

Celanese Hostaform[®] C 9021 M

Chemical abbreviation according to ISO 1043-1: POM
Information provided by Celanese

Physical Properties	Metric	English	Comments
Density	1.42 g/cc	0.0513 lb/in ³	ISO 1183
Water Absorption at Saturation	0.75 %	0.75 %	ISO 62
Linear Mold Shrinkage, Flow	0.020 cm/cm	0.020 in/in	ISO 294-4
Linear Mold Shrinkage, Transverse	0.018 cm/cm	0.018 in/in	ISO 294-4
Melt Flow	8.5 g/10 min @Load 2.16 kg, Temperature 190 °C	8.5 g/10 min @Load 4.76 lb, Temperature 374 °F	[cm ³ /10min]; ISO 1133

Mechanical Properties	Metric	English	Comments
Tensile Strength, Yield	65.0 MPa	9430 psi	50mm/min; ISO 527-2/1A
Elongation at Break	20 %	20 %	
Elongation at Yield	9.0 %	9.0 %	50mm/min; ISO 527-2/1A
Tensile Modulus	2.80 GPa	406 ksi	50mm/min; ISO 527-2/1A
Flexural Modulus	2.70 GPa	392 ksi	ISO 178
Charpy Impact Unnotched	12.0 J/cm ²	57.1 ft-lb/in ²	ISO 179/1eU
	12.0 J/cm ² @Temperature -30.0 °C	57.1 ft-lb/in ² @Temperature -22.0 °F	ISO 179/1eU
Charpy Impact, Notched	0.600 J/cm ²	2.86 ft-lb/in ²	ISO 179/1eA
	0.600 J/cm ² @Temperature -30.0 °C	2.86 ft-lb/in ² @Temperature -22.0 °F	ISO 179/1eA
Tensile Creep Modulus, 1 hour	2400 MPa	348000 psi	ISO 899-1
Tensile Creep Modulus, 1000 hours	1200 MPa	174000 psi	ISO 899-1

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+14 ohm-cm	1.00e+14 ohm-cm	IEC 60093
Surface Resistance	1.00e+14 ohm	1.00e+14 ohm	IEC 60093
Dielectric Constant	4.2 @Frequency 1e+6 Hz	4.2 @Frequency 1e+6 Hz	IEC 60250
	4.2 @Frequency 100 Hz	4.2 @Frequency 100 Hz	IEC 60250
Dielectric Strength	35.0 kV/mm	889 kV/in	IEC 60243-1
Dissipation Factor	0.0025 @Frequency 100 Hz	0.0025 @Frequency 100 Hz	IEC 60250
	0.0080 @Frequency 1e+6 Hz	0.0080 @Frequency 1e+6 Hz	IEC 60250
Comparative Tracking Index	600 V	600 V	IEC 60112

Thermal Properties	Metric	English	Comments
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CTE, linear, Parallel to Flow	110 $\mu\text{m}/\text{m}^{\circ}\text{C}$	61.1 $\mu\text{in}/\text{in}^{\circ}\text{F}$	ISO 11359-2
Melting Point	166 $^{\circ}\text{C}$	331 $^{\circ}\text{F}$	10 $^{\circ}\text{C}/\text{min}$; ISO 11357-1,-2,-3
Deflection Temperature at 1.8 MPa (264 psi)	100 $^{\circ}\text{C}$	212 $^{\circ}\text{F}$	ISO 75-1, -2
Flammability, UL94	HB @Thickness 1.57 mm	HB @Thickness 0.0618 in	
	HB @Thickness 3.18 mm	HB @Thickness 0.125 in	

Processing Properties	Metric	English	Comments
Processing Temperature	80.0 - 120 $^{\circ}\text{C}$	176 - 248 $^{\circ}\text{F}$	cavity
	190 - 210 $^{\circ}\text{C}$	374 - 410 $^{\circ}\text{F}$	hot runner
Feed Temperature	60.0 - 80.0 $^{\circ}\text{C}$	140 - 176 $^{\circ}\text{F}$	
Zone 1	170 - 180 $^{\circ}\text{C}$	338 - 356 $^{\circ}\text{F}$	
Zone 2	180 - 190 $^{\circ}\text{C}$	356 - 374 $^{\circ}\text{F}$	
Zone 3	190 - 200 $^{\circ}\text{C}$	374 - 392 $^{\circ}\text{F}$	
Zone 4	190 - 210 $^{\circ}\text{C}$	374 - 410 $^{\circ}\text{F}$	
Die Temperature	190 - 210 $^{\circ}\text{C}$	374 - 410 $^{\circ}\text{F}$	
Melt Temperature	190 - 210 $^{\circ}\text{C}$	374 - 410 $^{\circ}\text{F}$	
Drying Temperature	100 - 120 $^{\circ}\text{C}$	212 - 248 $^{\circ}\text{F}$	
Dry Time	3.00 - 4.00 hour	3.00 - 4.00 hour	
Moisture Content	$\leq 0.15\%$	$\leq 0.15\%$	
Injection Pressure	60.0 - 120 MPa	8700 - 17400 psi	
Hold Pressure	60.0 - 120 MPa	8700 - 17400 psi	
Back Pressure	≤ 2.00 MPa	≤ 290 psi	
Screw Speed	70 rpm @Diameter 55.0 mm	70 rpm @Diameter 2.17 in	
	100 rpm @Diameter 40.0 mm	100 rpm @Diameter 1.57 in	
	150 rpm @Diameter 25.0 mm	150 rpm @Diameter 0.984 in	

Descriptive Properties

Injection molding	Yes
Injection speed	slow
Processing conditions acc. ISO	9988