

Ultramid® A3X2G5

Polyamide 66

BASF Corporation

Message:

Ultramid A3X2G5 is a 25% glass fiber reinforced injection molding PA66 grade with improved flame retardance and enhanced long-term performance. Flame retardant based on red phosphorus; outstanding mechanical and electrical properties.

General Information				
UL YellowCard		E36632-531634	E41871-100497758	E41871-233750
Filler / Reinforcement		Glass Fiber,25% Filler by Weight		
Additive		Flame Retardant		
Features		Flame Retardant		
		Good Electrical Properties		
		Oil Resistant		
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	1.34	--	g/cm³	ASTM D792, ISO 1183
Melt Volume-Flow Rate (MVR) (275°C/5.0 kg)	40.0	--	cm³/10min	ISO 1133
Molding Shrinkage - Flow (3.18 mm)	0.50	--	%	
Water Absorption				
Saturation	6.0	--	%	ASTM D570
Saturation, 23°C	6.0	--	%	ISO 62
Equilibrium, 50% RH	1.4	--	%	ASTM D570
Equilibrium, 23°C, 50% RH	1.4	--	%	ISO 62
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus (23°C)	8500	6000	MPa	ISO 527-2
Tensile Strength				

Break, 23°C	138	--	MPa	ASTM D638
Break, -40°C	196	--	MPa	ISO 527-2
Break, 23°C	140	100	MPa	ISO 527-2
Tensile Elongation				
Break, 23°C	3.0	--	%	ASTM D638
Break, 23°C	3.0	4.5	%	ISO 527-2
Flexural Modulus (23°C)	7100	--	MPa	ASTM D790
Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179
-30°C	10	--	kJ/m ²	
23°C	13	17	kJ/m ²	
Charpy Unnotched Impact Strength				ISO 179
-30°C	60	65	kJ/m ²	
23°C	65	70	kJ/m ²	
Notched Izod Impact				ASTM D256
-40°C	64	--	J/m	
23°C	75	--	J/m	
Thermal	Dry	Conditioned	Unit	Test Method
Deflection Temperature Under Load				
0.45 MPa, Unannealed	250	--	°C	ASTM D648, ISO 75-2/B
1.8 MPa, Unannealed	238	--	°C	ASTM D648
1.8 MPa, Unannealed	250	--	°C	ISO 75-2/A
Peak Melting Temperature	260	--	°C	ASTM D3418, ISO 3146
CLTE				
Flow	2.0E-5	--	cm/cm/°C	ASTM E831
Flow	3.0E-5	--	cm/cm/°C	
Transverse	7.0E-5	--	cm/cm/°C	
RTI Elec				UL 746
0.400 mm	110	--	°C	
0.810 mm	120	--	°C	
1.50 mm	120	--	°C	
3.00 mm	120	--	°C	
RTI Imp				UL 746
0.400 mm	115	--	°C	
0.810 mm	115	--	°C	
1.50 mm	115	--	°C	
3.00 mm	115	--	°C	
RTI Str				UL 746
0.810 mm	130	--	°C	
1.50 mm	130	--	°C	

3.00 mm	130	--	°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
Electric Strength	33	30	kV/mm	IEC 60243-1
Dielectric Constant (1 MHz)	3.70	5.00		IEC 60250
Dissipation Factor (1 MHz)	0.020	0.10		IEC 60250
Comparative Tracking Index	550	550	V	IEC 60112
Flammability	Dry	Conditioned	Unit	Test Method
Flame Rating				UL 94
0.810 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	0.050		%	
Processing (Melt) Temp	285 to 300		°C	
Mold Temperature	80.0 to 90.0		°C	
Injection Pressure	3.50 to 12.5		MPa	
Injection Rate	Fast			

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