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TEKNOR APEX

Chemlon® MD4

Teknor Apex Company (Chem Polymer) - Polyamide 6

General Information

Product Description

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		
Material Status	• Commercial: Active	
Availability	• Europe	
Additive	• Heat Stabilizer	
Features	• Heat Stabilized	• High Heat Resistance
Forms	• Pellets	
Processing Method	• Injection Molding	

ASTM & ISO Properties [1]

Physical	Dry	Conditioned	Unit	Test Method
Density	1.13	--	g/cm³	ISO 1183
Molding Shrinkage [2]	1.2 to 2.0	--	%	Internal Method
Water Absorption				ISO 62
Equilibrium, 73°F, 50% RH	3.0	--	%	
Mechanical	**Dry**	**Conditioned**	**Unit**	**Test Method**
Tensile Modulus	450000	160000	psi	ISO 527-2
Tensile Stress (Yield)	10200	5800	psi	ISO 527-2
Tensile Strain (Break)	5.0	25	%	ISO 527-2
Flexural Modulus	435000	131000	psi	ISO 178
Flexural Stress [3]	12300	3630	psi	ISO 178
Impact	**Dry**	**Conditioned**	**Unit**	**Test Method**
Charpy Notched Impact Strength	4.8	--	ft·lb/in²	ISO 179
Charpy Unnotched Impact Strength	No Break	No Break		ISO 179
Thermal	**Dry**	**Conditioned**	**Unit**	**Test Method**
Heat Deflection Temperature				ISO 75-2/B
66 psi, Unannealed	374	--	°F	
Heat Deflection Temperature				ISO 75-2/A
264 psi, Unannealed	203	--	°F	
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
Electric Strength (0.118 in)	360	410	V/mil	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 (0.06 in)	V-2	--		UL 94
Glow Wire Flammability Index				IEC 60695-2-12
0.06 in	1380	--	°F	
Oxygen Index	25	--	%	ISO 4589-2

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Processing Information

Injection	Dry	Unit
Drying Temperature	176	°F
Drying Time	2.0	hr
Rear Temperature	464 to 500	°F
Middle Temperature	464 to 500	°F
Front Temperature	464 to 500	°F
Processing (Melt) Temp	< 572	°F
Mold Temperature	140 to 176	°F
Injection Rate	Fast	
Screw Speed	50 to 200	rpm

Injection Notes

Back pressure: Low
Injection pressure: High

No drying is necessary unless the materials has been exposed to air for longer than three hours.

Notes

[1] Typical properties: these are not to be construed as specifications.

[2] 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).

[3] At conventional deflection