

## Iupital™ F20-03

Mitsubishi Engineering-Plastics Corp - Acetal (POM) Copolymer

Thursday, July 25, 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
<a href="#">Regarding available country, please inquire via our website.</a>			
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 <sup>1</sup>

Physical	Nominal Value	Unit	Test Method
Density	1.41	g/cm <sup>3</sup>	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	cm <sup>3</sup> /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 <sup>2</sup>	2600	MPa	ISO 178
Flexural Stress <sup>2</sup>	90.0	MPa	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength (23°C)	7.0	kJ/m <sup>2</sup>	ISO 179
Charpy Unnotched Impact Strength (23°C)	250	kJ/m <sup>2</sup>	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	

<sup>1</sup> The values described are typical values only.

The usage examples indicated here do not guarantee results applicable to relevant uses of the products.

It is the users' responsibility to investigate industrial property rights and the terms of use related to the uses and applications indicated here.

For the handling (transport, storage, forming, disposal, etc.) of the products, it is advisable to refer to technical documents and the Safety Data Sheet (SDS) of the proper materials and grades. Please contact us for consultations when the products are used for the purpose of food containers and packaging, medical parts, safety equipment, and toys for children.

In Japan, the colored products of each grade may contain chemicals subject to reporting requirements under the applicable law provided in Appendix 9 of Article 18-2 of the Enforcement Order, under Article 57-2 of the Industrial Safety and Health Act. For details, please contact us.

For the export of our products and products incorporated with our products, please comply with the relevant laws and regulations, such as the Foreign Exchange and Foreign Trade Law.

Please note that because of the chemical substance management systems in each country, the chemicals used in our products are subject to control, and separate applications might be required or are banned from imports and exports. It is advisable to inquire about the status of regulations in the relevant countries if you are exporting or importing our products.

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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

<sup>1</sup> Typical properties: these are not to be construed as specifications.

<sup>2</sup> 2.0 mm/min