



Cycoloy* Resin C2100

Europe-Africa-Middle East: COMMERCIAL

CYCOLOY C2100 is a flame retardant blend, specifically developed to meet the stringent requirements of mains current carrying applications. CYCOLOY C2100 combines

TYPICAL PROPERTIES ¹	TYPICAL VALUE	UNIT	STANDARD
MECHANICAL			
Taber Abrasion, CS-17, 1 kg	62	mg/1000cy	GE Method
Tensile Stress, yield, 5 mm/min	50	MPa	ISO 527
Tensile Stress, break, 5 mm/min	45	MPa	ISO 527
Tensile Stress, yield, 50 mm/min	60	MPa	ISO 527
Tensile Stress, break, 50 mm/min	50	MPa	ISO 527
Tensile Strain, yield, 5 mm/min	4	%	ISO 527
Tensile Strain, break, 5 mm/min	60	%	ISO 527
Tensile Strain, yield, 50 mm/min	4	%	ISO 527
Tensile Strain, break, 50 mm/min	>50	%	ISO 527
Tensile Modulus, 1 mm/min	2600	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	85	MPa	ISO 178
Flexural Modulus, 2 mm/min	2500	MPa	ISO 178
Hardness, H358/30	104	MPa	ISO 2039-1
Hardness, Rockwell R	123	-	ISO 2039-2
IMPACT			
Izod Impact, unnotched 80*10*4 +23°C	NB	kJ/m ²	ISO 180/1U
Izod Impact, unnotched 80*10*4 -30°C	NB	kJ/m ²	ISO 180/1U
Izod Impact, notched 80*10*4 +23°C	45	kJ/m ²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	17	kJ/m ²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	45	kJ/m ²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm	19	kJ/m ²	ISO 179/1eA
THERMAL			
Thermal Conductivity	0.2	W/m-°C	ISO 8302

1) Typical values only. Variations within normal tolerances are possible for various colours. All values are measured at least after 48 hours storage at 23°C/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.





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THERMAL			
CTE, -40°C to 40°C, flow	7.5E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	7.5E-05	1/°C	ISO 11359-2
Ball Pressure Test, 125°C +/- 2°C	PASSES	-	IEC 60695-10-2
Vicat Softening Temp, Rate B/50	136	°C	ISO 306
Vicat Softening Temp, Rate B/120	138	°C	ISO 306
HDT/Be, 0.45MPa Edgew 120*10*4 sp=100mm	128	°C	ISO 75/Be
HDT/Ae, 1.8 MPa Edgew 120*10*4 sp=100mm	112	°C	ISO 75/Ae
Relative Temp Index, Elec	125	°C	UL 746B
Relative Temp Index, Mech w/impact	60	°C	UL 746B
Relative Temp Index, Mech w/o impact	115	°C	UL 746B
PHYSICAL			
Mold Shrinkage on Tensile Bar, flow (2)	0.5 - 0.7	%	GE Method
Density	1.2	g/cm ³	ISO 1183
Water Absorption, (23°C/sat)	0.6	%	ISO 62
Moisture Absorption (23°C / 50% RH)	0.2	%	ISO 62
Melt Volume Rate, MVR at 260°C/5.0 kg	16	cm ³ /10 min	ISO 1133
ELECTRICAL			
Volume Resistivity	>1.E+15	Ohm-cm	IEC 60093
Surface Resistivity, ROA	>1.E+15	Ohm	IEC 60093
Dielectric Strength, in oil, 0.8 mm	35	kV/mm	IEC 60243-1
Dielectric Strength, in oil, 1.6 mm	25	kV/mm	IEC 60243-1
Dielectric Strength, in oil, 3.2 mm	17	kV/mm	IEC 60243-1
Relative Permittivity, 50/60 Hz	3	-	IEC 60250
Relative Permittivity, 1 MHz	2.6	-	IEC 60250
Dissipation Factor, 50/60 Hz	0.005	-	IEC 60250

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TYPICAL PROPERTIES ¹	TYPICAL VALUE	UNIT	STANDARD
ELECTRICAL			
Dissipation Factor, 1 MHz	0.008	-	IEC 60250
Comparative Tracking Index	225	V	IEC 60112
FLAME CHARACTERISTICS			
UL Recognized, 94V-0 Flame Class Rating (3)	1.5	mm	UL 94
UL Recognized, 94-5VB Rating (3)	2	mm	UL 94
Glow Wire Flammability Index 960°C, passes at	1	mm	IEC 60695-2-12
Oxygen Index (LOI)	32	%	ISO 4589

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Source, GMD, Last Update: 06/11/2007





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PROCESSING PARAMETERS	TYPICAL VALUE	UNIT
Injection Molding		
Drying Temperature	90 - 100	°C
Drying Time	2 - 4	hrs
Maximum Moisture Content	0.02	%
Melt Temperature	250 - 280	°C
Nozzle Temperature	230 - 270	°C
Front - Zone 3 Temperature	240 - 280	°C
Middle - Zone 2 Temperature	230 - 270	°C
Rear - Zone 1 Temperature	210 - 240	°C
Hopper Temperature	60 - 80	°C
Mold Temperature	60 - 90	°C

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