



Technical Data Sheet

Eastman Amphora™ 3D Polymer HT5300

Application/Uses

- Production of 3D Printing filaments

Key Attributes

- Clarity and gloss
- Dimensional stability
- Enhanced aesthetics
- Excellent Temperature Resistance
- Excellent toughness
- FDA compliance
- Low odor
- Property retention in 3D applications
- Styrene-free
- Workability

Product Description

Eastman Amphora™ HT5300 3D polymer is a low-odor, and styrene-free material uniquely suited for advanced 3D printing users, particularly those who need their creations to exhibit superior durability, dimensional stability, toughness, and high temperature resistance. The model of functional aesthetics, Amphora HT5300 can be made into high-quality filament that exhibits advanced overhang ability, excellent toughness and temperature resistance, good looks, and superior melt strength—empowering professional users to create durable, more useful items. Demonstrating superior dimensional stability, BPA-free HT5300 allows for 3D printing to exacting dimensions, which is especially important for products with tight tolerances and multi-component parts. Moreover, with its outstanding toughness and chemical resistance, Amphora HT5300 is ideal for prototyping and testing products, especially for applications that require temperature resistance up to 100°C.

Typical Properties

Property ^a	Test ^b Method	Typical Value, Units ^c
General Properties		
Specific Gravity	D 792	1.18
Mechanical Properties		
Tensile Stress @ Yield	D 638	43 MPa (6200 psi)
Tensile Stress @ Break	D 638	52 MPa (7500 psi)
Elongation @ Yield	D 638	7%
Elongation @ Break	D 638	210%
Flexural Modulus	D 790	1575 MPa (2.28 x 10 ⁵ psi)
Flexural Strength	D 790	64 MPa (9300 psi)
Rockwell Hardness, R Scale	D 785	111
Izod Impact Strength, Notched @ 23°C	D 256	860 J/m (16.1 ft·lbf/in.)

(73°F)

Impact Strength, Unnotched @ 23°C (73°F) D 4812 NB

Thermal Properties

Deflection Temperature		
@ 0.455 MPa (66 psi)	D 648	94°C (201°F)
@ 1.82 MPa (264 psi)	D 648	81°C (178°F)

Typical Processing Conditions

Processing Melt Temperature	250-260°C (482-500°F)
Heated Bed Temperature	90-110°C (194-230°F)
Cooling	0 to 100%
Layer Height	0.1 or 0.2 mm
Speed	30 to 60 mm/s
Infill	As needed up to 100%
Perimeter	Around 1 mm
Minimal Layer Time	5 sec

^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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