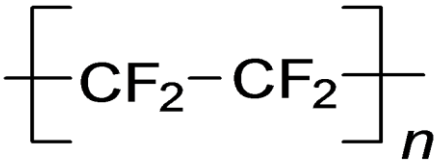
systemseals

MATERIAL SPECIFICATION SHEET

MT03

Polytetrafluoroethylene (PTFE Glass Filled)



SPECIFICATIONS

Property	Spec	Value
Specific Gravity	D-792-66	2.20
Tensile Strength	D-1708-79	2800 psi
Elongation	D-1708-79	290%
Deformation a) 78°F, 2000psi, 24hrs	D-621-64	
Total Deformation		11.0%
Permanent Deformation b) 500°F, 600psi, 24hrs	D-621-64	8.3%
Total Deformation		21.0%
Permanent Deformation		14.2%
Flexural Strength a) 1% Strain b) 3% Strain	D-790-80	 1225 psi 2025 psi
Flexural Modulus	D-790-80	1.55 x 10^5 psi
Compressive Strength a) 0.20% Offset b) 5% Strain	D-695-80	 1200 psi 1900 psi
Hardness	Shore D	55
Limiting PV a) 10 fpm b) 100 fpm c) 1000 fpm		 8,500 psi x fpm 10,000 psi x fpm 12,500 psi x fpm
Wear Factor	K x 10^{-10}	12
Coefficient of Friction a) Static @ 33.33 psi b) B) Dynamic @33.33 psi, 150fpm		 0.05 0.09
Color		Off White

DESCRIPTION

MT03 is a PTFE compound with hardness 55 Shore D, specially compounded with glass fillers. 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.