

ALFAProtech

Alfa Tough*

A durable stereolithography material that creates parts ready for functional testing

Product Description

Alfa Tough is a durable stereolithography material that produces accurate, high-detailed parts and has been designed for easy finishing. It has a look and feel that is almost indistinguishable from finished traditional thermoplastics, making it perfect for building parts and prototypes for functional testing applications – resulting in time, money and material savings during product development.

Alfa Tough is an outstanding material for industries such as aerospace, automotive, medical, consumer products and electronics.

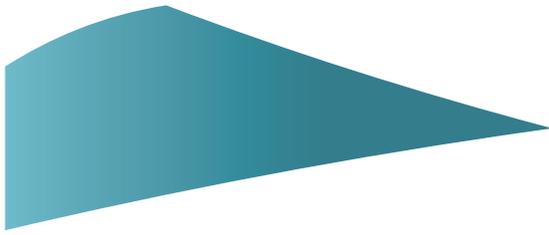
Key Benefits

- Easy to clean & finish
- High strength & durability
- Accurate & dimensionally stable
- High detail

Ideal Applications

- Tough, functional prototypes
- Snap-fit designs
- Jigs & fixtures

*Alfa Tough is our internal name of a commercial product from our Supplier



Alfa Tough

Technical Data

These data are collected from: 032016 | *****-SS-PDSA4

Liquid Properties		Optical Properties		
Appearance	White	E_c	9.3 mJ/cm ²	[critical exposure]
Viscosity	~380 cps @ 30°C	D_p	4.3 mils	[slope of cure-depth vs. ln (E) curve]
Density	~1.12 g/cm ³ @ 25°C	E_{10}	95.1 mJ/cm ²	[exposure that gives 0.254 mm (.010 inch) thickness]

Mechanical Properties		UV Postcure	
ASTM Method	Property Description	Metric	Imperial
D638M	Tensile Modulus	2,964 MPa	430 ksi
D638M	Tensile Strength at Yield	56.8 MPa	8.2 ksi
D638M	Elongation at Break	11%	
D2240	Flexural Modulus	2,654 MPa	385 ksi
D256A	Izod Impact (Notched)	38.9 J/m	0.729 ft-lb/in
D2240	Hardness (Shore D)	82	
D570-98	Water Absorption	0.40%	

Thermal/Electrical Properties		UV Postcure	
ASTM Method	Property Description	Metric	Imperial
E831-05	C.T.E. -40 - 0°C (-40 - 32°F)	56.5 µm/m°C	31.4 µin/in°F
E831-05	C.T.E. 0 - 50°C (32 - 122°F)	76.5 µm/m°C	42.5 µin/in°F
E831-05	C.T.E. 50 - 100°C (122 - 212°F)	163 µm/m°C	90.8 µin/in°F
E831-05	C.T.E. 100 - 150°C (212 - 302°F)	174 µm/m°C	96.5 µin/in°F
D150-98	Dielectric Constant 60 Hz	3.9	
D150-98	Dielectric Constant 1 KHz	3.7	
D150-98	Dielectric Constant 1 MHz	3.5	
D149-97a	Dielectric Strength	31 kV/mm	788 V/mil
D648	HDT @ 0.46 MPa (66 psi)	52.3°C	126°F
D648	HDT @ 1.81 MPa (264 psi)	49.6°C	121°F

These values may vary and depend on individual machine processing and post-curing practices.

