CMS63

CMS63 is a proprietary, polymer and carbon filled PTFE (polytetrafluorethylene) material. In addition to retaining the exceptional chemical resistance, heat resistance, corrosion resistance, and low friction properties of unfilled PTFE, it also offers significantly improved compressive properties; better wear properties, and low creep under load. It is ideal for oilfield applications as it can effectively handle down-hole chemicals, hydrocarbons, oils, mud, and slurries. Primarily, it is used for dynamic sealing components such as face seals, packing, riders and v-packing. It is a significant upgrade from carbon filled PTFE materials normally used in these applications.

Physical Properties	**ASTM Method**	**Typical Values**
Specific Gravity	D792	1.96 gr/cm3
Water Absorption (24hrs. @73.4°F)	D570	0.01 %
Color	N/A	Black
Mechanical Properties		
Tensile Strength	D1708	1300 psi
Tensile Elongation	D1708	100 %
Flexural Strength	D790	2,500 psi
Flexural Modulus	D790	190,000 psi
Compressive Strength (5% strain)	D695	1,600 psi
Compressive Modulus	D695	96,000 psi
Impact Strength (Izod, notched)	D256	2.5 ft-lb/in
Hardness	Shore D	61
Tribological Properties		
Coefficient of Friction		
Static	D3702	0.33
Dynamic	D3702	0.3
Wear Rate (PV: 2,000 psi-fpm)	D3702	1.0 µin/min
Thermal Properties		
Coefficient of Linear Thermal Expansion (78 to 400°F)	D696	69 10-6/°F
Heat Deflection Temperature (@264 psi)	D648	140 °F
Glass Transition Temperature (Tg)	D3418	266 °F
Continuous Service Temperature (Max @ no load)		450 °F
Melting Point		621 °F
Electrical Properties		
Volume Resistivity	D257	1 10-11 ohm-cm
Dielectric Strength	D149	105 KV/mm
Dielectric Constant	D150	2.1 50Hz, 200 °C

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