

HiDura™ D1XA NT

Ascend Performance Materials Operations LLC - Polyamide 612

General Information
Product Description

HiDura D1XA NT is a low-medium viscosity PA612 grade. It is suitable for monofilament, film and general purpose injection molding applications. It exhibits low moisture absorption, good chemical resistance, dimensional stability and high impact resilience. PA612 offers a unique balance of thermal, mechanical and physical properties.

General

Material Status	• Commercial: Active		
Availability	• Asia Pacific	• Europe	• North America
Features	• Abrasion Resistant	• Chemical Resistant	• Medium Viscosity
Appearance	• Natural Color		
Forms	• Pellets		
Processing Method	• Casting • Extrusion	• Injection Molding • Profile Extrusion	• Sheet Extrusion
Resin ID	• PA612		

Properties ¹

Physical	Dry	Conditioned	Unit	Test Method
Density	1.06	--	g/cm ³	ISO 1183
Molding Shrinkage				ISO 294-4
Across Flow : 73°F, 0.0787 in	2.0	--	%	
Flow : 73°F, 0.0787 in	1.9	--	%	
Water Absorption (24 hr, 73°F)	0.40	--	%	ISO 62
Water Absorption (Equilibrium, 73°F, 50% RH)	1.3	--	%	ISO 62
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus (73°F)	305000	218000	psi	ISO 527-1
Tensile Stress (Yield, 73°F)	8700	7830	psi	ISO 527-2
Tensile Stress (Break, 73°F)	6380	9140	psi	ISO 527-2
Tensile Strain (Yield, 73°F)	4.4	19	%	ISO 527-2
Tensile Strain (Break, 73°F)	> 50	> 50	%	ISO 527-2
Flexural Modulus (73°F)	319000	218000	psi	ISO 178
Flexural Stress (73°F)	9860	5660	psi	ISO 178
Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179/1eA
-40°F	2.7	2.5	ft·lb/in ²	
-22°F	2.7	2.7	ft·lb/in ²	
73°F	2.5	3.4	ft·lb/in ²	
Charpy Unnotched Impact Strength				ISO 179/1eU
-40°F	No Break	No Break		
-22°F	No Break	No Break		
73°F	No Break	No Break		
Notched Izod Impact Strength				ISO 180/1A
-40°F	2.4	2.0	ft·lb/in ²	
-22°F	2.4	2.3	ft·lb/in ²	
73°F	2.1	2.5	ft·lb/in ²	
Thermal	Dry	Conditioned	Unit	Test Method
Deflection Temperature Under Load (66 psi, Unannealed)	277	--	°F	ISO 75-2/B
Deflection Temperature Under Load (264 psi, Unannealed)	138	--	°F	ISO 75-2/A
Melting Temperature	424	--	°F	ISO 11357-3
CLTE - Flow (73 to 131°F, 0.0787 in)	6.7E-5	--	in/in/°F	ISO 11359-2



CLTE - Transverse (73 to 131°F, 0.0787 in)	7.6E-5	--	in/in/°F	ISO 11359-2
Electrical	Dry	Conditioned	Unit	Test Method
Electric Strength (0.0394 in)	760	760	V/mil	IEC 60243-1

Processing Information

Injection	Dry Unit			
Drying Temperature	176 °F			
Drying Time	4.0 to 6.0 hr			
Suggested Max Moisture	0.15 %			
Rear Temperature	500 to 527 °F			
Middle Temperature	509 to 536 °F			
Front Temperature	509 to 554 °F			
Nozzle Temperature	509 to 554 °F			
Processing (Melt) Temp	446 to 554 °F			
Mold Temperature	122 to 212 °F			
Extrusion	Dry Unit			
Cylinder Zone 1 Temp.	464 to 500 °F			
Cylinder Zone 2 Temp.	464 to 500 °F			
Cylinder Zone 3 Temp.	464 to 500 °F			
Cylinder Zone 4 Temp.	464 to 500 °F			
Cylinder Zone 5 Temp.	464 to 500 °F			
Melt Temperature	446 to 491 °F			
Die Temperature	464 to 500 °F			

Notes

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

