

BASF Ultrason® KR 4113 PESU with 10/10% Carbon Fibers/Graphite and 10% PTFE

Category : Polymer , Thermoplastic , Polyethersulfone (PES) , Polyethersulfone (PES), PTFE Filled , Polyethersulfone, Carbon Fiber Reinforced , Polyethersulfone, Mineral Reinforced

Material Notes:

Description: Compound based on PES with 30 % filler. The filler system, a mixture of carbon fibers, graphite and PTFE powder, considerably improves Ultrason's tribological properties. In addition, this product has a very small expansion coefficient and low tendency to swell in hot oils. Abbreviated designation according to ISO 1043-1: PESU-(CF+ZD) Typical applications: Oil control piston in standard automotive oil pumps and oil control piston in volume controlled automotive oil-pumps Information provided by BASF

Order this product through the following link:

http://www.lookpolymers.com/polymer_BASF-Ultrason-KR-4113-PESU-with-1010-Carbon-FibersGraphite-and-10-PTFE.php

Physical Properties	Metric	English	Comments
Bulk Density	0.700 - 0.800 g/cc	0.0253 - 0.0289 lb/in ³	
Density	1.48 g/cc	0.0535 lb/in ³	ISO 1183
Water Absorption	1.5 %	1.5 %	ISO 62
Moisture Absorption at Equilibrium	0.50 %	0.50 %	23°C; 50% RH; ISO 62
Viscosity Measurement	56	56	[cm ³ /g]; ISO 307
Linear Mold Shrinkage, Flow	0.0031 cm/cm	0.0031 in/in	ISO 2577, 294-4
Linear Mold Shrinkage, Transverse	0.0046 cm/cm	0.0046 in/in	ISO 2577, 294-4
Melt Flow	14.8 g/10 min @Load 10.0 kg, Temperature 360 °C	14.8 g/10 min @Load 22.0 lb, Temperature 680 °F	ISO 1133

Mechanical Properties	Metric	English	Comments
Ball Indentation Hardness	180 MPa @Load 98.0 kg, Time 30.0 sec	26100 psi @Load 216 lb, Time 0.00833 hour	ISO 2039-1
Tensile Strength	108 MPa @Treatment Temp. 150 °C, Time 7.20e+6 sec	15700 psi @Treatment Temp. 302 °F, Time 2000 hour	used oil
	108 MPa @Treatment Temp. 150 °C, Time 1.08e+7 sec	15700 psi @Treatment Temp. 302 °F, Time 3000 hour	used oil

Mechanical Properties	109 MPa Metric	15800 psi English	Comments
	@Treatment Temp. 150 °C, Time 7.20e+6 sec	@Treatment Temp. 302 °F, Time 2000 hour	new oil
	109 MPa @Treatment Temp. 150 °C, Time 3.60e+6 sec	15800 psi @Treatment Temp. 302 °F, Time 1000 hour	used oil
	110 MPa @Treatment Temp. 150 °C, Time 3.60e+6 sec	16000 psi @Treatment Temp. 302 °F, Time 1000 hour	new oil
	111.0 MPa @Treatment Temp. 150 °C, Time 1.08e+7 sec	16100 psi @Treatment Temp. 302 °F, Time 3000 hour	new oil
	112 MPa @Treatment Temp. 150 °C, Time 0.000 sec	16200 psi @Treatment Temp. 302 °F, Time 0.000 hour	new oil
	112 MPa @Treatment Temp. 150 °C, Time 0.000 sec	16200 psi @Treatment Temp. 302 °F, Time 0.000 hour	used oil
Tensile Strength, Yield	105 MPa	15200 psi	50mm/min; ISO 527-1/-2
Elongation at Yield	1.3 %	1.3 %	50mm/min; ISO 527-1/-2
Tensile Modulus	10.1 GPa	1460 ksi	ISO 527-1/-2
Izod Impact, Notched (ISO)	5.00 kJ/m ² @Temperature 23.0 °C	2.38 ft-lb/in ² @Temperature 73.4 °F	ISO 180/A
Charpy Impact Unnotched	1.90 J/cm ² @Temperature 23.0 °C	9.04 ft-lb/in ² @Temperature 73.4 °F	ISO 179/1eU
Charpy Impact, Notched	0.300 J/cm ² @Temperature -30.0 °C	1.43 ft-lb/in ² @Temperature -22.0 °F	ISO 179/1eA
	0.450 J/cm ² @Temperature 23.0 °C	2.14 ft-lb/in ² @Temperature 73.4 °F	ISO 179/1eA

Thermal Properties	Metric	English	Comments
	11.0 µm/m-°C	6.11 µin/in-°F	

CTE, linear, Parallel to Flow Thermal Properties	Metric @ Temperature 23.0 - 80.0 °C	English @ Temperature 73.4 - 176 °F	ISO 75-1/-2 Comments
	13.0 µm/m-°C	7.22 µin/in-°F	DIN 53752
	@Temperature 180 °C	@Temperature 356 °F	
	26.0 µm/m-°C	14.4 µin/in-°F	
	@Thickness 4.00 mm, Temperature 25.0 °C	@Thickness 0.157 in, Temperature 77.0 °F	
	26.0 µm/m-°C	14.4 µin/in-°F	
	@Thickness 4.00 mm, Temperature 75.0 °C	@Thickness 0.157 in, Temperature 167 °F	
	27.0 µm/m-°C	15.0 µin/in-°F	
	@Thickness 4.00 mm, Temperature 125 °C	@Thickness 0.157 in, Temperature 257 °F	
	27.0 µm/m-°C	15.0 µin/in-°F	
	@Thickness 4.00 mm, Temperature 175 °C	@Thickness 0.157 in, Temperature 347 °F	
	33.0 µm/m-°C	18.3 µin/in-°F	
	@Thickness 2.00 mm, Temperature 25.0 °C	@Thickness 0.0787 in, Temperature 77.0 °F	
	33.0 µm/m-°C	18.3 µin/in-°F	
	@Thickness 2.00 mm, Temperature 75.0 °C	@Thickness 0.0787 in, Temperature 167 °F	
	34.0 µm/m-°C	18.9 µin/in-°F	
	@Thickness 2.00 mm, Temperature 125 °C	@Thickness 0.0787 in, Temperature 257 °F	
CTE, linear, Transverse to Flow	19.5 µm/m-°C	10.8 µin/in-°F	
	@Thickness 2.00 mm, Temperature 125 °C	@Thickness 0.0787 in, Temperature 257 °F	
	20.0 µm/m-°C	11.1 µin/in-°F	
	@Thickness 2.00 mm, Temperature 75.0 °C	@Thickness 0.0787 in, Temperature 167 °F	
	20.0 µm/m-°C	11.1 µin/in-°F	
	@Thickness 2.00 mm, Temperature 25.0 °C	@Thickness 0.0787 in, Temperature 77.0 °F	
	23.0 µm/m-°C	12.8 µin/in-°F	
	@Thickness 4.00 mm, Temperature 75.0 °C	@Thickness 0.157 in, Temperature 167 °F	

Thermal Properties	Metric	English	Comments
	@Thickness 4.00 mm, Temperature 125 °C	@Thickness 0.157 in, Temperature 257 °F	
	24.0 µm/m-°C	13.3 µin/in-°F	
	@Thickness 4.00 mm, Temperature 25.0 °C	@Thickness 0.157 in, Temperature 77.0 °F	
	25.0 µm/m-°C	13.9 µin/in-°F	
	@Thickness 4.00 mm, Temperature 175 °C	@Thickness 0.157 in, Temperature 347 °F	
Deflection Temperature at 1.8 MPa (264 psi)	220 °C	428 °F	ISO 75-1/-2
Glass Transition Temp, Tg	225 °C	437 °F	ISO 11357-1/-2
Decomposition Temperature	>= 400 °C	>= 752 °F	

Electrical Properties	Metric	English	Comments
Volume Resistivity	8500 ohm-cm	8500 ohm-cm	IEC 60093
Surface Resistance	4000 ohm	4000 ohm	IEC 60093
Dielectric Strength	8.00 kV/mm	203 kV/in	DIN 53752

Processing Properties	Metric	English	Comments
Processing Temperature	80.0 °C	176 °F	Hopper throat
Zone 1	350 °C	662 °F	Feed zone
Zone 2	360 °C	680 °F	Compression
Zone 3	370 °C	698 °F	Metering-zone
Zone 4	370 °C	698 °F	Nozzle
Melt Temperature	350 - 390 °C	662 - 734 °F	Injection molding/extrusion
	370 °C	698 °F	Optimal
Mold Temperature	150 - 190 °C	302 - 374 °F	Injection molding
	170 °C	338 °F	Optimal
Drying Temperature	140 °C	284 °F	
Dry Time	4 hour	4 hour	

Descriptive Properties	Value	Comments
Color	Black	
Commercial Status	Europe	
Ignition Temperature	>500°C	ASTM D1929
Primary Processing Technique	Injection molding and Extrusion	

Contact Songhan Plastic Technology Co.,Ltd.

Website : www.lookpolymers.com

Email : sales@lookpolymers.com

Tel : +86 021-51131842

Mobile : +86 13061808058

Skype : lookpolymers

Address : United North Road 215,Fengxian District, Shanghai City,China