

Ultramid® B3L

Polyamide 6

BASF Corporation

Message:

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 Information				
UL YellowCard		E36632-531652	E41871-233694	
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		
Forms		Pellets		
Processing Method		Injection Molding		
Multi-Point Data		Creep Modulus vs. Time (ISO 11403-1)		
		Isochronous Stress vs. Strain (ISO 11403-1)		
		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	1.10	--	g/cm³	ASTM D792, ISO 1183
Melt Volume-Flow Rate (MVR) (275°C/5.0 kg)	100	--	cm³/10min	ISO 1133
Molding Shrinkage - Flow (3.18 mm)	1.1	--	%	
Water Absorption				
Saturation	9.0	--	%	ASTM D570
Saturation, 23°C	9.0	--	%	ISO 62
Equilibrium, 50% RH	2.5	--	%	ASTM D570

Equilibrium, 23°C, 50% RH	2.5	--	%	ISO 62
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus (23°C)	2800	900	MPa	ISO 527-2
Tensile Strength				
Yield, 23°C	69.0	--	MPa	ASTM D638
Yield, 23°C	70.0	35.0	MPa	ISO 527-2
Tensile Elongation				
Yield, 23°C	4.0	--	%	ASTM D638
Yield, 23°C	4.0	18	%	ISO 527-2
Break, 23°C	25	--	%	ASTM D638
Nominal Tensile Strain at Break (23°C)	25	> 50	%	ISO 527-2
Flexural Modulus				
23°C	2500	--	MPa	ASTM D790
23°C	2300	--	MPa	ISO 178
Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179
-30°C	6.0	--	kJ/m ²	
23°C	10 kJ/m ²	No Break		
Charpy Unnotched Impact Strength				ISO 179
-30°C	No Break	--		
23°C	No Break	No Break		
Notched Izod Impact				
-40°C	53	--	J/m	ASTM D256
23°C	130	--	J/m	ASTM D256
23°C	15	--	kJ/m ²	ISO 180
Thermal	Dry	Conditioned	Unit	Test Method
Deflection Temperature Under Load				
0.45 MPa, Unannealed	160	--	°C	ASTM D648
1.8 MPa, Unannealed	66.0	--	°C	ASTM D648
1.8 MPa, Unannealed	65.0	--	°C	ISO 75-2/A
Peak Melting Temperature	220	--	°C	ASTM D3418, ISO 3146
CLTE - Flow				
--	4.0E-5	--	cm/cm/°C	ASTM E831
--	8.5E-5	--	cm/cm/°C	
RTI Elec				UL 746
0.400 mm	65.0	--	°C	
0.800 mm	65.0	--	°C	
1.50 mm	65.0	--	°C	
3.00 mm	65.0	--	°C	

RTI Imp				UL 746
0.400 mm	65.0	--	°C	
0.800 mm	65.0	--	°C	
1.50 mm	65.0	--	°C	
3.00 mm	65.0	--	°C	
RTI Str				UL 746
0.400 mm	65.0	--	°C	
0.800 mm	65.0	--	°C	
1.50 mm	65.0	--	°C	
3.00 mm	65.0	--	°C	
Electrical	Dry	Conditioned	Unit	Test Method
Volume Resistivity				
1.50 mm	1.0E+13	1.0E+10	ohms·cm	ASTM D257
--	1.0E+13	1.0E+10	ohms·cm	IEC 60093
Dielectric Constant				IEC 60250
100 Hz	4.00	--		
1 MHz	3.50	6.40		
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
0.400 mm	HB	--		
0.800 mm	HB	--		
1.50 mm	HB	--		
3.00 mm	HB	--		
Injection	Dry	Unit		
Drying Temperature	80.0		°C	
Drying Time	2.0 to 4.0		hr	
Suggested Max Moisture	0.15		%	
Processing (Melt) Temp	240 to 285		°C	
Mold Temperature	65.0 to 80.0		°C	
Injection Pressure	3.50 to 12.5		MPa	
Injection Rate	Fast			

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