

Ultramid® A3UG5

Polyamide 66

BASF Corporation

Message:

Without halogenes and red phosphorus a flame retarded glass fiber reinforced injection moulding grade; light in colour with outstanding mechanical and electrical properties.

General Information				
UL YellowCard		E41871-100718397	E41871-480881	E41871-101343817
Filler / Reinforcement		Glass Fiber,25% Filler by Weight		
Additive		Flame Retardant		
Features		Flame Retardant		
		Good Electrical Properties		
		Halogen Free		
		Low (to None) Phosphorus Content		
Agency Ratings		EC 1907/2006 (REACH)		
RoHS Compliance		RoHS Compliant		
Forms		Pellets		
Processing Method		Injection Molding		
Physical	Dry	Conditioned	Unit	Test Method
Density	1.39	--	g/cm ³	ISO 1183
Apparent Density	0.70	--	g/cm ³	
Melt Volume-Flow Rate (MVR) (275°C/5.0 kg)	25.0	--	cm ³ /10min	ISO 1133
Molding Shrinkage				ISO 294-4
Across Flow	1.2	--	%	
Flow	0.40	--	%	
Water Absorption				ISO 62
Saturation, 23°C	4.0 to 4.6	--	%	
Equilibrium, 23°C, 50% RH	1.1 to 1.5	--	%	
Viscosity Number (96% H2SO4 (Sulphuric Acid))	165	--	cm ³ /g	ISO 307
Mold Shrinkage - model-housing (1.50 mm)	0.40	--	%	
Temperature Index - at 50% loss of tensile strength				IEC 60216
-- 1	155	--	°C	
-- 2	130	--	°C	
Fire Performance - UL94+HAI+HWI ³	> 750.0	--	µm	UL 746C

French Railway Standard - Fire and smoke classification ⁴	I3/F2	--		NF F16-101
Smoke Density - Ds max. (20 min), 25kW/m ² (2.00 mm)	250	--		ISO 5659-2
Smoke Toxicity ⁵	0.380	--		
Polymer Abbreviation	PA66-GF25 FR	--		
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus	9500	6100	MPa	ISO 527-2
Tensile Stress (Break)	145	90.0	MPa	ISO 527-2
Tensile Strain (Break)	3.0	5.0	%	ISO 527-2
Flexural Modulus	9500	6100	MPa	ISO 178
Flexural Stress	230	160	MPa	ISO 178
Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength (23°C)	7.5	9.0	kJ/m ²	ISO 179/1eA
Charpy Unnotched Impact Strength				ISO 179/1eU
-30°C	63	--	kJ/m ²	
23°C	65	65	kJ/m ²	
Thermal	Dry	Conditioned	Unit	Test Method
Heat Deflection Temperature				
0.45 MPa, Unannealed	260	--	°C	ISO 75-2/B
1.8 MPa, Unannealed	245	--	°C	ISO 75-2/A
Melting Temperature	260	--	°C	ISO 11357-3
RTI Elec (1.50 mm)	120	--	°C	UL 746
Electrical	Dry	Conditioned	Unit	Test Method
Surface Resistivity	--	1.0E+15	ohms	IEC 60093
Volume Resistivity	1.0E+16	1.0E+13	ohms·cm	IEC 60093
Relative Permittivity (1 MHz)	3.80	4.60		IEC 60250
Dissipation Factor (1 MHz)	0.017	0.10		IEC 60250
Comparative Tracking Index (Solution A)	600	--	V	IEC 60112
High Amp Arc Ignition (HAI) (> 0.750 mm)	PLC 0	--		UL 746
Hot-wire Ignition (HWI) ⁶ (> 0.750 mm)	PLC 0	--		UL 746
Flammability	Dry	Conditioned	Unit	Test Method
Flame Rating				UL 94
> 0.750 mm	V-0	--		
1.60 mm	V-0	--		
3.20 mm	V-0	--		

Glow Wire Flammability Index (0.750 mm)	960	--	°C	IEC 60695-2-12
Glow Wire Ignition Temperature (> 2.00 mm)	775	--	°C	IEC 60695-2-13
Oxygen Index	32	--	%	ISO 4589-2
Injection	Dry	Unit		
Processing (Melt) Temp	280 to 300		°C	
Mold Temperature	80.0 to 90.0		°C	

NOTE

1.	5000 h
2.	20000 h
3.	For Electrical Insulation/Barrier with close proximity (<0.8 mm) to unisolated live parts according to UL 746C
4.	Limited validity period
5.	NF X70-100-1/-2
6.	ASTM D3874-88

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