

TENAC™ 4050

Asahi Kasei Corporation - Acetal (POM) Homopolymer

General Information

General			
Features AKEP website	• Creep Resistant	• High durability	• Molding Cycle, Fast
Uses	• Engineering Parts • Fasteners	• Gears • General Purpose	• Housings
Part Marking Code (ISO11469) (ISO 11469)	• >POM<		

ASTM & ISO Properties ¹

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	1.42	g/cm ³	ASTM D792 ISO 1183
Melt Mass-Flow Rate (MFR) (190°C/2.16 kg)	7.0	g/10 min	ISO 1133
Molding Shrinkage - Flow	1.8 to 2.2	%	Internal Method
Water Absorption (24 hr, 23°C, 50% RH)	0.20	%	ASTM D570
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	3300	MPa	ISO 527-1
Tensile Stress			
Yield	76.0	MPa	ISO 527-2
--	73.0	MPa	ASTM D638
Tensile Elongation			
Break	35	%	ASTM D638
Break	30	%	ISO 527-2
Flexural Modulus			
--	3040	MPa	ASTM D790
--	3000	MPa	ISO 178
Flexural Strength	105	MPa	ASTM D790
Taber Abrasion Resistance	13.0	mg	ASTM D1044



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Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength	11	kJ/m ²	ISO 179
Notched Izod Impact	90	J/m	ASTM D256
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness			ASTM D785
M-Scale	94		
R-Scale	120		
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, Unannealed	172	°C	ASTM D648
0.45 MPa, Unannealed	165	°C	ISO 75-2/B
1.8 MPa, Unannealed	136	°C	ASTM D648
1.8 MPa, Unannealed	110	°C	ISO 75-2/A
CLTE - Flow	1.0E-4	cm/cm/°C	ASTM D696 ISO 11359-2
Specific Heat	1470	J/kg/°C	
Thermal Conductivity	0.23	W/m/K	
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	1.0E+16 to 1.0E+17	ohms	ASTM D257
Volume Resistivity (23°C)	1.0E+15 to 1.0E+16	ohms·cm	ASTM D257
Dielectric Strength	18	kV/mm	ASTM D149
Dielectric Constant (23°C, 1 MHz)	3.80		ASTM D150
Dissipation Factor (23°C, 1 MHz)	7.0E-3		ASTM D150
Arc Resistance	250	sec	ASTM D495
Flammability	Nominal Value	Unit	Test Method
Flame Rating (0.75 mm)	HB		UL 94

Processing Information

Injection	Nominal Value	Unit
Drying Temperature - Hot Air Dryer	80 to 90	°C
Drying Time - Hot Air Dryer	3.0 to 4.0	hr
Processing (Melt) Temp	190 to 210	°C
Mold Temperature	> 60	°C

Notes

¹ Typical properties: these are not to be construed as specifications.

