



April, 2024

## **TX-2020-M1 BLACK**

■ Product Summary: TX-2020-M1 BLACK is a glass fiber and mineral filled PPS compound with electric insulating and high thermal conductive property.

**■** Color: Black

**Engineering Properties** 

Engineering Properties			
Properties	Test Method	Unit	Typical value
General Information			GF/Filler High thermal conductivity, Electric Insulating
Physical			
Density Water absorption, 23°C /24hrs. Mold shrinkage <sup>a</sup> Mechanical	ISO 1183-1 ISO 62 ISO 294-4	g/cm³ % %	2.10 0.02 0.5/0.7
Tensile strength	ISO 527-1,2	MPa	90
Tensile modulus Tensile strain at break	ISO 527-1,2 ISO 527-1,2	GPa %	16 0.7
Flexural strength	ISO 178	MPa GPa	155
Flexural modulus Flexural strain at flexural strength Charpy impact strength,	ISO 178 ISO 178	%	18 1.0
notched unnotched Co-eff. of friction <sup>b</sup> , static/dynamic	ISO 179/1eA ISO 179/1eU -	kJ/m² kJ/m² -	4 15 -
Thermal			
Temperature of deflection under load, 1.80MPa Co-eff. of linear thermal expansion a, -50~50 °C Co-eff. of linear thermal expansion a, 100~200 °C Flammability c/thickness (mm) Thermal Conductivity (In-plane) Thermal Conductivity (Through-plane)	ISO 75-1,2 ISO 11359-2 ISO 11359-2 UL-94 HotDisk Method Xe Flash Method	°C x 10 <sup>-5</sup> /K x 10 <sup>-5</sup> /K - W/m•K W/m•K	274 1.7/2.8 1.8/6.3 V-0/0.75 1.0 1.0
Electrical			
Electric strength, t=1.0mm Relative permittivity, 1MHz Dielectric dissipation factor, 1MHz Comparative Tracking Index (CTI) Volume resistivity	IEC 60243-1 IEC 62631-2-1 IEC 62631-2-1 IEC 60112 IEC 62631-3-1	kV/mm - - V Ω·cm	20 5 0.005 175 10 <sup>15</sup>
Molding Condition			
Cylinder temperature Mold temperature	-	°C	300-340 130-160

a: Flow direction/Transverse direction

## **DIC** Corporation

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

c: UL file No. E53829