

CZL-4033

- **Product Summary:** CZL-4033 is a PAN based carbon fiber and polytetrafluoroethylene filled PPS compound with excellent mechanical properties, low friction and wear properties and electric conductivity.
- **Color:** Black

Engineering Properties of CZL-4033

Properties	Test Method	Unit	CZL-4033
			PAN-CF30%/PTFE Lubricant Conductive
General Information			
Physical			
Density	ISO 1183	g/cm ³	1.55
Water absorption, 23°C/24Hrs.	ISO 62	%	0.01
Mold shrinkage ^a	ISO 294-4	%	0.1/0.4
Mechanical			
Tensile strength	ISO 527-1,2	MPa	190
Tensile modulus	ISO 527-1,2	GPa	25.0
Tensile strain at break	ISO 527-1,2	%	0.8
Flexural strength	ISO 178	MPa	270
Flexural modulus	ISO 178	GPa	24.0
Flexural strain at break	ISO 178	%	1.2
Charpy impact strength, notched	ISO 179/1eA	kJ/m ²	5
unnotched	ISO 179/1eU	kJ/m ²	30
Co-eff. of friction ^b , static/dynamic	-	-	0.23/0.23
Thermal			
Heat deflection temperature, 1.80MPa	ISO 75-1,2	°C	275
Co-eff. of linear thermal expansion ^a , -50~50 °C	ISO 11359-2	x 10 ⁻⁵ /K	0.5/4.5
Co-eff. of linear thermal expansion ^a , 100~200 °C	ISO 11359-2	x 10 ⁻⁵ /K	0.5/10.0
Flammability ^c /thickness (mm)	UL-94	-	V-0/1.5
Electrical			
Dielectric strength, t=1.0mm	IEC 60243-1	kV/mm	-
Dielectric constant, 1MHz	IEC 60250	-	-
Dissipation factor, 1MHz	IEC 60250	-	-
Comparative Tracking Index (CTI)	IEC 60112	V	-
Volume resistivity	IEC 60093	Ω·cm	10 ⁰
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: UL file No. E53829