

Iupital® F20-03

Acetal (POM) Copolymer

Mitsubishi Engineering-Plastics Corp

PROSPECTOR®

www.ulprospector.com

Technical Data

Product Description

Iupital® F20-03 is an Acetal (POM) Copolymer material. It is available in Asia Pacific, Europe, or North America for injection molding.

Important attributes of Iupital® F20-03 are:

- Flame Rated
- Medium Viscosity

Typical application of Iupital® F20-03: Automotive

General

Material Status	• Commercial: Active
UL Yellow Card ¹	• E41179-231669
Search for UL Yellow Card	• Mitsubishi Engineering-Plastics Corp • Iupital®
Availability	• Asia Pacific • Europe • North America
Features	• Medium Viscosity
Processing Method	• Injection Molding

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	1.41 g/cm ³	1.41 g/cm ³	ISO 1183
Melt Mass-Flow Rate (MFR) (190°C/2.16 kg)	9.0 g/10 min	9.0 g/10 min	ISO 1133
Melt Volume-Flow Rate (MVR) (190°C/2.16 kg)	0.470 in ³ /10min	7.70 cm ³ /10min	ISO 1133
Molding Shrinkage - Flow (0.118 in (3.00 mm))	2.0 %	2.0 %	
Water Absorption ³ Equilibrium, 73°F (23°C), 50% RH	0.22 %	0.22 %	ISO 62

Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Modulus	421000 psi	2900 MPa	ISO 527-2
Tensile Stress (Yield)	9280 psi	64.0 MPa	ISO 527-2
Tensile Strain (Yield)	8.5 %	8.5 %	ISO 527-2
Nominal Tensile Strain at Break	30 %	30 %	ISO 527-2
Flexural Modulus	377000 psi	2600 MPa	ISO 178
Flexural Stress	13100 psi	90.0 MPa	ISO 178

Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Charpy Notched Impact Strength (73°F (23°C))	3.3 ft·lb/in ²	7.0 kJ/m ²	ISO 179
Charpy Unnotched Impact Strength 73°F (23°C)	120 ft·lb/in ²	250 kJ/m ²	ISO 179

Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Heat Deflection Temperature 66 psi (0.45 MPa), Unannealed	313 °F	156 °C	ISO 75-2/B
264 psi (1.8 MPa), Unannealed	212 °F	100 °C	ISO 75-2/A
Melting Temperature	331 °F	166 °C	ISO 11357-3
CLTE			ISO 11359-2
Flow	6.1E-5 in/in/°F	1.1E-4 cm/cm/°C	
Transverse	6.1E-5 in/in/°F	1.1E-4 cm/cm/°C	

Electrical	Nominal Value (English)	Nominal Value (SI)	Test Method
Surface Resistivity	1.0E+16 ohms	1.0E+16 ohms	IEC 60093
Volume Resistivity	1.0E+14 ohms·cm	1.0E+14 ohms·cm	IEC 60093
Electric Strength			IEC 60243-1
0.0394 in (1.00 mm)	810 V/mil	32 kV/mm	
0.118 in (3.00 mm)	480 V/mil	19 kV/mm	



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Electrical	Nominal Value (English)	Nominal Value (SI)	Test Method
Relative Permittivity			IEC 60250
100 Hz	3.90	3.90	
1 MHz	3.90	3.90	
Dissipation Factor			IEC 60250
100 Hz	2.0E-3	2.0E-3	
1 MHz	7.0E-3	7.0E-3	
Comparative Tracking Index	600 V	600 V	IEC 60112

Flammability	Nominal Value (English)	Nominal Value (SI)	Test Method
Flame Rating (0.031 in (0.8 mm))	HB	HB	UL 94

Injection	Nominal Value (English)	Nominal Value (SI)
Drying Temperature	176 °F	80 °C
Drying Time	3.0 to 4.0 hr	3.0 to 4.0 hr
Rear Temperature	338 °F	170 °C
Middle Temperature	356 °F	180 °C
Front Temperature	374 °F	190 °C
Nozzle Temperature	356 to 410 °F	180 to 210 °C
Mold Temperature	140 to 176 °F	60 to 80 °C
Injection Pressure	7250 to 14500 psi	50.0 to 100 MPa
Injection Rate	Moderate	Moderate
Screw Speed	80 to 120 rpm	80 to 120 rpm

Notes

¹ A UL Yellow Card contains UL-verified flammability and electrical characteristics. UL Prospector continually works to link Yellow Cards to individual plastic materials in Prospector, however this list may not include all of the appropriate links. It is important that you verify the association between these Yellow Cards and the plastic material found in Prospector. For a complete listing of Yellow Cards, visit the UL Yellow Card Search.

² Typical properties: these are not to be construed as specifications.

³ 60% RH

