DuraForm® PA

Polyamide

3D Systems

Message:

Durable polyamide (nylon) material for real-world physical testing and functional use.
Applications
Complex, thin-wall ductwork
Functional prototypes that approach end-use performance properties
Appropriate for low-to-mid-volume rapid manufacturing
Medical applications requiring USP Class VI compliance, or biocompatibility
Motorsports
Aerospace
Housing and enclosures
Impellers and connectors
Consumer sporting goods
Vehicle dashboards and grilles
Snap-fit designs
Parts requiring machining or joining with adhesives
Features
Excellent surface resolution and feature detail
Easy-to-process
Compliant with USP Class VI testing
Compatible with autoclave sterilization
Good chemical resistance and low moisture absorption
Benefits
Nicely balanced mechanical properties and processability
Build prototypes that withstand functional testing
Produce durable end-use parts without tooling
Create accurate and repeatable parts as demanded by manufacturers
Machinable and paintable for demonstration parts

General Information	
Features	Autoclave Sterilizable
	Biocompatible
	Durable
	Good Chemical Resistance
	Good Processability
	Good Surface Finish
	Low Moisture Absorption
	Machinable
	Paintable
Uses	Aerospace Applications
	Automotive Interior Trim
	Connectors
	Consumer Applications
	Housings
	Machine/Mechanical Parts

Medical/Healthcare Applications

Prototyping

Sporting Goods

Thin-walled Parts

Agency Ratings	USP Class VI		
Forms	Powder		
Processing Method	3D Printing, Laser Sintering/Melting		
Physical	**Nominal Value**	**Unit**	**Test Method**
Specific Gravity	1.00	g/cm³	ASTM D792
Water Absorption (24 hr)	0.070	%	ASTM D570
Hardness	**Nominal Value**	**Unit**	**Test Method**
Durometer Hardness (Shore D)	73		ASTM D2240
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus	1590	MPa	ASTM D638
Tensile Strength (Ultimate)	43.0	MPa	ASTM D638
Tensile Elongation (Break)	14	%	ASTM D638
Flexural Modulus	1390	MPa	ASTM D790
Flexural Strength (Break)	48.0	MPa	ASTM D790
Impact	**Nominal Value**	**Unit**	**Test Method**
Notched Izod Impact (23°C)	32	J/m	ASTM D256
Unnotched Izod Impact (23°C)	340	J/m	ASTM D256
Gardner Impact	2.70	J	ASTM D5420
Thermal	**Nominal Value**	**Unit**	**Test Method**
Deflection Temperature Under Load			ASTM D648
0.45 MPa, Unannealed	180	°C	
1.8 MPa, Unannealed	95.0	°C	
CLTE - Flow			ASTM E831
0 to 50°C	8.3E-5	cm/cm/°C	
85 to 145°C	1.8E-4	cm/cm/°C	
Specific Heat	1640	J/kg/°C	ASTM E1269
Thermal Conductivity	0.70	W/m/K	ASTM E1225
Electrical	**Nominal Value**	**Unit**	**Test Method**
Surface Resistivity	7.0E+13	ohms	ASTM D257
Volume Resistivity	5.9E+13	ohms·cm	ASTM D257
Dielectric Strength	17	kV/mm	ASTM D149
Dielectric Constant (1 kHz)	2.73		ASTM D150
Dissipation Factor (1 kHz)	0.044		ASTM D150
Flammability	**Nominal Value**	**Unit**	**Test Method**
Flame Rating	HB		UL 94

infringement occurs, please contact us immediately.

Recommended distributors for this material

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