

POTICON VCF442

Liquid Crystal Polymer
Otsuka Chemical Co., Ltd.

Message:

The Poticon series features a potassium titanate micro-filler compounded in thermoplastic resins to provide outstanding micro-reinforcement and dimensional stability. The excellent surface smoothness of these compounds limits friction toward opposing materials, reducing wear and allowing for greaseless applications. Moreover, as Poticon diminishes damage toward the mold and metal die and offers excellent recyclability, it also decreases processing costs.

- Advantages
- Microscopic reinforcement
 - Superior friction sliding and wear reduction
 - Excellent dimensional accuracy and surface smoothness
 - Highly recyclable

- Applications
- Automotive Parts (gears, bearings)
 - LED Reflectors
 - Watch Parts (gears, ground plane)
 - Camera (image stabilization parts)
 - Sliding Parts (gears, wheel bearing)
 - Camera Module Parts
 - Motor Parts (cog-wheels, bearings)
- VCF442 Property: High flowability, Slide

General Information			
Features	High Dimensional Stability		
	Low friction coefficient		
	Recyclable materials		
	High liquidity		
Uses	LEDs		
	Gear		
	Application in Automobile Field		
	Camera application		
	Bearing		
Processing Method	Injection molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.63	g/cm ³	ASTM D792
Molding Shrinkage			
Flow	0.0	%	
Transverse flow	1.6	%	
Water Absorption (Equilibrium)	0.0	%	ASTM D570
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (M-Scale)	46		ASTM D785
Mechanical	Nominal Value	Unit	Test Method
Tensile Strength	108	MPa	ASTM D638

Tensile Elongation (Break)	4.4	%	ASTM D638
Flexural Modulus	7200	MPa	ASTM D790
Flexural Strength	109	MPa	ASTM D790
Coefficient of Friction (vs. Steel - Dynamic)	0.20		
Abrasion Loss			
-- ¹	0.100	10 ⁻³ mm ³ /N·km	
of counterpart ²	0.00	10 ⁻³ mm ³ /N·km	
Heat Distortion	240	°C	ASTM D648
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact	100	J/m	ASTM D256
Thermal	Nominal Value	Unit	Test Method
CLTE - Flow	1.7E-5	cm/cm/°C	ASTM D696
Injection	Nominal Value	Unit	
Processing (Melt) Temp	310 - 350	°C	
Mold Temperature	40 - 150	°C	
Injection Pressure	15.0 - 45.0	MPa	
NOTE			
1.	Surface pressure: 1MPa		
2.	Slipping velocity: 0.3m/sec		

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