

POKETONE® M630F

General

Feature	General-purpose injection molding grade (Food Contact)
Special Characteristics	Non-toxic, Low GWP
Processing method	Injection molding
Certification	FDA, KFDA, NSF51, EU No.10/2011, GMC Resolution 02/12 & 32/07, NSF61, KTW, WRAS, ACS, UL94, USP Class VI, ISO 10993, EN71-Part3, RoHs, Free of PAHs, Free of Halogen, VOCs, SVHC, CP65
Colors available	Natural, Black, White
UL File number	E163907
Form	Pellet
Applications	Pipes & Fittings, Food Conveyor

Physical Properties

	ASTM	Value	ISO	Value
Density	D792	1.24 g/cm ³	1183	1.24 g/cm ³
Shore D hardness	D2240		868	76
Hardness Rockwell	D785	110	2039	
Water absorption equilibrium at RH 50%	D570	0.5 %	62	0.5 %
Water absorption at Saturation	D570	2.1 %	62	2.1 %
Melt flow index 240°C/2.16kg	D1238	6 g/10 min	1133	5.6 ml/10 min
Mold Shrinkage	D955		294-4	
	MD, 3 mm	2.1 %		
	TD, 3 mm	2.1 %		
	MD, 2 mm	1.6 %		
	TD, 2 mm	1.5 %		

Mechanical Properties

	ASTM	Value	ISO	Value
Tensile strength at yield	D638	58 MPa	527-1	58 MPa
Tensile modulus	D638	1,450 MPa	527-1	1,350 MPa
Tensile elongation at yield	D638	22 %	527-1	22 %
Tensile elongation at break	D638	≥ 200 %	527-1	≥ 200 %
Flexural strength	D790	53 MPa	178	53 MPa
Flexural modulus	D790	1,350 MPa	178	1,250 MPa

Unnotched Izod impact strength	D256	N.B.	180/1U	N.B.
	D256		180/1A	
Notched Izod impact strength	23 °C	220 J/m	23 °C	15 kJ/m ²
	-10 °C	65 J/m	-10 °C	6 kJ/m ²
	-30 °C	52 J/m	-30 °C	4 kJ/m ²
Unnotched Charpy impact strength	D6110		179/1eU	N.B.
			179/1eA	
Notched Charpy impact strength	D6110		23 °C	17 kJ/m ²
			-10 °C	4 kJ/m ²
			-30 °C	3 kJ/m ²
Falling dart impact strength			6603-2	50 J
			23 °C	

Thermal Properties

	ASTM	Value	ISO	Value
Melting temperature	D3418	222 °C	11357	222 °C
Coefficient of linear thermal expansion	E831 25 ~ 55°C	1.0×10 ⁻⁴	11359	
Vicat softening point	D1525 5 kg	192 °C	306/B50 50 N	190 °C
	D648		75	
Heat deflection temperature	66 psi	195 °C	0.45 MPa	185 °C
	264 psi	102 °C	1.8 MPa	90 °C

Wear & Abrasion Resistance

	Pin on Disk	Thrust Washer
* Condition	1.3 MPa, 0.06 m/sec	0.4 MPa, 0.12 m/sec
Dynamic coefficient of Friction against self	0.21	0.34
Dynamic coefficient of Friction against steel	0.36	0.60
Wear factor against self	0.0074 mm ³ /N·km	0.0044 mm ³ /N·km
Wear factor against steel	0.073 mm ³ /N·km	0.04 mm ³ /N·km
Taber abrasion 1kg load, CS-17 wheel	ASTM D1044	12 mg/1,000 cycle

Flammability Properties

	Test Method & Condition	Value
Flame resistance	UL 94	HB (0.8 mm)

Electrical Properties	Test Method & Condition	Value
Dielectric Strength (DS)	ASTM D149	
	3 mm	15 kV/mm
	2 mm	19 kV/mm
Volume Resistivity (VR)	ASTM D257	$10^{14} \Omega\text{-cm}$
Surface Resistivity (SR)	ASTM D257	$10^{17} \Omega/\text{m}^2$
Dielectric constant at 60Hz	ASTM D150	6.1
Dissipation factor at 60Hz	ASTM D150	0.009

Injection Molding Processing Conditions		Value
Pre-drying	Drying temperature	80 °C
	Drying time	3 ~ 4 hr
	Suggested max moisture	0.20 %
Temperature	Nozzle temperature	250 °C
	Zone 1 temperature	240 °C
	Zone 2 temperature	230 °C
	Zone 3 temperature	225 °C
	Zone 4 temperature	220 °C
	Processing temperature	235 ~ 250 °C
	Mold temperature	80 °C
Pressure	Back pressure	0.294 ~ 0.686 MPa
Speed	Screw Speed	50 ~ 100 rpm

* The data listed here is not for specification warranty, but typical value.

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