DuraForm® HST

Unspecified

3D Systems

Message:

Applications
Functional prototypes and end-use parts that require high stiffness and/or elevated thermal resistance
Typical Applications include:
UAV structural components
Housings and enclosures
Impellers
Connectors
Consumer sporting goods
Features
High specific stiffness
Elevated temperature resistance
Anisotropic mechanical properties just like fiber-filled, injection molded materials
Non-conductive and RF transparent
Easy-to-finish surface
Benefits
Functional prototypes can be tested in "real life" environments
Complex end-use parts can be economically manufactured in low-to-medium volumes
Excels in load-bearing applications at higher temperatures
Attractive surface finish

General Information			
Features	Good Surface Finish High Heat Resistance High Stiffness Ignition Resistant		
Uses	Connectors Consumer Applications Housings Prototyping Sporting Goods Structural Parts		
Forms	Powder		
Processing Method	3D Printing, Laser Sintering/Melting		
Physical	**Nominal Value**	**Unit**	**Test Method**
Specific Gravity	1.20	g/cm³	ASTM D792
Hardness	**Nominal Value**	**Unit**	**Test Method**
Durometer Hardness (Shore D)	75		ASTM D2240
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus			ASTM D638
-- [1]	2900 to 3000	MPa	

-- [2]	5480 to 5730	MPa	
Tensile Strength			ASTM D638
Break [3]	31.0 to 34.0	MPa	
Break [4]	48.0 to 51.0	MPa	
Tensile Elongation			ASTM D638
Break [5]	2.7	%	
Break [6]	4.5	%	
Flexural Modulus			ASTM D790
-- [7]	2630 to 2830	MPa	
-- [8]	4400 to 4550	MPa	
Flexural Strength			ASTM D790
Break [9]	64.0 to 68.0	MPa	
Break [10]	83.0 to 89.0	MPa	
Impact	**Nominal Value**	**Unit**	**Test Method**
Notched Izod Impact (23°C)	37	J/m	ASTM D256
Unnotched Izod Impact (23°C)	310	J/m	ASTM D256
Gardner Impact	5.00	J	ASTM D5420
Thermal	**Nominal Value**	**Unit**	**Test Method**
Deflection Temperature Under Load			ASTM D648
0.45 MPa, Unannealed [11]	179	°C	
0.45 MPa, Unannealed [12]	184	°C	
1.8 MPa, Unannealed [13]	135	°C	
1.8 MPa, Unannealed [14]	179	°C	
CLTE			ASTM E831
Flow : 0 to 50°C [15]	1.4E-4	cm/cm/°C	
Flow : 85 to 145°C [16]	2.7E-4	cm/cm/°C	
Transverse : 0 to 50°C [17]	1.0E-4	cm/cm/°C	
Transverse : 85 to 145°C [18]	1.8E-4	cm/cm/°C	
Specific Heat	1500	J/kg/°C	ASTM E1269
Electrical	**Nominal Value**	**Unit**	**Test Method**
Surface Resistivity	5.2E+15	ohms	ASTM D257
Volume Resistivity	6.7E+15	ohms·cm	ASTM D257
Dielectric Strength	19	kV/mm	ASTM D149
Dielectric Constant (1 kHz)	3.14		ASTM D150
Dissipation Factor (1 kHz)	0.028		ASTM D150
Flammability	**Nominal Value**	**Unit**	**Test Method**
Flame Rating (3.00 mm)	HB		UL 94
NOTE			
1.	Z direction		
2.	X direction		
3.	Z direction		
4.	X direction		

5.	Z direction
6.	X direction
7.	Z direction
8.	X direction
9.	Z direction
10.	X direction
11.	Z direction
12.	X direction
13.	Z direction
14.	X direction
15.	X direction
16.	X direction
17.	Z direction
18.	Z direction

Recommended distributors for this material

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