



## dures® 200 Non-Metallic Wear Material for Pump Applications

**Grade Number:** FCC4A

**Material References:** dures® 200

**Polymer Family:** PFA (Perfluoroalkoxy)

**Description:** Carbon Fiber Reinforced PFA Compound – Compression Molded Stock Shapes and Machined Parts. dures 200 offers exceptional chemical resistance in aggressive chemical media where other thermoplastics such as PEEK™ will be severely attacked. dures 200 was specifically developed for stationary pump wear components where PEEK™ materials cannot be used due to chemical compatibility issues.

Property	ASTM Method	Specification Limits	Typical Values	Units
Hardness	D2240	75 - 85	80	SHORE-D
Specific Gravity	D792	1.81 - 1.89	1.85	
Elongation at Break	D1708	3.0 Min	6.00	%
Tensile Strength at Break	D1708	4,000 (27.58) Min	5,750 (39.64)	PSI (MPa)
Tensile Modulus, Secant 0.5%	D1708		3.26 X 10 <sup>5</sup> (2247.7)	PSI (MPa)
Compressive Strength	D695		10,633 (73.31)	PSI (MPa)
Compressive Modulus at Max. Load	D695		152,208 (1049.44)	PSI (MPa)
Flexural Strength	D790		14,684 (101.24)	PSI (MPa)
Flexural Modulus	D790		626,000 (4316,12)	PSI (MPa)
Coefficient of Thermal Expansion	D696			
(70 to 200°F)			2.46 (4.43)	X 10 <sup>-5</sup> 1/F° (1/°C)
(70 to 300°F)			2.94 (5.29)	X 10 <sup>-5</sup> 1/F° (1/°C)
(70 to 400°F)			3.25 (5.85)	X 10 <sup>-5</sup> 1/F° (1/°C)
(70 to 500°F)			4.54 (8.17)	X 10 <sup>-5</sup> 1/F° (1/°C)
Wear Rate @ PV=15,000 PSI.FPM (200 PSI, 75 FPM, 316 SS Counterface)	D3702		7.19 X 10 <sup>-7</sup>	Inches per minute
Coefficient of Friction	D3702		0.303	
Recommended Service Temperature			-450 (-268) Min Continuous	°F (°C)
			200 (93.3) Max Continuous	°F (°C)
			225 (107) Short Excursion	°F (°C)

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## Chemical Compatibility Guide

dures® 200 offers exceptional chemical resistance in aggressive chemical media where other thermoplastics such as PEEK™ will be severely attacked. dures 200 was specifically developed for stationary pump wear components where PEEK™ materials cannot be used due to chemical compatibility issues. **Compatibility Codes: R – Resistant, LR – Limited Resistance, NR – Not Recommended**

Chemical / Temperature	68 °F (20 °C)	140 °F (60 °C)	212 °F (100 °C)
Acetic Acid, Conc.	R	R	R
Acetone	R	R	R
Ammonia, Anhydrous	R	R	R
Ammonium Hydroxide	R	R	R
Benzene	R	R	R
Brines, Saturated	R	R	R
Bromine	R	R	R
Carbonic Acid	R	R	R
Chlorine, Dry	R	R	R
Chlorine, Wet	R	R	R
Chlorides of Na, K, Ba	R	R	R
Chromic Acid, 80% Conc.	R	R	R
Fluorine, Dry	R	R	NR
Formic Acid	R	R	R
Glycol, Ethylene	R	R	R
Hexamethylene diamine	R	R	R
Hydrobromic Acid, 50% Conc.	R	R	R
Hydrochloric Acid, Conc.	R	R	R
Hydrofluoric Acid, 75% Conc.	R	R	R
Hydrogen Peroxide, 30%-90% Conc.	R	R	R
Hydrogen Sulfide	R	R	R
Maleic Acid	R	R	R
Methanol	R	R	R
Naptha	R	R	R
Nitric Acid, 90% Conc.	R	R	R
Phosphoric Acid, 95% Conc	R	R	R
Phthalic Acid	R	R	R
Sodium Hydroxide	R	R	R
Sulfuric Acid, 95% Conc.	R	R	R
Trichloro Ethylene	R	R	R
Xylene	R	R	R