

ULTEM* 9085 is a flame retardant high performance thermoplastic for direct digital manufacturing and rapid prototyping. It is ideal for the transportation industry due to its high strength-to-weight ratio and its FST (flame, smoke, and toxicity) rating. This unique material's preexisting certifications make it an excellent choice for the commercial transportation industry – especially aerospace, marine and ground vehicles. Combined with a Fortus 3D Production System, ULTEM 9085 allows design and manufacturing engineers to produce fully functional parts that are ideal for advanced functional prototypes or end use without the cost or lead time of traditional tooling.



Mechanical Properties ¹	Test Method	Imperial	Metric
Tensile Strength (Type 1, 0.125", 0.2"/min)	ASTM D638	10,390 psi	71.64 Mpa
Tensile Modulus (Type 1, 0.125", 0.2"/min)	ASTM D638	322 kpsi	2,220 Mpa
Tensile Elongation (Type 1, 0.125", 0.2"/min)	ASTM D638	5.9%	5.9%
Flexural Strength (Method 1, 0.05"/min)	ASTM D790	16,700 psi	115.1 Mpa
Flexural Modulus (Method 1, 0.05"/min)	ASTM D790	362.6 kpsi	2,507 Mpa
IZOD Impact, notched (Method A, 23°C)	ASTM D256	2.0 ft-lb/in	106 J/m
IZOD Impact, un-notched (Method A, 23°C)	ASTM D256	11.5 ft-lb/in	613.8 J/m
Typical achievable tolerance	-	+/- .005 1st in.; +/- .001 every in. after	+/- .127 1st cm; +/- .025 every cm after
Thermal Properties ³	Test Method	English	Metric
Heat Deflection (HDT) @ 66 psi, 0.125", unannealed	ASTM D648	-	-
Heat Deflection (HDT) @ 264 psi, 0.125", unannealed	ASTM D648	307°F	153°C
Glass Transition Temp (Tg)	DSC (SSYS)	367°F	186°C
Coefficient of Thermal Expansion	-	-	-
Melt Point	-	Not Applicable ²	Not Applicable ²

Other ³	Test Method	Value
Specific Gravity	ASTM D792	1.34
Rockwell Hardness	ASTM D785	-
Flame Classification	UL 94	-
Dielectric Strength	D149	-
Dielectric Constant @ 60 MHz	D150	-

→ See reverse for color options and system availability.

Flame Characteristics	Test Method	Value
Oxygen Index	ASTM D2863	49%
Vertical Burn (Test a (60s), passes at)	FAR 25.853	2 seconds
FAA Flammability (Method A/B)	FAR 25.853	< 5
OSU Peak Heat Release (5 minute test)	FAR 25.853	36 kW/m ²
OSU Total Heat Release (2 minute test)	FAR 25.853	16 kW-min/m ²

The information presented are typical values intended for reference and comparison purposes only. They should not be used for design specifications or quality control purposes. End-use material performance can be impacted (+/-) by, but not limited to, part design, end-use conditions, test conditions, etc. Actual values will vary with build conditions. Tested parts were built on Fortus 400mc @ 0.010" (0.254 mm) slice. Product specifications are subject to change without notice. *Trademark of SABIC Innovative Plastics IP BV

¹Build orientation is on side long edge. ²Due to amorphous nature, material does not display a melting point. ³Literature value unless otherwise noted.



ULTEM* 9085

System Availability	Layer Thickness Capacity	Support Structure	Available Colors
Fortus 900mc	0.013 inch (0.330 mm) ²	BASS	Tan
	0.010 inch (0.254 mm)		

At the core:

Advanced FDM Technology

Fused Deposition Modeling (FDM) is the industry's leading additive manufacturing technology. FDM systems use a wide range (the largest choice of options in the industry) of thermoplastics with advanced mechanical properties so your parts can endure high heat, caustic chemicals, sterilization, and high impact applications.

Real Accuracy

Because thermoplastics are environmentally stable, part accuracy (or tolerance) doesn't change with ambient conditions or time. This enables FDM parts to be among the most dimensionally accurate.

Get your benchmark on the future of manufacturing

Low Cost. Accurate. High Strength. The best way to see the advantages of a FDM part is to have your own model built on one of our many FDM systems. Get your parts at www.growit3d.com.

About GROWit

GROWit™ is a privately held additive manufacturing company located in Irvine, California, dedicated to improving design through engineering and rapid prototyping. We strive to be at the cutting edge, bringing both knowledge and resources directly to customers. With our team of engineers, we help guide customers to the process that best suits their specific application, without holding a bias to a specific platform or technology.

Why do we call ourselves GROWit? Due to the layer-by-layer nature of rapid prototyping, a part often looks like it is growing within the machine – just like a plant grows from the ground. Rather than using the terms “building” or “fabricating”, the term “growing” is commonly used within the industry; thus the origin of our name, GROWit.

GROWit
20918 Bake Parkway
Suite 106
Lake Forest, CA
92630

(p) 949 305 4004
(f) 949 305 4915
www.growit3d.com
sales@growit3d.com

