

CYCOLOY™ FR RESINS C2950

REGION EUROPE

DESCRIPTION

CYCOLOY C2950 Polycarbonate/Acrylonitrile Butadiene Styrene (PC/ABS) resin is a standard high heat grade that can be injection molded. This non-chlorinated, non-brominated flame retardant high heat PC/ABS has a UL V0 & 5VB flame rating. CYCOLOY C2950 resin is an excellent candidate for a wide variety of applications including appliances, lighting and electrical.

TYPICAL PROPERTY VALUES

Revision 20191022

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Taber Abrasion, CS-17, 1 kg	54	mg/1000cy	SABIC method
Tensile Stress, yield, 5 mm/min	55	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	65	%	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	2800	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	90	MPa	ISO 178
Flexural Modulus, 2 mm/min	2700	MPa	ISO 178
Ball Indentation Hardness, H358/30	116	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	44	kJ/m ²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	14	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	15	kJ/m ²	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm	NB	kJ/m ²	ISO 179/1eU
Charpy -30°C, Unnotch Edgew 80*10*4 sp=62mm	NB	kJ/m ²	ISO 179/1eU
THERMAL			
Thermal Conductivity	0.2	W/m·°C	ISO 8302
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
CTE, 23°C to 60°C, flow	8.E-05	1/°C	ISO 11359-2
CTE, 23°C to 60°C, xflow	8.E-05	1/°C	ISO 11359-2
Ball Pressure Test, 100°C +/- 2°C	PASS	-	IEC 60695-10-2
Vicat Softening Temp, Rate A/50	118	°C	ISO 306
Vicat Softening Temp, Rate B/50	110	°C	ISO 306
Vicat Softening Temp, Rate B/120	112	°C	ISO 306
HDT/Be, 0.45MPa Edgew 120*10*4 sp=100mm	103	°C	ISO 75/Be

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
HDT/Ae, 1.8 MPa Edgew 120*10*4 sp=100mm	90	°C	ISO 75/Ae
Relative Temp Index, Elec	85	°C	UL 746B
Relative Temp Index, Mech w/impact	85	°C	UL 746B
Relative Temp Index, Mech w/o impact	85	°C	UL 746B
PHYSICAL			
Mold Shrinkage on Tensile Bar, flow	0.4 – 0.6	%	SABIC method
Density	1.17	g/cm ³	ISO 1183
Water Absorption, (23°C/saturated)	0.6	%	ISO 62-1
Moisture Absorption (23°C / 50% RH)	0.2	%	ISO 62
Melt Volume Rate, MVR at 260°C/2.16 kg	12	cm ³ /10 min	ISO 1133
ELECTRICAL			
Comparative Tracking Index (UL) {PLC}	0	PLC Code	UL 746A
Volume Resistivity	>1.E+15	Ω.cm	IEC 60093
Surface Resistivity, ROA	>1.E+15	Ω	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, 1 MHz	2.7	-	IEC 60250
Dissipation Factor, 50/60 Hz	0.004	-	IEC 60250
Dissipation Factor, 1 MHz	0.006	-	IEC 60250
Comparative Tracking Index	600	V	IEC 60112
Relative Permittivity, 50/60 Hz	2.8	-	IEC 60250
FLAME CHARACTERISTICS			
UL Yellow Card Link	E45329-236717	-	-
UL Recognized, 94V-0 Flame Class Rating	1.5	mm	UL 94
UL Recognized, 94-5VB Flame Class Rating	2.5	mm	UL 94
Glow Wire Flammability Index 960°C, passes at	1	mm	IEC 60695-2-12
Oxygen Index (LOI)	32	%	ISO 4589
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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