

POKETONE® M33-R3A000 (M33AR3B)

Description

Lubricated high-flow injection molding grade

Physical Properties	ASTM	Value	ISO	Value
Density	D792	1.23 g/cm ³	1183	1.23 g/cm ³
Shore D hardness	D2240		868	73
Hardness Rockwell	D785	100	2039	
Water absorption equilibrium at RH 50%	D570	0.5 %	62	0.5 %
Water absorption at Saturation	D570	2.3 %	62	2.3 %
Melt flow index 240°C/2.16kg	D1238	68 g/10 min	1133	64 ml/10 min
	D955		294-4	
	MD, 3 mm	1.6 %		
	TD, 3 mm	1.6 %		
Mold Shrinkage	MD, 2 mm	1.2 %		
	TD, 2 mm	1.4 %		
	MD, 1 mm	1.3 %		
	TD, 1 mm	1.4 %		

Mechanical Properties	ASTM	Value	ISO	Value
Tensile strength at yield	D638	48 MPa	527-1	58 MPa
Tensile modulus	D638	1,400 MPa	527-1	1,350 MPa
Tensile elongation at yield	D638	25 %	527-1	22 %
Tensile elongation at break	D638	300 %	527-1	300 %
Flexural strength	D790	45 MPa	178	53 MPa
Flexural modulus	D790	1,250 MPa	178	1,250 MPa
Unnotched Izod impact strength	D256	N.B.	180/1U	N.B.
Notched Izod impact strength	D256	380 J/m	180/1A	21 kJ/m ²
Unnotched Charpy impact strength	D6110		179/1eU	N.B.
Notched Charpy impact strength	D6110		179/1eA	21 kJ/m ²
Falling dart impact strength			6603-2	23 °C

Thermal Properties	ASTM	Value	ISO	Value
Melting temperature	D3418	222 °C	11357	222 °C
Coefficient of linear thermal expansion, 25 ~ 55°C	E831			
	TD	11.4×10 ⁻⁵	11359	
	MD	11.6×10 ⁻⁵		
Vicat softening point	D1525		306/B50	
	5 kg	174 °C	50 N	174 °C
Heat deflection temperature	D648		75	
	66 psi	180 °C	0.45 MPa	175 °C
	264 psi	85 °C	1.8 MPa	70 °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	0.45	0.35
Dynamic coefficient of Friction against steel	0.32	0.14
Wear factor against self	0.0084 mm ³ /N·km	0.0094 mm ³ /N·km
Wear factor against steel	0.068 mm ³ /N·km	0.003 mm ³ /N·km
Taber abrasion 1kg load, CS-17 wheel	ASTM D1044	

Electrical Properties

	Test Method & Condition	Value
Dielectric Strength (DS)	ASTM D149	17 kV/mm
Volume Resistivity (VR)	ASTM D257	10 ¹⁴ Ω·cm
Surface Resistivity (SR)	ASTM D257	10 ¹⁶ Ω/m ²
Dielectric constant at 60Hz	ASTM D150	5.8
Dissipation factor at 60Hz	ASTM D150	0.013

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.

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