POKETONE® M33AS1A

Description

Lubricated high-flow injection molding grade

Physical Properties	ASTM	Value	ISO	Value
Density	D792	1.24 g/cm^3	1183	1.24 g/cm^3
Shore D hardness	D2240		868	75
Hardness Rockwell	D785	113	2039	
Water absorption equilibrium at RH 50%	D570	0.6 %	62	0.6 %
Water absorption at Saturation	D570	2.2 %	62	2.2 %
Melt flow index 240°C/2.16kg	D1238	49 g/10 min	1133	46 ml/10 min
Mold Shrinkage	D955		294-4	
	MD, 3 mm	2.0 %		
	TD, 3 mm	2.0 %		
	MD, 2 mm	1.6 %		
	TD, 2 mm	1.6 %		

Mechanical Properties	ASTM	Value	ISO	Value
Tensile strength at yield	D638	60 MPa	527-1	60 MPa
Tensile modulus	D638	1,550 MPa	527-1	1,450 MPa
Tensile elongation at yield	D638	21 %	527-1	21 %
Tensile elongation at break	D638	200 %	527-1	200 %
Flexural strength	D790	57 MPa	178	56 MPa
Flexural modulus	D790	1,500 MPa	178	1,400 MPa
Unnotched Izod impact strength	D256		180/1U	
Notched Izod impact strength	D256	76 J/m	180/1A	7 kJ/m^2
Unnotched Charpy impact strength	D6110		179/1eU	
Notched Charpy impact strength	D6110		179/1eA	7 kJ/m^2
Falling dart impact strength			6603-2	

Thermal Properties	ASTM	Value	ISO	Value
Melting temperature	D3418	222 °C	11357	222 °C
Coefficient of linear thermal expansion, 25 ~ 55°C	E831		11359	
	TD	9.7×10^{-5}		
	MD	1.0×10^{-4}		
Vicat softening point	D1525	187 °C	306/B50	187 °C
	5 kg		50 N	
Heat deflection temperature	D648		75	
	66 psi	190 °C	0.45 MPa	185 °C
	264 psi	100 °C	1.8 MPa	82 °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		0.17
Dynamic coefficient of Friction against steel		0.27
Wear factor against self		0.0010 $mm^3/N{\cdot}km$
Wear factor against steel		0.010 $mm^3/N{\cdot}km$
Taber abrasion 1kg load, CS-17 wheel	ASTM D1044	

Electrical Properties

	Test Method & Condition	Value
Dielectric Strength (DS)	ASTM D149	
	3 mm	16 kV/mm
	2 mm	19 kV/mm
Volume Resistivity (VR)	ASTM D257	10^{13} Ω-cm
Surface Resistivity (SR)	ASTM D257	10^{17} Ω /m^2
Dielectric constant at 60Hz	ASTM D150	6.1
Dissipation factor at 60Hz	ASTM D150	0.014

Injection Molding Processing Conditions

		Value
Pre-drying	Drying temperature	80 °C
	Drying time	3 ~ 4 hr
	Suggested max moisture	0.20 %
Temperature	Nozzle temperature	240 °C
	Zone 1 temperature	230 °C
	Zone 2 temperature	220 °C
	Zone 3 temperature	215 °C
	Zone 4 temperature	210 °C
	Processing temperature	225 ~ 240 °C
	Mold temperature	60 ~ 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.