

Ketron® PEEK LSG

Mitsubishi Chemical Group - Biocompatibility Tested, Life Science Grade PEEK

Physical Properties	Metric	English	Comments
Specific Gravity	1.31 g/cc	1.31 g/cc	ASTM D792
Water Absorption	0.06 %	0.06 %	Immersion, 24 hr; ISO 62
	0.12 %	0.12 %	Immersion, 96 hr; ISO 62
Moisture Absorption at Equilibrium	0.20 %	0.20 %	23°C / 50% R.H.
Water Absorption at Saturation	0.45 %	0.45 %	
Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	100	100	ISO 2039-2
Ball Indentation Hardness	190 MPa	27,600 psi	ISO 2039-1
Tensile Strength	110.32 MPa	16,000 psi	ASTM D638
Tensile Strength, Yield	115 MPa	16,700 psi	ISO 527
Elongation at Break	40 %	40 %	ISO 527
Elongation at Yield	5 %	5 %	ISO 527
Tensile Modulus	4.34 GPa	630 ksi	ASTM D638
Flexural Strength	172 MPa	25,000 psi	ASTM D790
Compressive Strength	37.9 MPa	5,500 psi	10% Def.; ASTM D695
	75.2 MPa	10,900 psi	2% Def.; ISO 604
	140 MPa	20,300 psi	5% Def.; ISO 604
Izod Impact, Notched	0.320 J/cm	0.600 ft-lb/in	ASTM D256
Charpy Impact, Unnotched	45.0 J/cm ²	214 ft-lb/in ²	Partial Break; ISO 179-1/1eU
Charpy Impact, Notched	0.350 J/cm ²	1.67 ft-lb/in ²	ISO 179-1/1eA
K (wear) Factor	755 x 10 ⁻⁸ mm ³ /N-M	375 x 10 ⁻¹⁰ in ³ -min/ft-lb-hr	QTM 55010
Limiting Pressure Velocity	0.298 MPa-m/sec	8,500 psi-ft/min	4:1 Safety Factor; QTM 55007
Electrical Properties	Metric	English	Comments
Volume Resistivity	>= 1.00e +14 ohm-cm	>= 1.00e +14 ohm-cm	IEC 60093
Surface Resistivity per Square	>= 1.00e +13 ohm	>= 1.00e +13 ohm	IEC 60093
Dielectric Constant	3.20	3.20	IEC 60250
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
	3.20	3.20	IEC 60250
	@Frequency 100 Hz	@Frequency 100 Hz	
Dielectric Strength	18.9 kV/mm	610 kV/inch	IEC 60243
Dissipation Factor	0.0010	0.0010	IEC 60250
	@Frequency 100 Hz	@Frequency 100 Hz	
	0.0020	0.0020	IEC 60250
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	
Comparative Tracking Index	150 V	150 V	IEC 60112
Thermal Properties	Metric	English	Comments
CTE, Linear	50.0 µm/m-°C	27.8 µin/in-°F	ASTM E831
	@Temperature 23.0 - 100 oC	@Temperature 73.4 - 212 oF	
	55.1 µm/m-°C	30.6 µin/in-°F	ASTM E831
	@Temperature 23.0 - 150 oC	@Temperature 73.4 - 302 oF	
	130 µm/m-°C	72.2 µin/in-°F	ASTM E831
	@Temperature >= 150 oC	@Temperature >= 302 oF	
Thermal Conductivity	0.249 W/m-K	1.73 BTU-in/hr-ft ² -°F	
Melting Point	340 °C	644 °F	ISO 11357
Max Service Temperature, Air	250 °C	482 °F	Long Term
	310 °C	590 °F	Short Periods
Deflection Temperature at 1.8 MPa (264 psi)	160 °C	320 °F	ISO 75A
Minimum Service Temperature, Air	-50 °C	-58 °F	
Flammability, UL94	V-0	V-0	
	@Thickness 1.50 mm	@Thickness 0.0591 inch	
	V-0	V-0	
	@Thickness 3.00 mm	@Thickness 0.118 inch	
Oxygen Index	35 %	35 %	ISO 4589

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Compliance Properties	Metric	English	Comments
3-A Dairy	Yes	Yes	
Canada AG	No	No	
FDA	Yes	Yes	
NSF	No	No	
USDA	Yes	Yes	
USP Class VI	Yes	Yes	

Chemical Resistance Properties	Metric	English	Comments
Acids, Strong (pH 1-3)	Limited	Limited	
Acids, Weak	Acceptable	Acceptable	
Alcohols	Acceptable	Acceptable	
Alkalies, Strong (pH 11-14)	Acceptable	Acceptable	
Alkalies, Weak	Acceptable	Acceptable	
Chlorinated Solvents	Acceptable	Acceptable	
Conductive / Static Dissipative	No	No	
Continuous Sunlight	Limited	Limited	
Hot Water / Steam	Acceptable	Acceptable	
Hydrocarbons - Aliphatic	Acceptable	Acceptable	
Hydrocarbons - Aromatic	Acceptable	Acceptable	
Inorganic Salt Solutions	Acceptable	Acceptable	
Ketones, Esters	Acceptable	Acceptable	

Descriptive Properties		
Color		Natural

Some of the values displayed above may have been converted from their original units and/or rounded in order to display the information in a consistent format. Users requiring more precise data for scientific or engineering calculations should contact Alro Plastics and/or Mitsubishi Chemical Advanced Materials directly. This data sheet is for reference only in helping if a material may be suitable for an application. Proper material testing is the only way to know for sure and is the recommended way to go when implementing a new material for an application. Material samples may also be available for testing, please contact Alro Plastics for samples.



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