Ultramid® 8350 HS

Polyamide 6

BASF Corporation

Message:

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 Information	
UL YellowCard	E36632-231157
Additive	Impact modifier heat stabilizer
Features	Impact modification Copolymer Good flexibility Thermal Stability Good toughness
Uses	Cable sheath Pipe Pipe fittings Application in Automobile Field Hydraulic application
Agency Ratings	EC 1907/2006 (REACH)
RoHS Compliance	RoHS compliance
Appearance	Available colors
Forms	Particle
Processing Method	Extrusion
Multi-Point Data	Isothermal Stress vs. Strain (ISO 11403-1) Secant Modulus vs. Strain (ISO 11403-1) Shear Modulus vs. Temperature (ISO 11403-1)

Physical	Dry	Conditioned	Unit	Test Method
Specific Gravity	1.07	--	g/cm³	ASTM D792, ISO 1183
Molding Shrinkage - Flow (3.18 mm)	1.4	--	%	
Water Absorption				
24 hr	1.1	--	%	ASTM D570

23°C, 24 hr	1.1	--	%	ISO 62
Saturation	6.7	--	%	ASTM D570
Saturated, 23°C	6.7	--	%	ISO 62
Balance, 50% RH	1.9	--	%	ASTM D570
Equilibrium, 23°C, 50% RH	1.9	--	%	ISO 62
Hardness	**Dry**	**Conditioned**	**Unit**	**Test Method**
Rockwell Hardness (R-Scale)	78	--		ASTM D785
Mechanical	**Dry**	**Conditioned**	**Unit**	**Test Method**
Tensile Modulus				ISO 527-2
-40°C	2150	--	MPa	ISO 527-2
23°C	1800	675	MPa	ISO 527-2
80°C	210	--	MPa	ISO 527-2
121°C	150	--	MPa	ISO 527-2
Tensile Strength				ASTM D638, ISO 527-2
Yield, -40°C	85.0	95.0	MPa	ASTM D638, ISO 527-2
Yield, 23°C	53.0	32.0	MPa	ASTM D638, ISO 527-2
Yield, 80°C	20.0	--	MPa	ASTM D638, ISO 527-2
Yield, 121°C	14.0	--	MPa	ASTM D638, ISO 527-2
Tensile Elongation				
Yield, -40°C	8.0	--	%	ASTM D638
Yield, 23°C	5.0	9.0	%	ASTM D638, ISO 527-2
Yield, 80°C	37	--	%	ASTM D638
Yield, 121°C	27	--	%	ASTM D638
Fracture, 23°C	> 100	> 100	%	ASTM D638
Nominal Tensile Strain at Break (23°C)	> 50	> 50	%	ISO 527-2
Flexural Modulus				
-40°C	2300	2760	MPa	ASTM D790
23°C	1800	620	MPa	ASTM D790
65°C	270	--	MPa	ASTM D790
90°C	210	--	MPa	ASTM D790
121°C	165	--	MPa	ASTM D790
23°C	1750	--	MPa	ISO 178
Flexural Strength				
-40°C	120	120	MPa	ASTM D790
23°C	65.0	30.0	MPa	ASTM D790
65°C	20.0	--	MPa	ASTM D790
90°C	10.0	--	MPa	ASTM D790
121°C	10.0	--	MPa	ASTM D790
23°C	50.0	--	MPa	ISO 178
Impact	**Dry**	**Conditioned**	**Unit**	**Test Method**

Charpy Notched Impact Strength				ISO 179
-30°C	15	--	kJ/m²	ISO 179
23°C	100	--	kJ/m²	ISO 179
Charpy Unnotched Impact Strength (23°C)	No Break	--		ISO 179
Notched Izod Impact				ASTM D256
-40°C	190	160	J/m	ASTM D256
23°C	No Break	No Break		ASTM D256
Thermal	**Dry**	**Conditioned**	**Unit**	**Test Method**
Deflection Temperature Under Load				
0.45 MPa, not annealed	145	--	°C	ASTM D648
1.8 MPa, not annealed	56.0	--	°C	ASTM D648
1.8 MPa, not annealed	51.0	--	°C	ISO 75-2/A
Peak Melting Temperature	220	--	°C	ASTM D3418, ISO 3146
CLTE - Flow	1.1E-4	--	cm/cm/°C	ASTM E831
RTI Elec				UL 746
1.50 mm	65.0	--	°C	UL 746
3.00 mm	65.0	--	°C	UL 746
RTI Imp				UL 746
1.50 mm	65.0	--	°C	UL 746
3.00 mm	65.0	--	°C	UL 746
RTI				UL 746
1.50 mm	65.0	--	°C	UL 746
3.00 mm	65.0	--	°C	UL 746
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
Comparative Tracking Index	600	--	V	IEC 60112
Flammability	**Dry**	**Conditioned**	**Unit**	**Test Method**
Flame Rating				UL 94
1.50 mm	HB	--		UL 94
3.00 mm	HB	--		UL 94
Extrusion	**Dry**	**Unit**		
Drying Temperature	80.0		°C	
Drying Time	2.0 - 4.0		hr	
Suggested Max Moisture	0.10		%	
Cylinder Zone 1 Temp.	245 - 260		°C	
Cylinder Zone 3 Temp.	240 - 255		°C	
Cylinder Zone 5 Temp.	240 - 250		°C	

Flange temperature	225 - 240	°C
Head Temperature	225 - 245	°C
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	
Melt Temperature	240 - 250	°C
Die Temperature	225 - 240	°C

Extrusion instructions

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

Recommended distributors for this material

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