TECAMID™ MDS

Polyamide 66

Ensinger Inc.

Message:

Nylon is one of the most widely used and versatile thermoplastic resins. Its combination of physical properties versus its price makes it a favorite choice for numerous applications. Nylon has a consistent history of replacing other materials including: metal, brass, bronze, aluminum, and rubber. In replacing metal gears in machinery, nylon can be advantageous because of its ability to reduce noise, use less lubrication and increase gear life. TECAMID® MDS is an extruded "moly" filled nylon 6/6, which is gray in color. The addition of particles of molybdenum disulfide enhances the surface lubricity and wear resistance over unfilled nylon. In applications requiring high lubricity, this material may be a good candidate. In addition to the greater lubricity there are many additional property enhancementsthat occur.

TECAMID® MDS has enhanced properties which make it an ideal material to replace metals in machinery. It can increase the life of many moving parts as well as provide a noise reduction benefit and requires less lubrication. A very stable compound with many industrial applications.

General Information			
Additive	Molybdenum disulfide lubricant		
Features	Low friction coefficient		
	Lubrication		
Uses	Industrial application		
	Metal substitution		
Appearance	Grey		
Forms	Shapes		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.14	g/cm³	ASTM D792
Water Absorption			ASTM D570
23°C, 24 hr	1.2 - 2.5	%	ASTM D570
Saturated, 23°C	7.5 - 8.5	%	ASTM D570
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (M-Scale, 23°C)	87		ASTM D785
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	3100	MPa	ASTM D638
Tensile Strength (Yield, 23°C)	75.8	MPa	ASTM D638
Tensile Elongation (Break, 23°C)	15	%	ASTM D638
Flexural Modulus (23°C)	3100	MPa	ASTM D790
Flexural Strength (23°C)	117	MPa	ASTM D790
Wear Factor ¹ (0.28 MPa, 0.25 m/sec)	380	10^-8 mm³/N·m	ASTM D3702
Impact	Nominal Value	Unit	Test Method
Unnotched Izod Impact (23°C)	64	J/m	ASTM D256
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			ASTM D648
0.45 MPa, not annealed	243	°C	ASTM D648

1.8 MPa, not annealed	90.0	°C	ASTM D648	
Peak Melting Temperature	255	°C	ASTM D3418	
CLTE - Flow	7.2E-5	cm/cm/°C	ASTM D696	
Specific Heat	1670	J/kg/°C		
Maximum Service Temperature				
Intermittent	179	°C		
Long Term	110	°C	UL 746B	
Electrical	Nominal Value	Unit	Test Method	
Volume Resistivity	1.0E+15	ohms·cm	ASTM D257	
Dielectric Strength	1.2	kV/mm	ASTM D149	
Dielectric Constant ² (23°C, 60 Hz)	2.50		ASTM D150	
Flammability	Nominal Value	Unit	Test Method	
Flame Rating	НВ		UL 94	
Additional Information				
Data obtained from extruded shapes material.				
NOTE				
1.	Against Steel			
2.	50% RH			

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