CYCOLOY™ RESIN CM8622

REGION EUROPE

DESCRIPTION

CYCOLOY CM8622 Polycarbonate/Acrylonitrile Butadiene Styrene (PC/ABS) blend is an injection moldable high heat grade offering high modulus, low CTE, good practical impact and aesthetics.

TYPICAL PROPERTY VALUES

Revision 20190925

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Tensile Stress, yld, Type I, 5 mm/min	47	MPa	ASTM D 638
Tensile Stress, brk, Type I, 5 mm/min	60	MPa	ASTM D 638
Tensile Strain, yld, Type I, 5 mm/min	3.4	%	ASTM D 638
Tensile Strain, brk, Type I, 5 mm/min	55	%	ASTM D 638
Tensile Modulus, 5 mm/min	3600	MPa	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	90	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	3650	MPa	ASTM D 790
Tensile Stress, yield, 5 mm/min	50	MPa	ISO 527
Tensile Stress, break, 5 mm/min	54	MPa	ISO 527
Tensile Strain, yield, 5 mm/min	3.5	%	ISO 527
Tensile Strain, break, 5 mm/min	50	%	ISO 527
Tensile Modulus, 1 mm/min	3600	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	90	MPa	ISO 178
Flexural Modulus, 2 mm/min	3600	MPa	ISO 178
IMPACT			
Charpy Impact, unnotched, 23°C	105	kJ/m²	ISO 179/2C
Charpy Impact, unnotched, -30°C	100	kJ/m²	ISO 179/2C
Izod Impact, unnotched, 23°C	1650	J/m	ASTM D 4812
Izod Impact, unnotched, -30°C	1450	J/m	ASTM D 4812
Izod Impact, notched, 23°C	250	J/m	ASTM D 256
Izod Impact, notched, -30°C	90	J/m	ASTM D 256
Multiaxial Impact	85	J	ISO 6603
Instrumented Impact Total Energy, 23°C	50	J	ASTM D 3763
Izod Impact, unnotched 80*10*4 +23°C	140	kJ/m²	ISO 180/1U
Izod Impact, unnotched 80*10*4 -30°C	135	kJ/m²	ISO 180/1U
Izod Impact, notched 80*10*4 +23°C	13	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	8	kJ/m²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	12	kJ/m²	ISO 179/1eA
Charpy Impact, notched, 23°C	12	kJ/m²	ISO 179/2C
Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm	8	kJ/m²	ISO 179/1eA
Charpy Impact, notched, -30°C	8	kJ/m²	ISO 179/2C
Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm	105	kJ/m²	ISO 179/1eU
Charpy -30°C, Unnotch Edgew 80*10*4 sp=62mm	100	kJ/m²	ISO 179/1eU
THERMAL			

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
HDT, 0.45 MPa, 3.2 mm, unannealed	129	°C	ASTM D 648
HDT, 1.82 MPa, 3.2mm, unannealed	112	°C	ASTM D 648
CTE, -40°C to 40°C, flow	5.1E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	6.4E-05	1/°C	ISO 11359-2
CTE, -30°C to 80°C, flow	5.6E-05	1/°C	ISO 11359-2
CTE, -30°C to 80°C, xflow	7.E-05	1/°C	ISO 11359-2
Ball Pressure Test, 125°C +/- 2°C	PASSES	-	IEC 60695-10-2
Vicat Softening Temp, Rate A/50	144	°C	ISO 306
Vicat Softening Temp, Rate B/50	133	°C	ISO 306
Vicat Softening Temp, Rate B/120	134	°C	ISO 306
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	129	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	112	°C	ISO 75/Af
PHYSICAL			
Specific Gravity	1.25	-	ASTM D 792
Mold Shrinkage on Tensile Bar, flow	0.5 – 0.7	%	SABIC method
Mold Shrinkage, flow, 3.2 mm	0.4 – 0.6	%	SABIC method
Mold Shrinkage on Tensile Bar, xflow	0.4 – 0.6	%	SABIC method
Mold Shrinkage, xflow, 3.2 mm	0.3 – 0.5	%	SABIC method
Melt Flow Rate, 260°C/5.0 kgf	16	g/10 min	ASTM D 1238
Density	1.26	g/cm³	ISO 1183
Water Absorption, (23°C/sat)	0.2	%	ISO 62
Moisture Absorption (23°C / 50% RH)	0.05	%	ISO 62
Melt Volume Rate, MVR at 260°C/5.0 kg	15	cm³/10 min	ISO 1133
INJECTION MOLDING			
Drying Temperature	110 – 120	°C	
Drying Time	2 – 6	hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	270 – 300	°C	
Nozzle Temperature	260 – 290	°C	
Front - Zone 3 Temperature	270 – 300	°C	
Middle - Zone 2 Temperature	265 – 290	°C	
Rear - Zone 1 Temperature	260 – 270	°C	
Mold Temperature	60 – 100	°C	
Back Pressure	0.3 – 0.7	MPa	
Screw Speed	40 – 70	rpm	
Shot to Cylinder Size	30 – 80	%	
Vent Depth	0.038 – 0.076	mm	

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