

PEI: Polyetherimide



PRODUCT DESCRIPTION

PEI is a high performance material that exhibits high strength and heat resistant properties. Glass-filled grades provide improved rigidity and dimensional stability.

Afton Plastics processes the following grades of PEI:

Ultem™ Resin 2100 (10% Glass Fiber Filled)

Ultem™ Resin 2200 (20% Glass Fiber Filled)

Ultem™ Resin 2300 (30% Glass Fiber Filled)

Ultem™ Resin 2400 (40% Glass Fiber Filled)

LNP™ STAT-KON™ Compound EE004
(20% Carbon Fiber)

LNP™ STAT-KON™ Compound EE005
(25% Carbon Fiber)

CONTACT US

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PRODUCT BENEFITS

- UL 94 V-O rating
- Microwave transparency
- Temperature range: -4°F to +340°F
- Withstands EtO, gamma radiation, autoclaving, and dry heat sterilization
- Stable dielectric strength
- Low thermal expansion
- Low creep
- Excellent hydrolytic and chemical stability

TYPICAL APPLICATIONS

- Fluid handling components
- Medical trays and instruments
- Photographic lens housing
- High heat test fixtures
- Glass reinforced for high stiffness electrical housings
- Aircraft and automotive parts
- Food processing manifolds

MATERIAL CLASS

- ASTM D 5205

Additional Compliances Available

- FDA Compliant
- USP Class VI

PEI is commonly referred to as **Ultem™**
Ultem™, **LNP™**, and **STAT-KON™** are trademarks of SABIC

Data Sheet - Ultem™ PEI

PROPERTY	GRADE					
	ASTM METHOD	UNIT	2100	2200	2300	2400
MECHANICAL/PHYSICAL						
Specific Gravity	D792	g/cm ³	1.34	1.42	1.51	1.61
Water Absorption, 24 hr., 23°C	D570	%	0.21	0.19	0.16	0.13
Tensile Strength, 23°C, Type 1, 0.2 in/min, Break	D638	psi	16,700	18,900	22,900	25,900
Elongation, 23°C, Type 1, 0.2 in/min, Break	D638	%	6	4	3	2.5
Impact Strength, 23°C, Notched Izod	D256	ft-lb/in	1.0	1.2	1.6	2.1
Flexural Modulus, 23°C, 0.1 in/min	D790	psi	749,000	999,000	1,299,000	1,699,000
Flexural Strength, 23°C, 0.1 in/min, Break	D790	psi	28,900	32,900	32,900	34,900
Rockwell Hardness, M Scale	D785	M	114	114	114	114
THERMAL						
Vicat Softening Temperature, Rate B/50	D1525	°C	223	220	228	234
HDT, 66 psi, 0.250", Unannealed	D648	°C	210	210	212	216
HDT, 264 psi, 0.250", Unannealed	D648	°C	207	210	210	213
CTE, Flow, (0 - 300°F)	E831	1/°F	1.8 x 10 ⁻⁵	1.4 x 10 ⁻⁵	1.1 x 10 ⁻⁵	1.4 x 10 ⁻⁵
Oxygen Index (LOI)	D2863	%	47	50	50	54
Flammability (0.01 - 0.016 in thickness)	UL 94		V-0	V-0	V-0	V-0
ELECTRICAL						
Arc Resistance, Tungsten	D495	PLC Code	6	6	6	5
Volume Resistivity	D257	ohm-cm	1 x 10 ¹⁷	7 x 10 ¹⁶	3 x 10 ¹⁶	1.5 x 10 ¹⁶
Dielectric Strength, in oil, 62 mils	D149	Volts/mil	700	670	770	610
Dielectric Constant, 1 kHz	D150		3.5	3.5	3.7	3.7
Dissipation Factor, 1 kHz	D150		0.0014	0.0015	0.0015	0.002

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Note: The data provided in this table are typical for the resins tested and do not represent product specifications.