

Ultramid® B3U Q721

Polyamide 6

BASF Corporation

Message:

Ultramid B3U Q721 is an injection molding grade, flame-retardant, free from halogen and phosphorus, and UL94 V0 approved. Technical molded parts are used for electrical engineering.

General Information				
Features		Flame Retardant		
		Halogen Free		
		Low (to None) Phosphorus Content		
		Oil Resistant		
Uses		Engineering Parts		
Agency Ratings		EC 1907/2006 (REACH)		
RoHS Compliance		RoHS Compliant		
Forms		Pellets		
Processing Method		Injection Molding		
Physical	Dry	Conditioned	Unit	Test Method
Specific Gravity	1.17	--	g/cm ³	ASTM D792, ISO 1183
Molding Shrinkage - Flow (3.18 mm)	0.80	--	%	
Water Absorption				
Saturation	0.10	--	%	ASTM D570
Saturation, 23°C	0.10	--	%	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)	3700	1100	MPa	ISO 527-2
Tensile Strength				
Yield, 23°C	83.0	--	MPa	ASTM D638
Yield, 23°C	80.0	45.0	MPa	ISO 527-2
Break, 23°C	74.0	--	MPa	ISO 527-2
Tensile Elongation				
Yield, 23°C	5.0	--	%	ASTM D638
Yield, 23°C	4.0	15	%	ISO 527-2
Break, 23°C	50	--	%	ASTM D638
Flexural Modulus (23°C)	3000	--	MPa	ASTM D790, ISO 178
Impact	Dry	Conditioned	Unit	Test Method

Charpy Notched Impact Strength				ISO 179
-30°C	3.0	--	kJ/m ²	
23°C	3.0	--	kJ/m ²	
Charpy Unnotched Impact Strength (23°C)				ISO 179
	No Break	No Break		
Notched Izod Impact				ASTM D256
-40°C	32	--	J/m	
23°C	43	--	J/m	
Thermal	Dry	Conditioned	Unit	Test Method
Deflection Temperature Under Load				
0.45 MPa, Unannealed	224	--	°C	ASTM D648
1.8 MPa, Unannealed	91.0	--	°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
RTI Elec				UL 746
0.750 mm	130	--	°C	
1.50 mm	130	--	°C	
3.00 mm	130	--	°C	
RTI Imp				UL 746
0.750 mm	75.0	--	°C	
1.50 mm	75.0	--	°C	
3.00 mm	80.0	--	°C	
RTI Str				UL 746
0.750 mm	95.0	--	°C	
1.50 mm	95.0	--	°C	
3.00 mm	95.0	--	°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 (1 MHz)	3.40	6.00		IEC 60250
Dissipation Factor (1 MHz)	0.015	0.25		IEC 60250
Comparative Tracking Index	600	--	V	IEC 60112
Flammability	Dry	Conditioned	Unit	Test Method
Flame Rating				UL 94
0.750 mm	V-0	--		
1.50 mm	V-0	--		
3.00 mm	V-0	--		
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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