Ultramid® B3L

BASF Corporation - Polyamide 6

Monday, November 4, 2019

General Information

Product Description

Ultramid B3L is an impact-modified, easy flowing injection molding PA6 grade for fast processing.

Applications

Typical applications include impact-resistant articles such as housings, fittings, small parts and anchors.

General			
Material Status	• Commercial: Active		
Availability	• Asia Pacific	• Europe	• North America
Additive	• Impact Modifier		
Features	• Fast Molding Cycle • Good Flow	• Good Impact Resistance • Impact Modified	• Oil Resistant
Uses	• Fittings	• Housings	
Agency Ratings	• EC 1907/2006 (REACH)		
RoHS Compliance	• RoHS Compliant		
Automotive Specifications	• CHRYSLER MS-DB-41 CPN2221 Color: Black • CHRYSLER MS-DB-41 CPN2221 Color: Natural	• FORD WSK-M4D578-A • GM GMW15702-001251 PA6-I Color: Natural	• GM QK 000125 Type A Color: Natural • IMDS ID 2712575 Color: Natural
Forms	• Pellets		
Processing Method	• Injection Molding		

ASTM & ISO Properties [1]

Physical	Dry	Conditioned	Unit	Test Method
Density / Specific Gravity	1.10	--		ASTM D792
Density	1.10	--	g/cm³	ISO 1183
Melt Volume-Flow Rate (MVR)				ISO 1133
275°C/5.0 kg	100	--	cm³/10min	
Molding Shrinkage - Flow (0.125 in)	0.011	--	in/in	
Water Absorption (Saturation)	9.0	--	%	ASTM D570
Water Absorption				ISO 62
Saturation, 73°F	9.0	--	%	
Water Absorption				ASTM D570
Equilibrium, 50% RH	2.5	--	%	
Water Absorption				ISO 62
Equilibrium, 73°F, 50% RH	2.5	--	%	
Mechanical	**Dry**	**Conditioned**	**Unit**	**Test Method**
Tensile Modulus (73°F)	406000	131000	psi	ISO 527-2
Tensile Strength (Yield, 73°F)	10000	--	psi	ASTM D638
Tensile Stress (Yield, 73°F)	10200	5080	psi	ISO 527-2
Tensile Elongation (Yield, 73°F)	4.0	--	%	ASTM D638
Tensile Strain (Yield, 73°F)	4.0	18	%	ISO 527-2
Tensile Elongation (Break, 73°F)	25	--	%	ASTM D638
Nominal Tensile Strain at Break				ISO 527-2
73°F	25	> 50	%	

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Mechanical	Dry	Conditioned	Unit	Test Method
Flexural Modulus (73°F)	363000	--	psi	ASTM D790
Flexural Modulus (73°F)	334000	--	psi	ISO 178
Impact	**Dry**	**Conditioned**	**Unit**	**Test Method**
Charpy Notched Impact Strength				ISO 179
-22°F	2.9	--	ft·lb/in²	
73°F	4.8 ft·lb/in²	No Break		
Charpy Unnotched Impact Strength				ISO 179
-22°F	No Break	--		
73°F	No Break	No Break		
Notched Izod Impact				ASTM D256
-40°F	0.99	--	ft·lb/in	
73°F	2.5	--	ft·lb/in	
Notched Izod Impact Strength				ISO 180
73°F	7.1	--	ft·lb/in²	
Thermal	**Dry**	**Conditioned**	**Unit**	**Test Method**
Deflection Temperature Under Load				ASTM D648
66 psi, Unannealed	320	--	°F	
Heat Deflection Temperature				ISO 75-2/B
66 psi, Unannealed	302	--	°F	
Deflection Temperature Under Load				ASTM D648
264 psi, Unannealed	151	--	°F	
Heat Deflection Temperature				ISO 75-2/A
264 psi, Unannealed	149	--	°F	
Peak Melting Temperature	428	--	°F	ASTM D3418
Melting Temperature (DSC)	428	--	°F	ISO 3146
CLTE - Flow	2.2E-5	--	in/in/°F	ASTM E831
CLTE - Flow	4.7E-5	--	in/in/°F	
RTI Elec				UL 746
0.016 in	149	--	°F	
0.031 in	149	--	°F	
0.06 in	149	--	°F	
0.12 in	149	--	°F	
RTI Imp				UL 746
0.016 in	149	--	°F	
0.031 in	149	--	°F	
0.06 in	149	--	°F	
0.12 in	149	--	°F	
RTI Str				UL 746
0.016 in	149	--	°F	
0.031 in	149	--	°F	
0.06 in	149	--	°F	
0.12 in	149	--	°F	
Electrical	**Dry**	**Conditioned**	**Unit**	**Test Method**
Volume Resistivity (0.0591 in)	1.0E+15	1.0E+12	ohms·cm	ASTM D257
Volume Resistivity	1.0E+15	1.0E+12	ohms·cm	IEC 60093
Dielectric Constant				IEC 60250
100 Hz	4.00	--		
1 MHz	3.50	6.40		

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Electrical	Dry	Conditioned	Unit	Test Method
Dissipation Factor				IEC 60250
100 Hz	0.010	--		
1 MHz	0.024	0.24		
Comparative Tracking Index	600	600	V	IEC 60112
Flammability	**Dry**	**Conditioned**	**Unit**	**Test Method**
Flame Rating				UL 94
0.016 in	HB	--		
0.031 in	HB	--		
0.06 in	HB	--		
0.12 in	HB	--		

Processing Information

Injection	Dry	Unit
Drying Temperature	176	°F
Drying Time	2.0 to 4.0	hr
Suggested Max Moisture	0.15	%
Processing (Melt) Temp	464 to 545	°F
Mold Temperature	149 to 176	°F
Injection Pressure	508 to 1810	psi
Injection Rate	Fast	

Notes

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