



Tenac® 3010

Asahi Kasei Corporation - Acetal (POM) Homopolymer

Tuesday, July 15, 2008

General Information

General

Material Status	• Commercial: Active		
Availability	• Africa & Middle East	• Asia Pacific	• Europe
Features	• High Impact Resistance • High Molecular Weight	• High Viscosity • Homopolymer	
Uses	• Electrical/Electronic Applications	• Household Goods	• Industrial Applications
Forms	• Pellets		
Processing Method	• Extrusion	• Injection Molding	

ASTM and ISO Properties ¹

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Specific Gravity	1.42	1.42	ASTM D792
Density	1.42 g/cm ³	1.42 g/cm ³	ISO 1183
Melt Mass-Flow Rate (MFR)	2.8 g/10 min	2.8 g/10 min	ASTM D1238
Melt Mass-Flow Rate (MFR) (190°C/2.16 kg)	2.8 g/10 min	2.8 g/10 min	ISO 1133
Molding Shrinkage (Flow)	0.018 to 0.022 in/in	1.8 to 2.2 %	ASTM D955
Molding Shrinkage			ISO 294-4
Across Flow	1.8 to 2.2 %	1.8 to 2.2 %	
Flow	1.8 to 2.2 %	1.8 to 2.2 %	
Water Absorption (24 hr)	0.20 %	0.20 %	ASTM D570

Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Modulus	450000 psi	3100 MPa	ISO 527-1, -2
Tensile Strength	9860 psi	68.0 MPa	ASTM D638
Tensile Stress (Yield)	10300 psi	71.0 MPa	ISO 527-1, -2
Tensile Elongation (Break)	75 %	75 %	ASTM D638
Tensile Strain (Break)	65 %	65 %	ISO 527-1, -2
Flexural Modulus	397000 psi	2740 MPa	ASTM D790
Flexural Strength	14200 psi	98.0 MPa	ASTM D790
Taber Abrasion Resistance (1000 Cycles)	13.0 mg	13.0 mg	ASTM D1044

Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Charpy Notched Impact Strength			ISO 179/1eA
73 °F (23 °C)	6.19 ft-lb/in ²	13.0 kJ/m ²	
Notched Izod Impact	2.02 ft-lb/in	108 J/m	ASTM D256

Hardness	Nominal Value (English)	Nominal Value (SI)	Test Method
Rockwell Hardness			ASTM D785
M-Scale	94	94	
R-Scale	120	120	

Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Deflection Temperature Under Load 66 psi (0.45 MPa), Unannealed	342 °F	172 °C	ASTM D648
Heat Deflection Temperature 66 psi (0.45 MPa), Unannealed	325 °F	163 °C	ISO 75B-1, -2
Deflection Temperature Under Load 264 psi (1.8 MPa), Unannealed	271 °F	133 °C	ASTM D648
Heat Deflection Temperature 264 psi (1.8 MPa), Unannealed	205 °F	96.0 °C	ISO 75A-1, -2
CLTE, Flow (TMA)	0.000056 in/in/°F	0.00010 cm/cm/°C	ASTM E831
Flammability	Nominal Value (English)	Nominal Value (SI)	Test Method
Flame Rating - UL	HB	HB	UL 94

Additional Properties

The values listed as Mold Shrinkage, were tested in accordance with Asahi Kasei method.

Processing Information			
Injection	Nominal Value (English)	Nominal Value (SI)	
Drying Temperature	176 to 194 °F	80.0 to 90.0 °C	
Drying Time	3.0 to 4.0 hr	3.0 to 4.0 hr	
Processing (Melt) Temp	374 to 410 °F	190 to 210 °C	
Mold Temperature	122 °F	50.0 °C	
Extrusion	Nominal Value (English)	Nominal Value (SI)	
Cylinder Zone 1 Temp.	374 °F	190 °C	
Cylinder Zone 2 Temp.	392 °F	200 °C	
Cylinder Zone 3 Temp.	410 °F	210 °C	
Melt Temperature	374 to 410 °F	190 to 210 °C	

Notes

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