



Chemlon® MDM54

Teknor Apex Company (Chem Polymer) - Polyamide 6

General Information

Product Description

MDM54 is a UL recognised, V-2 rated halogen & phosphorus free flame retarded, mineral filled injection moulding grade of nylon 6, primarily intended for electrical applications.

General

Material Status	• Commercial: Active
Availability	• Europe • North America
Filler / Reinforcement	• Mineral
Features	• Flame Retardant • Halogen Free • Good Colorability • Low (to None) Phosphorus Content
Uses	• Electrical/Electronic Applications
Forms	• Pellets
Processing Method	• Injection Molding

ASTM & ISO Properties ¹

Physical	Dry	Conditioned	Unit	Test Method
Density	1.29	--	g/cm ³	ISO 1183
Molding Shrinkage ²	0.90 to 1.6	--	%	Internal Method
Water Absorption Equilibrium, 73°F, 50% RH	1.2	--	%	ISO 62
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus	609000	160000	psi	ISO 527-2
Tensile Stress (Yield)	--	5800	psi	ISO 527-2
Tensile Stress (Break)	11200	--	psi	ISO 527-2
Tensile Strain (Break)	5.0	7.0	%	ISO 527-2
Flexural Modulus	580000	319000	psi	ISO 178
Flexural Stress				ISO 178
-- ³	--	5510	psi	
-- ⁴	16000	--	psi	
Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength	2.6	11	ft-lb/in ²	ISO 179
Notched Izod Impact Strength	2.9	--	ft-lb/in ²	ISO 180
Thermal	Dry	Conditioned	Unit	Test Method
Heat Deflection Temperature 264 psi, Unannealed	172	163	°F	ISO 75-2/A
Electrical	Dry	Conditioned	Unit	Test Method
Surface Resistivity	1.0E+14	1.0E+11	ohms	IEC 60093
Volume Resistivity	1.0E+15	1.0E+11	ohms-cm	IEC 60093
Electric Strength (0.118 in)	280	230	V/mil	IEC 60243-1
Relative Permittivity (1 MHz)	3.90	5.90		IEC 60250
Dissipation Factor (1 MHz)	0.020	0.080		IEC 60250
Comparative Tracking Index	> 600	> 600	V	IEC 60112
Flammability	Dry	Conditioned	Unit	Test Method
Flame Rating (0.06 in)	V-2	--		UL 94
Glow Wire Flammability Index	1760	--	°F	IEC 60695-2-12
Oxygen Index	24	--	%	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, moulding shape and processing conditions. The range values given are determined from specimen bar mouldings of 1.5 mm to 4 mm 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 Break

⁴ Yield