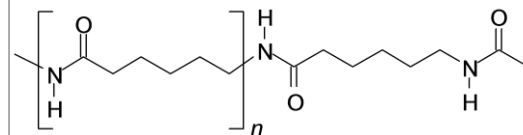


Polyamides

(PA, Type 6, Molybdenum Disulfide Filled)



SPECIFICATIONS

Property	Spec	Value
Specific Gravity	ASTM D792	0.0419lbs/in ³
Water Absorption @24hrs @Saturation	ASTM D570	0.6% 7.0%
PHYSICAL		
Durometer, Shore D Scale	ASTM D2240	85
Tensile Strength, ultimate	ASTM D638	11,000psi
Tensile Modulus	ASTM D639	400,000psi
Elongation @ break	ASTM D638	30%
Flexural Strength	ASTM D790	16,000psi
Flexural Modulus	ASTM D790	500,000psi
Compressive Strength	ASTM D695	14,000psi
Compressive Modulus	ASTM D695	400,000psi
Shear Strength	ASTM D732	10,500psi
Izod Impact Strength, Notched	ASTM D256	0.5 ft-lbs/in
THERMAL		
Coefficient of Thermal Expansion	ASTM E831	5.0 x 10 ⁻⁵ in/in/°F
Melting Point, Crystalline, Peak	ASTM D3418	420°F
Max Service Temp, Air		200°F
ELECTRICAL		
Dielectric Strength, Short Term	ASTM D149	400 V/mil
Dielectric Constant, 1 MHz	ASTM D150	3.7

DESCRIPTION

ML05 is polyamide material specially compounded with molybdenum disulfide fillers. Polyamides (PA) have amide functional group linkages -CO-NH-. The amide group has strong affinity for hydrogen bonding with other amide groups and with water from the external environment. The two major commercial polyamide materials used in seal industries are PA 6 and PA 6,6. They differ by whether one or two raw material components are used in producing nylon. In many aspects, they are interchangeable in applications. Both polyamide thermoplastics are flexible and allowing for easy crystallization. This capability is even enhanced by the strong affinity for polar amide groups of adjacent chain sections. Less amide content in the polymer means less tendency for polyamides to bind water. PA's lubrication can be further improved by incorporating molybdenum disulfide (MoS₂). The mechanical strength of PA can be increased by reinforcement with glass fiber. PA articles are normally molded by injection, extrusion or compression processes.