



## dures® A451 Non-Metallic Wear Material for Pump Applications

**Grade Number:** KJC3A

**Material References:** dures® A451, 754C, Arylex 451

**Polymer Family:** PEEK (Poly Ether Ether Ketone)

**Description:** Carbon Fiber Reinforced PEEK - Compression Molded Stock Shapes and Machined Parts

Property	ASTM Method	Specification Limits	Typical Values	Units
Hardness	D2240	85 - 95	90	SHORE-D
Specific Gravity	D792	1.41 - 1.47	1.44	-
Elongation at Break	D1708	2.0 Min	6.00	%
Tensile Strength at Break	D1708	11,500 (79.3) Min	17,000 (117.2)	PSI (MPa)
Tensile Modulus, Secant 0.5%	D1708		6.25 X 10 <sup>5</sup> (4309)	PSI (MPa)
Compressive Strength	D695		28,600 (197)	PSI (MPa)
Compressive Modulus at Max. Load	D695		6.22 X 10 <sup>5</sup> (4289)	PSI (MPa)
Flexural Strength	D790		38,000 (262)	PSI (MPa)
Flexural Modulus	D790		11 X 10 <sup>6</sup> (7584)	PSI (MPa)
Coefficient of Thermal Expansion (78 to 500°F)	D696		1.5 X 10 <sup>-5</sup> (2.7 X 10 <sup>-5</sup> )	1/F° (1/°C)
Coefficient of Thermal Expansion of ID/OD Ring (-100 to 275°F)	Diometric Cross Section		1.5 X 10 <sup>-5</sup> (2.7 X 10 <sup>-5</sup> ) 2.0 X 10 <sup>-5</sup> (3.6 X 10 <sup>-5</sup> )	
Wear Rate PV=25,000 PSI.FPM	D3702		8.70 X 10 <sup>-6</sup>	Inches per minute
Coefficient of Friction			0.451	
Recommended Service Temperature	D3702		*-85 (-65) Min Continuous 275 (135) Max Continuous 290 (143) Short Excursion	°F (°C)