



Ultramid® A3H

BASF Corporation - Polyamide 66

Monday, November 4, 2019

General Information

Product Description

Ultramid A3H is a high heat aging resistant, injection molding PA66 grade for highly stressed parts such as bearing cages, gear-wheels, coil formers and cable connectors.

General

Material Status	• Commercial: Active
Availability	• North America
Features	• Heat Aging Resistant
Uses	• Connectors • Gears
Agency Ratings	• EC 1907/2006 (REACH)
RoHS Compliance	• RoHS Compliant
Forms	• Pellets
Processing Method	• Injection Molding

ASTM & ISO Properties ¹

Physical	Dry	Conditioned	Unit	Test Method
Density	1.13	--	g/cm ³	ISO 1183
Molding Shrinkage				ISO 294-4
Across Flow	2.3	--	%	
Flow	2.3	--	%	
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus (73°F)	457000	231000	psi	ISO 527-2
Tensile Stress (Yield, 73°F)	12300	8270	psi	ISO 527-2
Tensile Stress (Break, 73°F)	8850	7830	psi	ISO 527-2
Tensile Strain (Yield, 73°F)	4.1	22	%	ISO 527-2
Nominal Tensile Strain at Break				ISO 527-2
73°F	19	> 100	%	
Flexural Modulus (73°F)	431000	218000	psi	ISO 178
Flexural Stress (73°F)	17400	7980	psi	ISO 178
Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179
-22°F	2.1	1.8	ft·lb/in ²	
73°F	2.3	5.1	ft·lb/in ²	
Charpy Unnotched Impact Strength				ISO 179
-22°F	No Break	No Break		
73°F	No Break	No Break		
Notched Izod Impact Strength				ISO 180
-40°F	2.2	2.2	ft·lb/in ²	
73°F	2.5	4.4	ft·lb/in ²	
Thermal	Dry	Conditioned	Unit	Test Method
Heat Deflection Temperature				ISO 75-2/B
66 psi, Unannealed	374	--	°F	
Heat Deflection Temperature				ISO 75-2/A
264 psi, Unannealed	165	--	°F	

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Thermal	Dry	Conditioned	Unit	Test Method
Melting Temperature (DSC)	500	--	°F	ISO 3146

Processing Information

Injection	Dry	Unit
Drying Temperature	176	°F
Drying Time	2.0 to 4.0	hr
Suggested Max Moisture	0.20	%
Processing (Melt) Temp	536 to 572	°F
Mold Temperature	104 to 176	°F
Injection Pressure	508 to 1810	psi
Injection Rate	Fast	

Notes

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