

MATERIAL DATA SHEET:

ULTEM AM9085F

DESCRIPTION:

ULTEM™AM9085F filament by SABIC is a high temperature, amorphous polyetherimide thermoplastic blend. It consists of a polyetherimide (PEI) with a polycarbonate copolymer blend incorporated for improved flow.

It belongs to the category of high performance technopolymers, or superpolymers, as it has resistance to hydrolysis and acid solutions, advanced thermal performances (supporting repeated cycles in autoclaves) and strong mechanical characteristics. ULTEM™AM9085F also has good electrical properties, which remain stable over a wide range of temperatures and frequencies (including microwaves). This, along with its good UV-light resistance and weatherability, is why it is one of few polymers that can be used on the outside of a spacecraft.

It offers the ability to create parts with excellent properties at elevated temperatures due to a high glass transition temperature (177°C, 367°F) and provides high heat resistance (HDT is 175°C at 1.82 MPa, 347°F at 264 psi) and mechanical strength with low toxicity, smoke, and flame evolution (UL94-V0 at 1.5 mm and 3 mm, 0.059 in and 0.118 in). Overall, Sabic's ULTEM™AM9085F combines mechanical properties and process capability, giving engineers exceptional flexibility and process freedom.

MATERIAL SPECIFICATION:

Property	Operating Conditions	Units	Orientation				Test Method
			XZ	XY 0°	XY 45°	ZX	
Tensile Strength	25°C	MPa	98	87	56	77	ASTM D638
Tensile Modulus	25°C	GPa	2.9	2.6	2.5	2.6	ASTM D638
Heat Deflection Temperature	1.82 MPa	°C	175	175	165		ASTM D648
Property		Units	Value				Test method
Specific Density		g/cm³	1.27				ASTM D792
Flammability Test FAA		mm	1.5mm				FAR 25.853
Colour		N/A	Beige				N/A
Glass transition temperature		°C	177°C				DSC

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