

KetaSpire® KT-820 SL45

Polyetheretherketone

Solvay Specialty Polymers

Message:

KetaSpire KT-820 SL45 is a polyetheretherketone-based resin specially designed for products requiring external lubricants that require extremely low wear rates and good mechanical properties.

General Information			
Additive	Carbon fiber PTFE lubricant		
Features	Good dimensional stability		
	Good chemical resistance		
	Good wear resistance		
	Fatigue resistance		
	Heat resistance, high		
	Flame retardancy		
Uses	Bushing		
	Gear		
	Application in Automobile Field		
	Oil/Gas Supplies		
	Thrust washer		
RoHS Compliance	RoHS compliance		
Appearance	Black		
Forms	Particle		
Processing Method	Machining		
	Profile extrusion molding		
	Injection molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.50	g/cm ³	ASTM D792
Melt Mass-Flow Rate (MFR) (400°C/2.16 kg)	2.0	g/10 min	ASTM D1238
Molding Shrinkage ¹			ASTM D955
Flow: 3.18mm	0.0 - 0.20	%	ASTM D955
Transverse flow: 3.18mm	1.3 - 1.5	%	ASTM D955
Water Absorption (24 hr)	0.030	%	ASTM D570
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (M-Scale)	90		ASTM D785
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			

--	18300	MPa	ASTM D638
--	25300	MPa	ISO 527-2/1A/1
Tensile Stress			
Yield	197	MPa	ISO 527-2/1A/5
--	161	MPa	ASTM D638
Tensile Elongation			
Fracture ²	1.5	%	ASTM D638
Fracture	1.5	%	ISO 527-2/1A/5
Flexural Modulus			
--	16600	MPa	ASTM D790
--	24100	MPa	ISO 178
Flexural Strength			
--	265	MPa	ASTM D790
--	273	MPa	ISO 178
Compressive Strength	127	MPa	ASTM D695
Shear Strength	84.1	MPa	ASTM D732
Coefficient of Friction			
-- ³	0.12		ASTM D1894
-- ⁴	0.070		ASTM D3702
-- ⁵	0.34		ASTM D1894
-- ⁶	0.45		ASTM D3702
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact			
--	69	J/m	ASTM D256
--	8.5	kJ/m ²	ISO 180
Unnotched Izod Impact			
--	530	J/m	ASTM D4812
--	43	kJ/m ²	ISO 180
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (1.8 MPa, Annealed)	299	°C	ASTM D648
Glass Transition Temperature	152	°C	ASTM D3418
Peak Melting Temperature	342	°C	ASTM D3418
CLTE - Flow (-50 to 50°C)	1.7E-5	cm/cm/°C	ASTM E831
Specific Heat			DSC
50°C	1250	J/kg/°C	DSC
200°C	1670	J/kg/°C	DSC
Thermal Conductivity	0.36	W/m/K	ASTM E1530
Fill Analysis	Nominal Value	Unit	Test Method
Melt Viscosity ⁷ (400°C, 1000 sec ⁻¹)	380	Pa · s	ASTM D3835
Injection	Nominal Value	Unit	
Drying Temperature	149	°C	

Drying Time	4.0	hr
Rear Temperature	366	°C
Middle Temperature	371	°C
Front Temperature	377	°C
Nozzle Temperature	382	°C
Mold Temperature	177 - 204	°C
Injection Rate	Fast	
Screw Compression Ratio	2.5:1.0 - 3.5:1.0	

Injection instructions

保压压力:尽可能低

NOTE

1. 5" x 0.5" x 0.125" bars
2. 5.0 mm/min
3. Lubrication conditions: 75 fpm, 1000 psi (0.38 m/s , 6895 kPa)
4. Lubrication conditions: 800 fpm , 750 psi (6.06 m/s , 5171 kPa)
5. Drying conditions: 800 fpm ,31.25 psi (4.06 m/s , 215 kPa).
6. Drying conditions: 200 fpm ,125 psi (1.02 m/s , 862 kPa). 50 fpm ,500 psi (0.25 m/s , 3447 kPa) is not recommended.
7. 5" x 0.5" x 0.125" bars

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