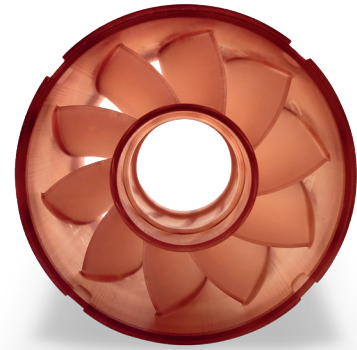


HI TEMP 300-AMB

Industry-leading, ultra-high temperature resistant rigid plastic suitable for the harshest thermal environments

High thermal-resistance, translucent amber plastic for flow visualisation (HDT >300 °C)

HI TEMP 300-AMB is an ultra-high temperature plastic for use in applications requiring high heat resistance. It is the industry's highest heat resistant material with heat deflection temperature of over 300°C at both low and high stress (at 0.455 and 1.82 MPa). This material is well suited for the testing of high temperature components in applications including HVAC, consumer appliances, motor enclosures, stators, molds, and the like. It does not require a secondary thermal post-cure.



Applications

- ▶ High temperature components testing and general use parts including: HVAC, consumer appliances, motor enclosures, stators, etc.
- ▶ Low pressure moulding/tooling: expanding foams, rubbers, etc.
- ▶ Overmoulding

Benefits

- ▶ Production-grade material
- ▶ High heat resistance for testing and use in high heat environments
- ▶ No secondary thermal post-cure required
- ▶ Excellent visualisation for parts requiring evaluation of internal features and fluid flow performance

Features

- ▶ HDT over 300°C at both low and high stress (HDT at 0.455 and 1.82 MPa)
- ▶ Rigid and translucent
- ▶ High tensile modulus for use in moulds (4000 MPa)

Liquid Material

LIQUID PROPERTIES			
MEASUREMENT	CONDITION	METRIC	U.S.
Viscosity	@ 25 °C (77 °F)	1725 cps	4170 lb/ft-hr
Colour		Amber	
Liquid Density	@ 25 °C (77 °F)	1.19 g/cm ³	0.043 lb/in ³
Layer Thickness (Standard Mode)		0.05 mm	0.002 in

HI TEMP 300-AMB

Industry-leading, ultra-high temperature resistant rigid plastic suitable for the harshest thermal environments

Post-Cured Material

MECHANICAL PROPERTIES			
MEASUREMENT	CONDITION	METRIC	U.S.
Solid Density (g/cm ³ lb/in ³)	ASTM D792	1.3	0.047
Tensile Strength, Ultimate (MPa PSI)	ASTM D638	81	11750
Tensile Modulus (MPa KSI)	ASTM D638	4000	580
Elongation at Break	ASTM D638	2.6%	
Flexural Strength (MPa PSI)	ASTM D790	140	20305
Flexural Modulus (MPa KSI)	ASTM D790	4260	618
Notched Izod Impact Strength (J/m Ft-lbs/in)	ASTM D256	10	0.2
Unnotched Izod Impact Strength (J/m Ft-lbs/in)	ASTM D4812	138	2.6
Heat Deflection Temperature @ 0.45 MPa (66 PSI) @ 1.82 MPa (264 PSI)	ASTM D648	> 300 °C > 300 °C	> 570 °F > 570 °F
Coefficient of Thermal Expansion (CTE) (ppm/°C ppm/°F) 0-100 °C 150-250 °C	ASTM E831	62 54	34 30
Hardness, Shore	ASTM D2240	89D	
Water Absorption (24 hour)	ASTM D570	0.36%	



Warranty/Disclaimer: The performance characteristics of these products may vary according to product application, operating conditions, material combined with, or with end use. Prototype Projects makes no warranties of any type, express or implied, including, but not limited to, the warranties of merchantability or fitness for a particular use.

© 2022 by Prototype Projects Ltd. All rights reserved. Images courtesy of 3D Systems.