Celcon® M15HP

Celanese Corporation - Acetal (POM) Copolymer

Saturday, November 2, 2019

General Information

Product Description

Celcon® acetal copolymer grade M15HP is a creep resistant, high viscosity polymer providing optimum performance in general purpose injection molding. This grade provides overall excellent performance in applications requiring high stiffness. Chemical abbreviation according to ISO 1043-1: POM

General			
Material Status	• Commercial: Active		
Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Features	• Creep Resistant • General Purpose	• High Stiffness • High Viscosity	
Uses	• General Purpose		
RoHS Compliance	• Contact Manufacturer		
Processing Method	• Injection Molding		
Resin ID (ISO 1043)	• POM		

ASTM & ISO Properties [1]

Physical	Nominal Value	Unit	Test Method
Density	1.41	g/cm³	ISO 1183
Melt Volume-Flow Rate (MVR) (190°C/2.16 kg)	1.30	cm³/10min	ISO 1133
Molding Shrinkage			ISO 294-4
Across Flow	1.9	%	
Flow	2.3	%	
Water Absorption (Saturation, 73°F)	0.75	%	ISO 62
Water Absorption (Equilibrium, 73°F, 50% RH)	0.20	%	ISO 62
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus	406000	psi	ISO 527-2/1A
Tensile Stress (Yield)	9860	psi	ISO 527-2/1A/50
Tensile Strain (Yield)	16	%	ISO 527-2/1A/50
Flexural Modulus (73°F)	399000	psi	ISO 178
Compressive Stress			ISO 604
1% Strain	4210	psi	
6% Strain	13500	psi	
Impact	**Nominal Value**	**Unit**	**Test Method**
Charpy Notched Impact Strength			ISO 179/1eA
-22°F	4.0	ft·lb/in²	
73°F	5.2	ft·lb/in²	
Charpy Unnotched Impact Strength			ISO 179/1eU
-22°F	110	ft·lb/in²	
73°F	130	ft·lb/in²	
Notched Izod Impact Strength (73°F)	4.5	ft·lb/in²	ISO 180/1A
Hardness	**Nominal Value**	**Unit**	**Test Method**
Rockwell Hardness (M-Scale)	84		ISO 2039-2

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Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature (66 psi, Unannealed)	316	°F	ISO 75-2/B
Heat Deflection Temperature (264 psi, Unannealed)	214	°F	ISO 75-2/A
Vicat Softening Temperature			
--	333	°F	ISO 306/A50
--	331	°F	ISO 306/B50
Melting Temperature [2]	343	°F	ISO 11357-3
Melting Temperature	329	°F	
CLTE - Flow	6.1E-5	in/in/°F	ISO 11359-2
CLTE - Transverse	6.7E-5	in/in/°F	ISO 11359-2

Fill Analysis	Nominal Value	Unit	Test Method
Melt Density	1.17	g/cm³	Internal Method

Processing Information

Injection	Nominal Value	Unit
Drying Temperature	212 to 248	°F
Drying Time	3.0 to 4.0	hr
Rear Temperature	374 to 392	°F
Middle Temperature	374 to 410	°F
Front Temperature	374 to 419	°F
Nozzle Temperature	374 to 428	°F
Processing (Melt) Temp	401 to 428	°F
Mold Temperature	194 to 248	°F
Injection Rate	Slow	
Back Pressure	< 580	psi

Injection Notes

Zone4 temperature: 190 to 220°C
Hot runner temperature: 190 to 220°C

Notes

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

[2] 10°C/min