



Ultramid® Advanced N4H

BASF Corporation - Polyamide 9T

Monday, November 4, 2019

General Information

Product Description

Preliminary Product - Ultramid Advanced N4H is a partially aromatic polyphthalamide for injection molding and extrusion with strong mechanical properties especially at elevated temperatures, good long-term thermal stability and excellent chemical resistance for highly stressed parts. This material has high toughness, extremely low water absorption, outstanding dimensional stability and very good wear/sliding friction properties. It features a high melting point (300C) and excellent melt stability.

General

Material Status	• Commercial: Active		
Availability	• Europe	• North America	
Filler / Reinforcement	• Glass Fiber, 30% Filler by Weight		
Features	• Aromatic • Chemical Resistant • Good Processability • Good Thermal Stability	• High Dimensional Stability • High Flow • High Melt Stability • High Stiffness	• High Toughness • Low to No Water Absorption
Uses	• Thin-walled Parts		
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	1.8	--	%	
Flow	1.7	--	%	
Water Absorption				ISO 62
Saturation, 73°F	2.5	--	%	
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus (73°F)	377000	377000	psi	ISO 527-2
Tensile Stress (Yield, 73°F)	13100	13100	psi	ISO 527-2
Tensile Stress (Break, 73°F)	9430	10200	psi	ISO 527-2
Tensile Strain (Yield, 73°F)	> 5.0	> 5.0	%	ISO 527-2
Flexural Modulus (73°F)	377000	392000	psi	ISO 178
Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179
-40°F	3.8	--	ft·lb/in ²	
-22°F	3.8	2.9	ft·lb/in ²	
73°F	2.9	2.9	ft·lb/in ²	
Charpy Unnotched Impact Strength				ISO 179
-22°F	62	19	ft·lb/in ²	
73°F	No Break	24 ft·lb/in ²		
Thermal	Dry	Conditioned	Unit	Test Method
Heat Deflection Temperature				ISO 75-2/A
264 psi, Unannealed	266	--	°F	
Melting Temperature (DSC)	572	--	°F	ISO 3146

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Processing Information

Injection	Dry	Unit
Drying Temperature - Desiccant Dryer	248	°F
Drying Time	8.0	hr
Suggested Max Moisture	0.050	%
Processing (Melt) Temp	608 to 644	°F
Mold Temperature	212 to 320	°F

Notes

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