



Chemlon® MD82

Teknor Apex Company - Polyamide 6

General Information

Product Description

MD82 is a UL recognised, V-0 rated, halogen & phosphorus free flame retardant, unreinforced injection moulding grade of nylon 6.

General

Material Status	• Commercial: Active	
Availability	• Europe	• North America
Additive	• Flame Retardant	• Heat Stabilizer
Features	• Flame Retardant • Halogen Free	• Heat Stabilized • Low (to None) Phosphorus Content
Processing Method	• Injection Molding	

ASTM & ISO Properties ¹

Physical	Dry	Conditioned	Unit	Test Method
Density	1.18	--	g/cm ³	ISO 1183
Molding Shrinkage ²	1.1 to 1.5	--	%	Internal Method
Water Absorption Equilibrium, 73°F, 50% RH	2.5	--	%	ISO 62
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus	421000	334000	psi	ISO 527-1
Tensile Stress	10200	7250	psi	ISO 527-2
Tensile Strain (Break)	4.0	8.0	%	ISO 527-2
Flexural Modulus	450000	218000	psi	ISO 178
Flexural Stress (3.5% Strain)	12300	5080	psi	ISO 178
Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength	> 4.3	> 21	ft·lb/in ²	ISO 179/1eA
Charpy Unnotched Impact Strength	> 48	> 48	ft·lb/in ²	ISO 179/1eU
Notched Izod Impact Strength	1.4	--	ft·lb/in ²	ISO 180/A
Unnotched Izod Impact Strength	No Break	--		ISO 180
Thermal	Dry	Conditioned	Unit	Test Method
Deflection Temperature Under Load 264 psi, Unannealed	176	167	°F	ISO 75-2/A
CLTE - Flow	3.3E-5	--	in/in/°F	Internal Method
Thermal Conductivity	2.4	--	Btu·in/hr/ft ² /°F	
Electrical	Dry	Conditioned	Unit	Test Method
Surface Resistivity	1.0E+14	1.0E+11	ohms	IEC 60093
Volume Resistivity	1.0E+18	1.0E+16	ohms·cm	IEC 60093
Electric Strength (0.118 in)	380	300	V/mil	IEC 60243-1
Relative Permittivity	4.00	4.70		IEC 60250
Dissipation Factor (1 MHz)	0.020	0.080		IEC 60250
Comparative Tracking Index	> 600	--	V	IEC 60112

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Flammability	Dry	Conditioned	Unit	Test Method
Flame Rating (0.025 in)	V-0	--		UL 94
Glow Wire Flammability Index				IEC 60695-2-12
0.04 in	1760	--	°F	
0.06 in	1760	--	°F	
Glow Wire Ignition Temperature				IEC 60695-2-13
0.04 in	1760	--	°F	
0.06 in	1760	--	°F	
Oxygen Index	36	--	%	ISO 4589-2

Additional Information

Dry	Due to the thermal sensitivity of flame retarded products steps should be taken to limit hold up time and temperature for the material. Additional care should be taken during any interruptions to routine production and during any purging procedures in order to minimise degradation of the product.
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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	464 to 482	°F
Mold Temperature	140 to 176	°F
Injection Rate	Fast	
Back Pressure	Low	
Screw Speed	Moderate	

Injection Notes

No drying is necessary unless the material has been exposed to air for longer than three hours. The appearance of splash marks on the surface of mouldings indicates excessive moisture is present.

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 1.5mm 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).