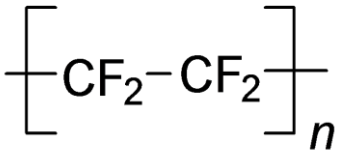
systemseals

MATERIAL SPECIFICATION SHEET

MT43



Glass Filled Polytetrafluoroethylene (PTFE/Glass)

SPECIFICATIONS

Property	Spec	Value
Tensile Strength (psi)	ASTM D4745	2500
Tensile Elongation (%)	ASTM D4745	230
Hardness (initial; Shore D)	ASTM D2240	63
Density (g/cm³)	ASTM D792	2.22
Compressive Strength (psi)	ASTM D695	1325
Compressive Modulus (psi x 10^4)	ASTM D695	9.7
Flexural Stress (lbs)	ASTM D790	10.5
Flexural Strength (psi; maximum)	ASTM D790	2685
Coefficient of Friction		
Static	ASTM D1894	0.24
Dynamic	ASTM D3702	0.33

DESCRIPTION

MT43 is a PTFE material with hardness 63 Shore D, specially compounded with glass filler. Polytetrafluoroethylene (PTFE) has exceedingly strong carbon-fluoride bonds (C-F). PTFE has a simple, linear, flexible and regular molecular structure, which makes it highly crystalline. Commercial PTFE is a high molecular weight polymer. Fluorine atoms form a tight sheath of protection providing PTFE with extreme molecular and physical properties. The sheath prevents PTFE from external influences upon the carbon-carbon backbone. It also results in weak interactions/bindings between polymer chains. These molecular structure properties make PTFE extremely resistant to chemicals or solvents even at very high temperatures and high pressures. PTFE also has very low friction and good anti-stick characteristics. PTFE is tough and flexible even at very low temperatures. However the same molecular structure properties result in mediocre mechanical properties with low stiffness and strength among thermoplastics. PTFE articles cannot be formed with conventional processes for thermoplastics because it does not flow above its crystalline melting point. Parts can be formed by a sintering process under high temperatures.