

FZL-4033, FZL-4033 BLACK

- **Product Summary:** FZL-4033 is a glass fiber and polytetrafluoroethylene filled PPS compound with low friction and wear properties.
- **Color:** Black and Natural (Brown).

Engineering Properties			
Properties	Test Method	Unit	Typical value
General Information			GF30%, PTFE Lubricant
Physical			
Density	ISO 1183-1	g/cm ³	1.69
Water absorption, 23°C /24hrs.	ISO 62	%	0.02
Mold shrinkage ^a	ISO 294-4	%	0.3/0.7
Mechanical			
Tensile strength	ISO 527-1,2	MPa	160
Tensile modulus	ISO 527-1,2	GPa	13.5
Tensile strain at break	ISO 527-1,2	%	1.6
Flexural strength	ISO 178	MPa	240
Flexural modulus	ISO 178	GPa	13.0
Flexural strain at flexural strength	ISO 178	%	1.9
Charpy impact strength, notched	ISO 179/1eA	kJ/m ²	10
Charpy impact strength, unnotched	ISO 179/1eU	kJ/m ²	40
Co-eff. of friction ^b , static/dynamic	-	-	0.22/0.22
Thermal			
Temperature of deflection under load, 1.80MPa	ISO 75-1,2	°C	270
Co-eff. of linear thermal expansion ^a , -50~50 °C	ISO 11359-2	x 10 ⁻⁵ /K	1.5/4.5
Co-eff. of linear thermal expansion ^a , 100~200 °C	ISO 11359-2	x 10 ⁻⁵ /K	1.5/11.0
Flammability ^c /thickness (mm)	UL-94	-	V-0 equivalent/0.75
Electrical			
Electric strength, t=1.0mm	IEC 60243-1	kV/mm	26
Relative permittivity, 1MHz	IEC 62631-2-1	-	4
Dielectric dissipation factor, 1MHz	IEC 62631-2-1	-	0.004
Comparative Tracking Index (CTI)	IEC 60112	V	175
Volume resistivity	IEC 62631-3-1	Ω·cm	10 ¹⁶
Molding Condition			
Cylinder temperature	-	°C	290-320
Mold temperature	-	°C	130-150

a: Flow direction/Transverse direction

b: P=150kPa, V=0.3m/s, PPS vs. carbon steel

c: Own data