



December, 2023

## FZ-4020-A1 BLACK-U

■ Product Summary: FZ-4020-A1 BLACK-U is a 40% glass fiber reinforced low halogen type of PPS compound with superior solder heat resistance.

■ Color: Black

## Engineering Properties of DIC.PPS FZ-4020-A1 BLACK-U

Properties	Test Method	Unit	FZ-4020-A1
Ттороннос			BLACK-U
General Information			GF40%
			Cl;<900ppm
Physical		, ,	
Density	ISO 1183-1	g/cm³	1.62
Water absorption, 23° C /24hrs.	ISO 62	%	0.08
Mold shrinkage a	ISO 294-4	%	0.3/0.7
Mechanical			
Tensile strength	ISO 527-1,2	MPa	195
Tensile modulus	ISO 527-1,2	GPa	15.0
Tensile strain at break	ISO 527-1,2	%	1.7
Flexural strength	ISO 178	MPa	290
Flexural modulus	ISO 178	GPa	14.5
Flexural strain at flexural strength	ISO 178	%	2.0
Charpy impact strength,			
notched	ISO 179/1eA	kJ/m²	8
unnotched	ISO 179/1eU	kJ/m²	45
Thermal			
Temperature of deflection under load, 1.80MPa	ISO 75-1,2	$^{\circ}$	270
Co-eff. of linear thermal expansion $^{\rm a}$ , -50 $\sim$ 50 $^{\circ}$ C	ISO 11359-2	x 10 <sup>-5</sup> /K	1.5/4.5
Co-eff. of linear thermal expansion $^{\rm a}$ , 100 $\sim$ 200 $^{\circ}$ C	ISO 11359-2	x 10 <sup>-5</sup> /K	1.5/12.0
Flammability <sup>b</sup> /thickness (mm)	UL 94	-	V-0/5.0
Electrical			
Electric strength, t=1.0mm	IEC 60243-1	kV/mm	25
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	200
Volume resistivity	IEC 62631-3-1	$\Omega \cdot cm$	10 <sup>16</sup>
Molding Condition			
Cylinder temperature	-	${\mathbb C}$	320-350
Mold temperature	-	${\mathbb C}$	130-150

a: Flow direction/Transverse direction

## **DIC** Corporation

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b: UL file No. E53829