

# Chemlon® MD4

Polyamide 6

Teknor Apex Company (Chem Polymer)

Message:

MD4 is an unfilled injection moulding grade of nylon 6. MD4 is heat stabilized and designed for the manufacture of components that will be exposed to elevated service temperatures.

General Information				
Additive		heat stabilizer		
Features		Heat resistance, high		
		Thermal Stability		
Forms		Particle		
Processing Method		Injection molding		
Physical	Dry	Conditioned	Unit	Test Method
Density	1.13	--	g/cm <sup>3</sup>	ISO 1183
Molding Shrinkage <sup>1</sup>	1.2 - 2.0	--	%	Internal method
Water Absorption (Equilibrium, 23°C, 50% RH)	3.0	--	%	ISO 62
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus	3100	1100	MPa	ISO 527-2
Tensile Stress (Yield)	70.0	40.0	MPa	ISO 527-2
Tensile Strain (Break)	5.0	25	%	ISO 527-2
Flexural Modulus	3000	900	MPa	ISO 178
Flexural Stress <sup>2</sup>	85.0	25.0	MPa	ISO 178
Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength	10	--	kJ/m <sup>2</sup>	ISO 179
Charpy Unnotched Impact Strength	No Break	No Break		ISO 179
Thermal	Dry	Conditioned	Unit	Test Method
Heat Deflection Temperature				
0.45 MPa, not annealed	190	--	°C	ISO 75-2/B
1.8 MPa, not annealed	95.0	--	°C	ISO 75-2/A
Electrical	Dry	Conditioned	Unit	Test Method
Surface Resistivity	1.0E+13	1.0E+11	ohms	IEC 60093
Volume Resistivity	1.0E+15	1.0E+13	ohms · cm	IEC 60093
Dielectric Strength (3.00 mm)	14	16	kV/mm	IEC 60243-1
Relative Permittivity (1 MHz)	3.50	4.00		IEC 60250

Dissipation Factor (1 MHz)	0.020	0.080		IEC 60250
Comparative Tracking Index	> 600	520	V	IEC 60112
Flammability	Dry	Conditioned	Unit	Test Method
Flame Rating (1.57 mm)	V-2	--		UL 94
Glow Wire Flammability Index (1.50 mm)	750	--	°C	IEC 60695-2-12
Oxygen Index	25	--	%	ISO 4589-2
Injection	Dry	Unit		
Drying Temperature	80.0		°C	
Drying Time	2.0		hr	
Rear Temperature	240 - 260		°C	
Middle Temperature	240 - 260		°C	
Front Temperature	240 - 260		°C	
Processing (Melt) Temp	< 300		°C	
Mold Temperature	60.0 - 80.0		°C	
Injection Rate	Fast			
Screw Speed	50 - 200		rpm	
Injection instructions				
Back pressure: LowInjection pressure: HighNo drying is necessary unless the materials has been exposed to air for longer than three hours.				
NOTE				

1. Mould shrinkage is significantly influenced by many factors including wall thickness, gating, component shape and moulding conditions. The range values stated were determined from specimen bar mouldings of 1.5mm to 4mm wall thickness. They are provided as a guide for comparison purposes only and no guarantee should be inferred from their inclusion. (Specimens measured in the dry state, 24 hours after moulding).
2. At conventional deflection

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