Technical Data Sheet

Eastman Amphora™ 3D Polymer AM1800

Application/Uses

- Production of 3D Printing filaments

Key Attributes

- Clarity and gloss
- Dimensional stability
- Ease of processing
- Enhanced aesthetics
- Excellent toughness and temperature resistance
- FDA compliance
- Low odor
- Property retention in 3D applications
- Styrene-free
- Workability

Product Description

Eastman Amphora™ 3D polymer is a low-odor, styrene-free choice that is uniquely suited for 3D Printing applications. With Amphora, makers can create items that are more functional, durable, efficient, and attractive. Now you can fulfill your vision with 3D creations that exhibit excellent aesthetics and superior toughness. Amphora also complies with certain U.S. Food and Drug Administration (FDA) regulations for food contact applications. That means, with Amphora, you'll be able to make a lot of things you can't with other materials. Best of all, you'll be able to make certain your final product meets your expectations.

Typical Properties

Property[a]	Test[b] Method	Typical Value, Units[c]
General Properties		
Specific Gravity	D 792	1.27
Mechanical Properties		
Tensile Stress @ Yield	D 638	50 MPa (7300 psi)
Tensile Stress @ Break	D 638	28 MPa (4100 psi)
Elongation @ Yield	D 638	5%
Elongation @ Break	D 638	110%
Tensile Modulus	D 638	1900 MPa (2.7 x 10^5 psi)
Flexural Modulus	D 790	2100 MPa (3.0 x 10^5 psi)
Rockwell Hardness, R Scale	D 785	108
Izod Impact Strength, Notched @ 23°C (73°F)	D 256	95 J/m (1.8 ft·lbf/in.)
Impact Strength, Unnotched @ 23°C (73°F)	D 4812	NB

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Thermal Properties		
Deflection Temperature		
@ 0.455 MPa (66 psi)	D 648	70°C (158°F)
@ 1.82 MPa (264 psi)	D 648	62°C (143°F)

Typical Processing Conditions	
Nozzel Temperature	245°C (473°F)
Heated Bed Temperature	70°C (158°F)
Cooling	
	50-90%
Layer Height	0.2 mm
Speed	30-60 mm/s
Infill	As needed up to 100%
Perimeter	1.2 mm
Minimal Layer Time	5 seconds

[a] *Unless noted otherwise, all tests are run at 23°C (73°F) and 50% relative humidity.*

[b] *Unless noted otherwise, the test method is ASTM.*

[c] *Units are in SI or US customary units.*

Comments

Properties reported here are typical of average lots. Eastman makes no representation that the material in any particular shipment will conform exactly to the values given.

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