drying Temperature	176	°F
Drying Time	2.0 to 4.0	hr
Suggested Max Moisture	0.10	%

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Extrusion	Dry	Unit
Cylinder Zone 1 Temp.	473 to 500	°F
Cylinder Zone 3 Temp.	464 to 491	°F
Cylinder Zone 5 Temp.	464 to 482	°F
Flange Temperature	437 to 464	°F
Melt Temperature	464 to 482	°F
Head Temperature	437 to 473	°F
Die Temperature	437 to 464	°F
Extruder Screw L/D Ratio	20.0:1 to 24.0:1.0	
Extruder Screw Compression Ratio	3.5:1.0 to 4.0:1.0	

Extrusion Notes

Screw Parameters

- Metering Section : 40%
- Transition Section : 6 to 7 flights
- Feed Section : balance of screw length

Notes

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