TAMSHELL MANUFACTURING CORPORATION

- Plastics Machining
- Spring Energized Seals
- Rotary Lip Seals

Material Data Sheet

Material: MC® 901	Polyamide (Nylon Type 6 - Cast)

Nylon's toughness, low coefficient of friction and good abrasion resistance make it an ideal replacement for a wide variety of materials from metal to rubber. It weighs only 1/7 as much as bronze. Using nylon reduces lubrication requirements, eliminates galling, corrosion and pilferage problems, and improves wear resistance and sound dampening characteristics. Nylon has a proven record of outstanding service in a multitude of parts for such diverse fields as paper, textiles, electronics, construction, mining, metalworking, aircraft, food and material handling. MC® 901 is Heat stabilized nylon offering long-term thermal stability to 260°F. It is blue in color and used in a variety of bearing and structural applications such as wheels, gears, and custom parts.

Mechanical Properties	Test Method ASTM	Value	Units
Specific Gravity, 73°F	D792	1.15	
Tensile Strength, 73°F	D638	12,000	psi
Tensile Modulus of Elasticity, °F	D638	400,000	psi
Tensile Elongation (at break), 73°F	D638	20	%
Flexural Strength, 73°F	D790	16,000	psi
Flexural Modulus of Elasticity, 73°F	D790	500,000	psi
Shear Strength, 73°F	D732	11,000	psi
Compressive Strength, 10% Deformation, 73°F	D695	15,000	psi
Compressive Modulus of Elasticity, 73°F	D695	400,000	psi
Hardness, Rockwell, Scale as noted, 73°F	D785	M85(R115)	
Hardness, Durometer, Shore "D" Scale, 73°F	D2240		
Izod Impact (notched), 73°F	D256 Type A	0.4	ft-lb/in of notch
Coefficient of Friction (Dry vs. Steel) Dynamic	QTM 55007	0.2	
Limiting PV (with 4:1 safety factor applied)	QTM 55007	3,000	ft.lbs./in.^{2} min
Wear Factor "k" x 10^{-10}	QTM 55010	85	in.^{3}-min/ft.lbs.hr
Thermal Properties			
Coefficient of Linear Thermal Expansion (-40°F to 300°F)	E-831 (TMA)	0.35	in/in./°F
Heat Deflection Temperature 264 psi	D648	200	°F
TG-Glass transition (amorphous)	D3418		°F
Melting Point (Crystalline) peak	D3418	420	°F
Continuous Service Temperature in Air (Max.) (1)		260	°F
Thermal Conductivity	F433		BTU-in/hr-ft²-°F
Electrical Properties			
Dielectric Strength, Short Term	D149	500	Volts/mil
Surface Resistivity	EOS/ESD S11.11	1E+13	ohm/square
Dielectric Constant, 106 Hz	D150	3.7	
Dissipation Factor, 106 Hz	D150		
Flammability @ 3.1 mm (1/8 in.)	UL 94	1 (HB)	
FDA Compliant			

237 Glider Circle, Corona, CA 92880 Phone: (951) 272-9395 Fax: (951) 272-9397

*The values shown in these and the following charts are typical, average properties. Actual values may differ due to variations in resin formulations and processing methods. These values are obtained from sources believed to be reliable, including the resin manufactures, converters and other published sources. However, they should not be used for specification or design purposes. Above information is provided by Quadrant EPP.