



Ultramid® 8350 HS

BASF Corporation - Polyamide 6

Monday, November 4, 2019

General Information

Product Description

Ultramid 8350 HS is a heat stabilized, impact modified type 6 graft copolymer developed for extrusion, tubing, and jacketing applications requiring a high level of toughness combined with a moderate level of flexibility. It is also available in non-heat stabilized (Ultramid 8350) and/or pigmented versions.

Applications

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

General

Material Status	• Commercial: Active		
Availability	• Asia Pacific	• North America	
Additive	• Heat Stabilizer	• Impact Modifier	
Features	• Copolymer • Good Flexibility	• Good Toughness • Heat Stabilized	• Impact Modified
Uses	• Automotive Applications • Cable Jacketing	• Hose • Hydraulic Applications	• Tubing
Agency Ratings	• EC 1907/2006 (REACH)		
RoHS Compliance	• RoHS Compliant		
Automotive Specifications	• ASTM D4000 PA0220 B39310 • ASTM D4066 PA0283 PM400 • ASTM D4066 PA261 B29510 UB005 • ASTM D4066 PA261 B29510 UB005 AA002 • ASTM D4066 PA263 • CHEVROLET CMP NY064 XB • CHEVROLET CMP NY107 AA • CHRYSLER MS-DB-41 CPN2248 Color: Color As Noted On Drawing • CHRYSLER MS-DB-444, AM5092 • CHRYSLER MS-DB-453 • DELPHI MS 7049 Color: Natural • GM GMP.PA6.016 Color: Black • GM GMP.PA6.016 Color: Natural • GM GMW16942P-PA6 Color: Black • GM GMW16942P-PA6 Color: Natural • GM-Delco M-4269 • SIEMENS MPS2124 • VOLKSWAGEN TL VW-534 Color: Natural		
Appearance	• Colors Available		
Forms	• Pellets		
Processing Method	• Extrusion		

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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				ISO 62
Saturation, 73°F	6.7	--	%	
Water Absorption				ASTM D570
Equilibrium, 50% RH	1.9	--	%	
Water Absorption				ISO 62
Equilibrium, 73°F, 50% RH	1.9	--	%	
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus				ISO 527-2
-40°F	312000	--	psi	
73°F	261000	97900	psi	
176°F	30500	--	psi	
248°F	21800	--	psi	
302°F	18900	--	psi	
Tensile Strength				ASTM D638
Yield, -40°F	12300	13800	psi	
Yield, 73°F	7690	4640	psi	
Yield, 176°F	2900	--	psi	
Yield, 250°F	2030	--	psi	
Tensile Stress				ISO 527-2
Yield, -40°F	12300	13800	psi	
Yield, 73°F	7690	4640	psi	
Yield, 176°F	2900	--	psi	
Yield, 248°F	2030	--	psi	
Yield, 302°F	1310	--	psi	
Tensile Elongation				ASTM D638
Yield, -40°F	8.0	--	%	
Yield, 73°F	5.0	9.0	%	
Yield, 176°F	37	--	%	
Yield, 250°F	27	--	%	
Tensile Strain (Yield, 73°F)	5.0	9.0	%	ISO 527-2
Tensile Elongation (Break, 73°F)	> 100	> 100	%	ASTM D638
Nominal Tensile Strain at Break				ISO 527-2
73°F	> 50	> 50	%	
Flexural Modulus				ASTM D790
-40°F	334000	400000	psi	
73°F	261000	89900	psi	
149°F	39200	--	psi	
194°F	30500	--	psi	
250°F	23900	--	psi	
Flexural Modulus (73°F)	254000	--	psi	ISO 178

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Mechanical	Dry	Conditioned	Unit	Test Method
Flexural Strength				ASTM D790
-40°F	17400	17400	psi	
73°F	9430	4350	psi	
149°F	2900	--	psi	
194°F	1450	--	psi	
250°F	1450	--	psi	
Flexural Stress (73°F)	7250	--	psi	ISO 178
Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179
-22°F	7.1	--	ft·lb/in ²	
73°F	48	--	ft·lb/in ²	
Charpy Unnotched Impact Strength				ISO 179
73°F	No Break	--		
Notched Izod Impact				ASTM D256
-40°F	3.6	2.9	ft·lb/in	
73°F	No Break	No Break		
Hardness	Dry	Conditioned	Unit	Test Method
Rockwell Hardness (R-Scale)	78	--		ASTM D785
Thermal	Dry	Conditioned	Unit	Test Method
Deflection Temperature Under Load				ASTM D648
66 psi, Unannealed	293	--	°F	
Heat Deflection Temperature				ISO 75-2/B
66 psi, Unannealed	293	--	°F	
Deflection Temperature Under Load				ASTM D648
264 psi, Unannealed	133	--	°F	
Heat Deflection Temperature				ISO 75-2/A
264 psi, Unannealed	124	--	°F	
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	--		

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