

# Ultem1010

ULTEM™ 1010 is a high-performance FDM® thermoplastic that offers excellent strength, thermal stability and the ability to withstand steam autoclaving.

ULTEM 1010 is available in a general-purpose grade as well as a certified grade (CG) for those customers who want to take advantage of food-contact and bio-compatibility certifications for special applications including food production tools and custom medical

applications. ULTEM 1010 offers the highest heat resistance, chemical resistance and tensile strength of any FDM thermoplastic and is ideal for aerospace and automotive applications.

Mechanical Properties	Test Method	Metric
Tensile Strength, Yield (Type 1, 0.125", 0.2"/min)	ASTM D638	42-64 MPa
Tensile Modulus (Type 1, 0.125", 0.2"/min)	ASTM D638	2,200-2,770 MPa
Tensile Elongation at Break (Type 1, 0.125", 0.2"/min)	ASTM D638	62-3,3%
Flexural Strength (Method 1, 0.05"/min)	ASTM D790	77-144 MPa
Flexural Modulus (Method 1, 0.05"/min)	ASTM D790	2,230-2,820 MPa
Compression Strength	ASTM D695	107-134 MPa
Compression Modulus	ASTM D732	1,120-10,000 MPa
IZOD, notched (Method A, 23°C)	ASTM D256	24-41 J/m
IZOD un-notched, Method A, 23°C)	ASTM D256	138-326J/m

Thermal Properties	Test Method	Metric
Heat Deflection (HDT) @ 66 psi, 0.125" unannealed	ASTM D648	216°C
Heat Deflection (HDT) @ 264 psi, 0.125" unannealed	ASTM D648	213°C
Glass Transition (Tg)	DSC (SSYS)	215°C
Coefficient of Thermal Expansion	ASTM E228	47 µm (m·°C)
Melting Point	Not Applicable	Not Applicable