

CYCOLOY* Resin C4220K

Asia Pacific: OBSOLETE

C4220K resin is an injection moldable 20% glass reinforced non FR PC blend. Key features include improved Knit Line strength, good flow, excellent strength & rigidity, heat resistance & hydrolytic stability. Ideal for small to medium size & thin wall applications that required rigid frame for reinforcement with good Knit Line strength.

TYPICAL PROPERTIES ¹	TYPICAL VALUE	UNIT	STANDARD
MECHANICAL			
Tensile Stress, yield, 5 mm/min	95	MPa	ISO 527
Tensile Stress, break, 5 mm/min	95	MPa	ISO 527
Tensile Strain, yield, 5 mm/min	2.5	%	ISO 527
Tensile Strain, break, 5 mm/min	2.5	%	ISO 527
Tensile Modulus, 1 mm/min	6000	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	125	MPa	ISO 178
Flexural Modulus, 2 mm/min	5400	MPa	ISO 178
Hardness, Rockwell L	96	-	ISO 2039-2
Hardness, Rockwell R	119	-	ISO 2039-2
IMPACT			
Izod Impact, unnotched, 23°C	550	J/m	ASTM D 4812
Izod Impact, notched, 23°C	100	J/m	ASTM D 256
Izod Impact, unnotched 80*10*3 +23°C	25	kJ/m ²	ISO 180/1U
Izod Impact, notched 80*10*3 +23°C	10	kJ/m ²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm	10	kJ/m ²	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*3 sp=62mm	25	kJ/m ²	ISO 179/1eU
THERMAL			
HDT, 0.45 MPa, 3.2 mm, unannealed	138	°C	ASTM D 648
HDT, 1.82 MPa, 3.2mm, unannealed	130	°C	ASTM D 648
Thermal Conductivity	0.2	W/m-°C	ISO 8302
CTE, -40°C to 40°C, flow	2.62E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	8.16E-05	1/°C	ISO 11359-2
Ball Pressure Test, 125°C +/- 2°C	pass	-	IEC 60695-10-2
Vicat Softening Temp, Rate B/50	135	°C	ISO 306
Vicat Softening Temp, Rate B/120	137	°C	ISO 306
HDT/Be, 0.45MPa Edgew 120*10*4 sp=100mm	135	°C	ISO 75/Be
HDT/Ae, 1.8 MPa Edgew 120*10*4 sp=100mm	129	°C	ISO 75/Ae

1) Typical values only. Variations within normal tolerances are possible for various colours. All values are measured at least after 48 hours storage at 230C/50% relative humidity. All properties, except the melt volume rate are measured on injection moulded samples. All samples are prepared according to ISO 294.

2) Only typical data for material selection purpose. Not to be used for part or tool design.
 3) This rating is not intended to reflect hazards presented by this or any other material under actual fire conditions.
 4) Own measurement according to UL.
 5) Measurements made from laboratory test coupon. Actual shrinkage may vary outside of range due to differences in processing conditions, equipment, part geometry and tool design. It is recommended that mold shrinkage studies be performed with surrogate or legacy tooling prior to cutting tools for new molded article.
 6) Needs hard coat to consistently pass 60 sec Vertical Burn.

Source, GMD, Last Update:06/11/2012

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TYPICAL PROPERTIES ¹	TYPICAL VALUE	UNIT	STANDARD
PHYSICAL			
Mold Shrinkage, flow, 3.2 mm (5)	0.2 - 0.4	%	SABIC Method
Melt Flow Rate, 260°C/5.0 kgf	12	g/10 min	ASTM D 1238
Density	1.3	g/cm ³	ISO 1183
Water Absorption, (23°C/sat)	0.6	%	ISO 62
Moisture Absorption (23°C / 50% RH)	0.12	%	ISO 62
Melt Volume Rate, MVR at 260°C/5.0 kg	11	cm ³ /10 min	ISO 1133
ELECTRICAL			
Volume Resistivity	3.5E+16	Ohm-cm	ASTM D 257
Surface Resistivity	3.5E+16	Ohm	ASTM D 257
Dielectric Strength, in oil, 0.8 mm	40	kV/mm	IEC 60243-1
Dielectric Strength, in oil, 1.6 mm	30	kV/mm	IEC 60243-1
Relative Permittivity, 1 kHz	3.4	-	IEC 60250
Relative Permittivity, 1 MHz	3.3	-	IEC 60250
Dissipation Factor, 1 kHz	0.008	-	IEC 60250
Dissipation Factor, 1 MHz	0.011	-	IEC 60250

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PROCESSING PARAMETERS	TYPICAL VALUE	UNIT
Injection Molding		
Drying Temperature	100 - 110	°C
Drying Time	2 - 4	hrs
Melt Temperature	240 - 280	°C
Mold Temperature	50 - 80	°C

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