

【Inquiries】

AsahiKASEI Engineering Plastics Information Comprehensive Site
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AsahiKASEI



TENAC™ 4050

Asahi Kasei Corporation - Acetal (POM) Homopolymer

Wednesday, March 20, 2024

General Information

General

Material Status	• Commercial: Active		
Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
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<		

Other Documentation

- Literature
- [Molding Conditions](#)
 - [SDS](#)
 - [Technical Handbook](#)

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

Disclaimer:

- Data shown are typical values obtained by proper testing methods and should not be used for specification purpose. Please use these data for selecting the most appropriate grade suitable for specific usage.

These data may be changed because of improvement in properties.

- Be sure to read the relevant SDS before handling and use, and always follow the Important Precautions.

- Do not use plastics in any of the following orally- or medically-related applications.

- Orally-related applications: any part, device or component which may come into direct oral contact or into direct contact with drinking foods or beverages.

For drinking water application, please consult Asahi Kasei Corporation.

- Medically-related applications: any part, device or component which may be used intracorporeally or which may in dialysis or other processes come into direct or indirect contact with body tissue, body fluids or transfusion fluids.

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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.

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