

# Chemlon® 109 H

Teknor Apex Company - Polyamide 66

Saturday, September 14, 2024

## General Information

### Product Description

Chemlon® 109 H is an impact modified polyamide 66 (PA 66) designed for injection molding and extrusion. This toughened material offers strength and flexibility, even at low temperatures; and is available globally.

### General

Material Status	• Commercial: Active		
Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Additive	• Heat Stabilizer • Impact Modifier		
Features	• Low Temperature Toughness • Ultra High Toughness		
RoHS Compliance	• Contact Manufacturer		
Automotive Specifications	• FORD ESA-M4D379-B <sup>1</sup> • FORD WSB-M4D666-A <sup>1</sup> • FORD WSK-M4D666-A <sup>1</sup>	• GM GMP.PA66.021 <sup>1</sup> • GM GMP.PA66.062 Color: Black <sup>1</sup> • GM GMP.PA66.062 Color: Natural <sup>1</sup>	• GM GMW16447P-PA66-T3 <sup>1</sup>
Forms	• Pellets		
Processing Method	• Extrusion	• Injection Molding	

## ASTM & ISO Properties <sup>2</sup>

Physical	Dry	Conditioned	Unit	Test Method
Density	1.09	--	g/cm <sup>3</sup>	ISO 1183
Molding Shrinkage				ISO 294-4
Across Flow	1.9	--	%	
Flow	2.0	--	%	
Water Absorption (24 hr, 23°C)	0.67	--	%	ISO 62
Water Absorption Saturation, 23°C	2.3	--	%	ISO 62
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus	2000	807	MPa	ISO 527-2
Tensile Stress	44.0	40.1	MPa	ISO 527-2
Tensile Strain (Break)	77	200	%	ISO 527-2
Flexural Modulus	1750	766	MPa	ISO 178
Flexural Stress	52.0	22.5	MPa	ISO 178
Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength 23°C	80	110	kJ/m <sup>2</sup>	ISO 179
Charpy Unnotched Impact Strength	85 kJ/m <sup>2</sup>	No Break		ISO 179
Notched Izod Impact Strength	68	94	kJ/m <sup>2</sup>	ISO 180
Thermal	Dry	Conditioned	Unit	Test Method
Deflection Temperature Under Load 0.45 MPa, Unannealed	122	--	°C	ISO 75-2/B
Deflection Temperature Under Load 1.8 MPa, Unannealed	60.0	--	°C	ISO 75-2/A
Melting Temperature	257	--	°C	
Flammability	Dry	Conditioned	Unit	Test Method
Flame Rating (0.75 mm)	HB	--		UL 94

Revision Date: 7/29/2024

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### Legal Statement

Dry

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### Processing Information

Injection	Dry Unit
Drying Temperature	80 °C
Suggested Max Moisture	0.20 %
Processing (Melt) Temp	265 to 293 °C
Mold Temperature	77 to 88 °C

### Injection Notes

Maximum peak injection pressure should not exceed 80% of the machine's maximum pressure capability. Start with a holding pressure that is half the peak injection pressure. Perform a rheology curve in order to determine appropriate injection rate.

Extrusion	Dry Unit
Drying Temperature	80 °C
Suggested Max Moisture	0.20 %
Melt Temperature	265 to 293 °C
Die Temperature	265 to 293 °C
Screw L/D Ratio	25.0:1.0 to 30.0:1.0

### Extrusion Notes

For cylinder zones, use an ascending temperature profile that achieves the recommended melt temperature. The die temperature should be the same temperature as the melt or slightly higher. Suggested compression ratio is 3-4:1.

### Notes

<sup>1</sup> Automotive site approvals apply for US manufactured compound only

<sup>2</sup> Typical properties: these are not to be construed as specifications.

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