

# CYCOLOY™ FR RESIN CM8622

REGION EUROPE

## DESCRIPTION

CYCOLOY CM8622 is a high heat PC/ABS blend offering high modulus, low CTE, good practical Impact with good aesthetics.

## TYPICAL PROPERTY VALUES

Revision 20170913

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
<b>MECHANICAL</b>			
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
<b>IMPACT</b>			
Charpy Impact, unnotched, 23°C	105	kJ/m <sup>2</sup>	ISO 179/2C
Charpy Impact, unnotched, -30°C	100	kJ/m <sup>2</sup>	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/m <sup>2</sup>	ISO 180/1U
Izod Impact, unnotched 80*10*4 -30°C	135	kJ/m <sup>2</sup>	ISO 180/1U

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Izod Impact, notched 80*10*4 +23°C	13	kJ/m <sup>2</sup>	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	8	kJ/m <sup>2</sup>	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	12	kJ/m <sup>2</sup>	ISO 179/1eA
Charpy Impact, notched, 23°C	12	kJ/m <sup>2</sup>	ISO 179/2C
Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm	8	kJ/m <sup>2</sup>	ISO 179/1eA
Charpy Impact, notched, -30°C	8	kJ/m <sup>2</sup>	ISO 179/2C
Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm	105	kJ/m <sup>2</sup>	ISO 179/1eU
Charpy -30°C, Unnotch Edgew 80*10*4 sp=62mm	100	kJ/m <sup>2</sup>	ISO 179/1eU
<b>THERMAL</b>			
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
<b>PHYSICAL</b>			
Specific Gravity	1.25	-	ASTM D 792
Mold Shrinkage on Tensile Bar, flow (2) (5)	0.5 – 0.7	%	SABIC method
Mold Shrinkage, flow, 3.2 mm (5)	0.4 – 0.6	%	SABIC method
Mold Shrinkage on Tensile Bar, xflow (2) (5)	0.4 – 0.6	%	SABIC method
Mold Shrinkage, xflow, 3.2 mm (5)	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/cm <sup>3</sup>	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	cm <sup>3</sup> /10 min	ISO 1133
<b>INJECTION MOLDING</b>			
Drying Temperature	120 – 110	°C	
Drying Time	2 – 6	hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	270 – 300	°C	
Nozzle Temperature	260 – 290	°C	

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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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