

HiDura™ S3X NT

polyamide 610

HiDura S3X NT is a high viscosity PA610 grade with 62% bio-based content. It is suitable for monofilament, film, and general purpose injection molding applications; it can also be used for molded applications where high abrasion resistance and ductility are key requirements. PA610 offers a unique balance of thermal, mechanical, and physical properties.

General

Regional Availability	• North America	• Europe	• Asia Pacific
Features	• Abrasion Resistance	• Chemical Resistant	• High Viscosity
Agency Rating	• ASTM, D4066 PA0710B4301	• ASTM, D6779 PA0000B4331	• ISO, 1043 PA610
Appearance	• Natural Color		
Forms	• Pellets		
Processing Method	• Casting • Other Extrusion	• Film Extrusion • Profile Extrusion	• Injection Molding • Sheet Extrusion

Physical

	dry	cond.	Unit	Test Standard
Density	1.07	-	g/cm ³	ISO 1183
Molding Shrinkage				ISO 294-4
Across Flow : 23°C, 2.00 mm	1.6	*	%	
Flow : 23°C, 2.00 mm	1.8	*	%	
Water Absorption				ISO 62
23°C, 24 hr	0.5	*	%	
Equilibrium, 23°C, 50% RH	1.5	*	%	

Mechanical

	dry	cond.	Unit	Test Standard
Tensile Modulus (23°C)	1900	1100	MPa	ISO 527-2
Tensile Stress (Yield, 23°C)	72	68	MPa	ISO 527-2
Tensile Stress (Break, 23°C)	72	65	MPa	ISO 527-2
Tensile Strain (Yield, 23°C)	5.2	21	%	ISO 527-2
Tensile Strain (Break, 23°C)	>50	>50	%	ISO 527-2
Flexural Modulus (23°C)	1900	1100	MPa	ISO 178
Flexural Strength (23°C)	58	30	MPa	ISO 178
Poisson's Ratio (23°C)	0.38		-	ISO 527-2

Impact

	dry	cond.	Unit	Test Standard
Charpy Notched Impact Strength				ISO 179/1eA
+23°C	7	12	kJ/m ²	
-30°C	7.4	8	kJ/m ²	
-40°C	8.3	7.7	kJ/m ²	

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Charpy Unnotched Impact Strength

ISO 179/1eU

+23°C	N	N	kJ/m²
-30°C	N	N	kJ/m²
-40°C	N	N	kJ/m²

Notched Izod Impact Strength

ISO 180/1A

+23°C	5	9.3	kJ/m²
-30°C	5.7	6.8	kJ/m²
-40°C	5.8	6.4	kJ/m²

Thermal	dry	cond.	Unit	Test Standard
Heat Deflection Temperature				ISO 75-2/A
1.80 MPa, Unannealed	52	-	°C	
0.45 MPa, Unannealed	121	-	°C	
Melting Temperature	225	*	°C	ISO 11357-3
CLTE				ISO 11359-2
Flow : 23 to 55°C, 2.00 mm	100	*	E-6/K	
Transverse : 23 to 55°C, 2.00 mm	105	*	E-6/K	

Electrical	dry	cond.	Unit	Test Standard
Dielectric Strength (1.00 mm)	30	28	kV/mm	IEC 60243

Injection	Value	Unit
Drying Temperature	75 - 85	°C
Drying Time	4 - 8	h
Suggested Max Regrind	20	%
Suggested Max Moisture	≤ 0.2	%
Rear Temperature	270 - 285	°C
Middle Temperature	275 - 290	°C
Front Temperature	275 - 300	°C
Nozzle temperature	275 - 300	°C
Processing (Melt) Temperature	275 - 300	°C
Mold Temperature	65 - 100	°C

Extrusion	Value	Unit
Cylinder Zone 1 Temp	250 - 270	°C
Cylinder Zone 2 Temp	250 - 270	°C
Cylinder Zone 3 Temp	250 - 270	°C
Cylinder Zone 4 Temp	250 - 270	°C

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Cylinder Zone 5 Temp	250 - 270	°C
Melt temperature	240 - 265	°C
Die temperature	250 - 270	°C

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