

Ultramid® 8254 HS BK-102

Polyamide 6

BASF Corporation

Message:

Ultramid 8254 HS BK-102 is a highly flexible, heat stabilized, pigmented black, impact modified PA6 extrusion compound for tubing application.

Applications

Ultramid 8254 HS BK-102 is generally recommended for applications such as convoluted and emission tubing, cable jacketing and other types of automotive tubing.

General Information	
UL YellowCard	E36632-231136
Additive	Impact modifier heat stabilizer
Features	Impact modification Good flexibility Thermal Stability
Uses	Cable sheath Pipe fittings Application in Automobile Field
Agency Ratings	EC 1907/2006 (REACH)
RoHS Compliance	RoHS compliance
Appearance	Black
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) Viscosity vs. Shear Rate (ISO 11403-2)

Physical	Dry	Conditioned	Unit	Test Method
Specific Gravity	1.07	--	g/cm ³	ASTM D792, ISO 1183
Molding Shrinkage - Flow (3.18 mm)	1.3	--	%	
Water Absorption				
24 hr	1.2	--	%	ASTM D570
23°C, 24 hr	1.2	--	%	ISO 62
Saturation	7.1	--	%	ASTM D570
Saturated, 23°C	7.1	--	%	ISO 62

Balance, 50% RH	2.0	--	%	ASTM D570
Equilibrium, 23°C, 50% RH	2.0	--	%	ISO 62
Hardness	Dry	Conditioned	Unit	Test Method
Rockwell Hardness (R-Scale)	40	--		ASTM D785
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus				ISO 527-2
-40°C	2730	3000	MPa	ISO 527-2
23°C	875	460	MPa	ISO 527-2
80°C	180	230	MPa	ISO 527-2
121°C	155	145	MPa	ISO 527-2
Tensile Strength				ASTM D638, ISO 527-2
Yield, -40°C	83.0	104	MPa	ASTM D638, ISO 527-2
Yield, 23°C	34.0	26.0	MPa	ASTM D638, ISO 527-2
Yield, 80°C	15.0	--	MPa	ASTM D638, ISO 527-2
Yield, 121°C	12.0	--	MPa	ASTM D638, ISO 527-2
Tensile Elongation				
Yield, 23°C	30	--	%	ASTM D638
Yield, 23°C	7.0	30	%	ISO 527-2
Fracture, 23°C	> 100	--	%	ASTM D638
Nominal Tensile Strain at Break (23°C)	> 50	> 50	%	ISO 527-2
Flexural Modulus				
23°C	610	--	MPa	ASTM D790
23°C	750	--	MPa	ISO 178
Flexural Strength (23°C)	28.0	--	MPa	ASTM D790
Impact	Dry	Conditioned	Unit	Test Method
Notched Izod Impact				
23°C	640	--	J/m	ASTM D256
-40°C	6.0	--	kJ/m ²	ISO 180
23°C	No Break	--		ISO 180
Thermal	Dry	Conditioned	Unit	Test Method
Deflection Temperature Under Load				
0.45 MPa, not annealed	124	--	°C	ASTM D648
1.8 MPa, not annealed	47.0	--	°C	ASTM D648
1.8 MPa, not annealed	43.0	--	°C	ISO 75-2/A
Peak Melting Temperature	220	--	°C	ASTM D3418, ISO 3146
Linear thermal expansion coefficient				
Flow	1.2E-4	--	cm/cm/°C	ASTM E831
Flow	9.3E-5	--	cm/cm/°C	
Lateral	1.1E-4	--	cm/cm/°C	

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
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	65.0		°C	
Drying Time	2.0 - 4.0		hr	
Suggested Max Moisture	0.10		%	
Cylinder Zone 1 Temp.	245 - 255		°C	
Cylinder Zone 3 Temp.	245 - 260		°C	
Cylinder Zone 5 Temp.	240 - 250		°C	
Flange temperature	230 - 245		°C	
Head Temperature	230 - 245		°C	
Extruder Screw L/D Ratio	20.0:1.0 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	230 - 245		°C	
Extrusion instructions				
Screw Parameters				
Metering Section : 40%				
Transition Section : 3 to 4 flights				
Feed Section : balance of screw length				

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