Ultramid® A 3W BK00464 (Dry)

BASF Corporation - Polyamide 66

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General Information

Product Description

Ultramid A3W BK00464 is an easy flowing, pigmented black, heat aging resistant injection molding PA66 grade for fast processing.

General

Material Status	• Commercial: Active	
Availability	• Europe • North America	
Test Standards Available	• ASTM • ISO • ISO 10350	
Features	• Flow, Good	
Uses	• Automotive Applications • Automotive Electronics • Bearings • Connectors • Electrical Parts	• Gears • Housing, Electrical • Industrial Applications • Parts, Engineering
Appearance	• Black	
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) • Viscosity vs. Shear Rate (ISO 11403-2)

ASTM and ISO Properties [1]

Physical	Nominal Value	Unit	Test Method
Water Absorption 24h/23C	2.8	%	ISO 62

Mechanical	Nominal Value	Unit	Test Method
Tensile Strength @ Yield (73 °F) [2]	12300	psi	ASTM D638
Tensile Elongation @ Yld (73 °F) [3]	4.5	%	ASTM D638
Flexural Modulus (73 °F)	454000	psi	ISO 178

Impact	Nominal Value	Unit	Test Method
Notched Izod Impact Strength			ISO 180
(-40 °F)	1.67	ft-lb/in²	
(73 °F)	2.38	ft-lb/in²	

Thermal	Nominal Value	Unit	Test Method
Melting Point	500	°F	

CAMPUS® Properties [4]

Rheological properties	Nominal Value	Unit	Test Method
Melt volume-flow rate (275°C/5.0 kg)	6.10	in³/10min	ISO 1133

Mechanical properties 23°C/50%r.h.	Nominal Value	Unit	Test Method
Tensile modulus	435000	psi	ISO 527-1, -2
Yield stress	12300	psi	ISO 527-1, -2
Yield strain	4.4	%	ISO 527-1, -2
Nominal strain at break	25.0	%	ISO 527-1, -2
Charpy impact strength (+23°C)	No Break	ft-lb/in²	ISO 179 /1eU
Charpy impact strength (-30°C)	No Break	ft-lb/in²	ISO 179 /1eU
Charpy notched impact strength (+23°C)	2.86	ft-lb/in²	ISO 179 /1eA
Charpy notched impact strength (-30°C)	2.38	ft-lb/in²	ISO 179 /1eA

Thermal properties	Nominal Value	Unit	Test Method
Melting temperature (10°C/min)	500	°F	ISO 11357-1, -3
Temp. of deflection under load (1.80 MPa)	167	°F	ISO 75-1, -2
Temp. of deflection under load (0.45 MPa)	428	°F	ISO 75-1, -2
Vicat softening temperature (50°C/h 50N)	482	°F	ISO 306
Coeff.of linear therm. expansion (parallel)	0.000047	in/in/°F	ISO 11359-1, -2
Burning Behav. at 1.6mm nom. thickn. (0.06 in, UL)	V-2		ISO 1210
Burning Behav. at thickness h (0.0295 in, UL)	V-2		ISO 1210
Oxygen index	28	%	ISO 4589-1, -2

Electrical properties 23°C/50%r.h.	Nominal Value	Unit	Test Method
Relative permittivity (100 Hz)	3.80		IEC 60250
Relative permittivity (1 MHz)	3.20		IEC 60250
Dissipation factor (100 Hz)	0.0050		IEC 60250
Dissipation factor (1 MHz)	0.025		IEC 60250
Volume resistivity	3.9E+14	ohm-in	IEC 60093
Electric strength	3000	V/mil	IEC 60243-1
Comparative tracking index	500		IEC 60112

Other properties	Nominal Value	Unit	Test Method
Water absorption	8.5	%	ISO 62
Humidity absorption	2.8	%	ISO 62
Density	0.0408	lb/in³	ISO 1183

Material specific properties	Nominal Value	Unit	Test Method
Viscosity number	150	cm³/g	ISO 307, 1157, 1628

Test specimen production	Nominal Value	Unit	Test Method
Injection Molding, melt temperature	554	°F	ISO 294
Injection Molding, mold temperature	176	°F	ISO 10724
Injection Molding, injection velocity	8	in/sec	ISO 294

Processing Information

Injection	Nominal Value	Unit
Drying Temperature	176	°F
Processing (Melt) Temp	536 to 572	°F
Mold Temperature	104 to 176	°F

Notes

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

[2] 2 in/min

[3] 2.0 in/min

[4] Typical properties: these are not to be construed as specifications. Additional CAMPUS® data and disclaimer information may be found on CAMPUS® Data Sheet.