

【Inquiries】

AsahiKASEI Engineering Plastics Information Comprehensive Site
URL : <https://www.asahi-kasei-plastics.com/en/contact/>

AsahiKASEI



TENAC™ 4012

Asahi Kasei Corporation - Acetal (POM) Homopolymer

Tuesday, March 19, 2024

General Information

General

Material Status	• Commercial: Active		
Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Additive	• Impact Modifier		
Features AKEP website	• Impact Resistance, Medium	• Soft	
Uses	• Engineering Parts	• Gears	• Housings
Part Marking Code (ISO11469) (ISO 11469)	• >POM<		

Other Documentation

Literature	• Molding Conditions • SDS • Technical Handbook
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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)	10	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	2700	MPa	ISO 527-1
Tensile Stress			
Yield	66.0	MPa	ISO 527-2
--	64.0	MPa	ASTM D638
Tensile Elongation (Break)	45	%	ASTM D638
Nominal Tensile Strain at Break	40	%	ISO 527-2
Flexural Modulus			
--	2600	MPa	ASTM D790
--	2500	MPa	ISO 178
Flexural Strength	92.0	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength	10	kJ/m ²	ISO 179
Notched Izod Impact	92	J/m	ASTM D256

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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Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness			ASTM D785
M-Scale	85		
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	151	°C	ISO 75-2/B
1.8 MPa, Unannealed	130	°C	ASTM D648
1.8 MPa, Unannealed	80.0	°C	ISO 75-2/A
CLTE - Flow	1.0E-4	cm/cm/°C	ASTM D696 ISO 11359-2
Flammability	Nominal Value	Unit	Test Method
Flame Rating			UL 94
0.8 mm	HB		
1.5 mm	HB		

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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