AsahiKASEI

Tenac™ 5010

Asahi Kasei Corporation - Acetal (POM) Homopolymer

Tuesday, May 31, 2016

General Information

General			
Material Status	• Commercial: Active		
Availability	• Africa & Middle East • Asia Pacific	• Europe • North America	
Features	• Good Dimensional Stability	• Homopolymer	• Medium Viscosity
Uses	• Engineering Parts • Gears	• General Purpose • Housings	
Automotive Specifications	• BMW 601.00.0 • BOSCH 5515215 024	• BOSCH N28 BN21 • DAIMLER DBL 5403	• VDO 4831

ASTM & ISO Properties [1]

Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.42	g/cm³	ASTM D792 ISO 1183
Melt Mass-Flow Rate (MFR) (190°C/2.16 kg)	22	g/10 min	ISO 1133
Molding Shrinkage - Flow	1.8 to 2.2	%	Internal Method
Water Absorption (23°C, 24 hr, 50% RH)	0.20	%	ASTM D570
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus	3300	MPa	ISO 527-2
Tensile Stress			
Yield	72.0	MPa	ISO 527-2
--	72.0	MPa	ASTM D638
Tensile Elongation (Break)	30	%	ASTM D638 ISO 527-2
Flexural Modulus			
--	3040	MPa	ASTM D790
--	3100	MPa	ISO 178
Flexural Strength	107	MPa	ASTM D790
Taber Abrasion Resistance	13.0	mg	ASTM D1044
Impact	**Nominal Value**	**Unit**	**Test Method**
Charpy Notched Impact Strength	8.0	kJ/m²	ISO 179
Notched Izod Impact	78	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	105	°C	ISO 75-2/A

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Thermal	Nominal Value	Unit	Test Method
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 (1.50 mm)	HB		UL 94

Notes

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