Mitsubishi Engineering-Plastics Corp.

Iupital™ F20-03

Mitsubishi Engineering-Plastics Corp - Acetal (POM) Copolymer

Wednesday, April 24, 2019

General Information

Product Description			
Viscosity, Medium; Injection general			
General			
Material Status	• Commercial: Active		
Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Regarding available country, please inquire via our website.			
Features	• General Purpose	• Medium Viscosity	
Uses	• Automotive Applications • Automotive Electronics	• Electrical/Electronic Applications • General Purpose	
Automotive Specifications	• CHRYSLER MS-DB-100 CPN1532 Color: Natural • CHRYSLER MS-DB-100 CPN1586 Color: Black	• FORD WSK-M4D635-A2 • GM GMP.POM.005 Color: Black	• GM GMP.POM.005 Color: Natural • GM GMW22P-POM-C2
Processing Method	• Injection Molding		

ASTM & ISO Properties [1]

Physical	Nominal Value	Unit	Test Method
Density	1.41	g/cm³	ISO 1183
Melt Mass-Flow Rate (MFR) (190°C/2.16 kg)	9.0	g/10 min	ISO 1133
Melt Volume-Flow Rate (MVR) (190°C/2.16 kg)	7.70	cm³/10min	ISO 1133
Molding Shrinkage - Flow (3.00 mm)	2.0	%	Internal Method
Water Absorption - 60% RH (23°C)	0.22	%	Internal Method
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus	2900	MPa	ISO 527-2/1
Tensile Stress (Yield)	64.0	MPa	ISO 527-2/50
Tensile Strain			ISO 527-2/50
Yield	8.5	%	
Break	30	%	
Flexural Modulus [2]	2600	MPa	ISO 178
Flexural Stress [2]	90.0	MPa	ISO 178
Impact	**Nominal Value**	**Unit**	**Test Method**
Charpy Notched Impact Strength (23°C)	7.0	kJ/m²	ISO 179
Charpy Unnotched Impact Strength (23°C)	250	kJ/m²	ISO 179
Thermal	**Nominal Value**	**Unit**	**Test Method**
Heat Deflection Temperature			
0.45 MPa, Unannealed	156	°C	ISO 75-2/B
1.8 MPa, Unannealed	100	°C	ISO 75-2/A
Melting Temperature	166	°C	ISO 11357-3
CLTE			ISO 11359-2
Flow	1.1E-4	cm/cm/°C	
Transverse	1.1E-4	cm/cm/°C	

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Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	1.0E+16	ohms	IEC 60093
Volume Resistivity	1.0E+14	ohms·cm	IEC 60093
Electric Strength			IEC 60243-1
1.00 mm	32	kV/mm	
3.00 mm	19	kV/mm	
Dielectric Constant			IEC 60250
1 MHz	3.90		
100 MHz	3.90		
Dissipation Factor			IEC 60250
1 MHz	7.0E-3		
100 MHz	2.0E-3		
Comparative Tracking Index	600	V	IEC 60112

Flammability	Nominal Value	Unit	Test Method
Flame Rating (0.8 mm)	HB		UL 94

Processing Information

Injection	Nominal Value	Unit
Drying Temperature - Hot Air Dryer	80	°C
Drying Time - Hot Air Dryer	3.0 to 4.0	hr
Rear Temperature	170	°C
Middle Temperature	180	°C
Front Temperature	190	°C
Nozzle Temperature	180 to 210	°C
Mold Temperature	60 to 80	°C
Injection Pressure	50.0 to 100	MPa
Injection Rate	Moderate	
Screw Speed	80 to 120	rpm

Notes

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

[2] 2.0 mm/min