

TENAC™-C CF454

Asahi Kasei Corporation - Acetal (POM) Copolymer

General Information

General			
Filler / Reinforcement	• Carbon Fiber, 20% Filler by Weight		
Features AKEP website	• Electrically Conductive		
Uses	• Engineering Parts	• Gears	• Housings
Part Marking Code (ISO11469) (ISO 11469)	• >POM-CF20<		

ASTM & ISO Properties ¹

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	1.46	g/cm ³	ASTM D792 ISO 1183
Melt Mass-Flow Rate (MFR) (190°C/2.16 kg)	4.0	g/10 min	ISO 1133
Molding Shrinkage			Internal Method
Flow	0.10 to 0.20	%	
Across Flow	0.60 to 0.80	%	
Water Absorption (24 hr, 23°C, 50% RH)	0.20	%	ASTM D570
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	13000	MPa	ISO 527-1
Tensile Stress			
Break	130	MPa	ISO 527-2
--	118	MPa	ASTM D638
Tensile Elongation			
Break	5.0	%	ASTM D638
Break	1.0	%	ISO 527-2
Flexural Modulus			
--	12200	MPa	ASTM D790
--	12500	MPa	ISO 178
Flexural Strength	185	MPa	ASTM D790



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Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength	5.0	kJ/m²	ISO 179
Notched Izod Impact	39	J/m	ASTM D256
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (M-Scale)	104		ASTM D785
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, Unannealed	166	°C	ASTM D648 ISO 75-2/B
1.8 MPa, Unannealed	163	°C	ASTM D648 ISO 75-2/A
CLTE			
Flow	4.0E-5	cm/cm/°C	ASTM D696
Flow	4.0E-5 to 9.0E-5	cm/cm/°C	ISO 11359-2
Transverse	9.0E-5	cm/cm/°C	ASTM D696
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	180 to 210	°C	
Mold Temperature	> 60	°C	

Notes

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

