ULTEM™ Resin AR9110
Americas: COMMERCIAL

10% Glass fiber filled, enhanced flow Polyetherimide (Tg 217C). Meets FAR 25.853 and OSU 65/65 with low toxicity, smoke, and flame evolution. ECO Conforming.

TYPICAL PROPERTIES[1]	TYPICAL VALUE	Unit	Standard
MECHANICAL			
Tensile Stress, yld, Type I, 5 mm/min	1080	kgf/cm²	ASTM D 638
Tensile Stress, brk, Type I, 5 mm/min	1040	kgf/cm²	ASTM D 638
Tensile Strain, brk, Type I, 5 mm/min	8	%	ASTM D 638
Tensile Modulus, 5 mm/min	45600	kgf/cm²	ASTM D 638
Flexural Stress, yld, 2.6 mm/min, 100 mm span	1920	kgf/cm²	ASTM D 790
Flexural Modulus, 2.6 mm/min, 100 mm span	49200	kgf/cm²	ASTM D 790
IMPACT			
Izod Impact, notched, 23°C	5	cm-kgf/cm	ASTM D 256
Izod Impact, Reverse Notched, 3.2 mm	40	cm-kgf/cm	ASTM D 256
THERMAL			
HDT, 1.82 MPa, 6.4 mm, unannealed	207	°C	ASTM D 648
PHYSICAL			
Specific Gravity	1.4	-	ASTM D 792
Melt Flow Rate, 337°C/6.6 kgf	12.5	g/10 min	ASTM D 1238
FLAME CHARACTERISTICS			
FAA Flammability, FAR 25.853 A/B	NATURAL	-	FAR 25.853
OSU total heat release (2 minute test)	6	kW-min/m²	FAR 25.853
OSU peak heat release rate (5 minute test)	36	kW/m²	FAR 25.853
NBS Smoke Density, Flaming, Dmax	5	-	ASTM E 662
NBS Smoke Density, Flaming, Ds 1.5 min	0	-	ASTM E 662
NBS Smoke Density, Flaming, Ds 4 min	5	-	ASTM E 662

(1) Typical values only. Variations within normal tolerances are possible for various colors. All values are measured after at least 48 hours storage at 23°C/50% relative humidity. All properties, except the melt volume and melt flow rates, are measured on injection molded samples. All samples tested under ISO test standards are prepared according to ISO 294.

(2) Only typical data for selection purposes. Not to be used for part or tool design.
(3) This rating is not intended to reflect hazards presented by this or any other material under actual fire conditions.
(4) Internal measurements according to UL standards.
(5) Measurements made from laboratory test coupon. Actual shrinkage may vary outside of range due to differences in processing conditions, equipment, part geometry and tool design. It is recommended that mold shrinkage studies be performed with surrogate or legacy tooling prior to cutting tools for new molded article.
(6) Needs hard coat to consistently pass 60 sec Vertical Burn.

Source GMD, last updated:

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PROCESSING PARAMETERS	TYPICAL VALUE	Unit
Injection Molding		
Drying Temperature	150	°C
Drying Time	4 - 6	hrs
Drying Time (Cumulative)	24	hrs
Maximum Moisture Content	0.02	%
Melt Temperature	365 - 390	°C
Nozzle Temperature	360 - 380	°C
Front - Zone 3 Temperature	365 - 390	°C
Middle - Zone 2 Temperature	355 - 375	°C
Rear - Zone 1 Temperature	345 - 365	°C
Mold Temperature	135 - 165	°C
Back Pressure	0.3 - 0.7	MPa
Screw Speed	40 - 70	rpm
Shot to Cylinder Size	40 - 60	%
Vent Depth	0.025 - 0.076	mm

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