

**Cycology\* Resin CE1810**  
**Americas: COMMERCIAL**

PC/ABS with high stiffness and low CTE.

TYPICAL PROPERTIES <sup>1</sup>	TYPICAL VALUE	UNIT	STANDARD
<b>MECHANICAL</b>			
Tensile Stress, yld, Type I, 5 mm/min	610	kgf/cm <sup>2</sup>	ASTM D 638
Tensile Stress, brk, Type I, 5 mm/min	450	kgf/cm <sup>2</sup>	ASTM D 638
Tensile Strain, yld, Type I, 5 mm/min	4	%	ASTM D 638
Tensile Strain, brk, Type I, 5 mm/min	15	%	ASTM D 638
Tensile Modulus, 5 mm/min	47400	kgf/cm <sup>2</sup>	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	1070	kgf/cm <sup>2</sup>	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	45300	kgf/cm <sup>2</sup>	ASTM D 790
Tensile Stress, yield, 5 mm/min	60	MPa	ISO 527
Tensile Stress, break, 5 mm/min	45	MPa	ISO 527
Tensile Strain, yield, 5 mm/min	4	%	ISO 527
Tensile Strain, break, 5 mm/min	15	%	ISO 527
Tensile Modulus, 1 mm/min	4650	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	105	MPa	ISO 178
Flexural Modulus, 2 mm/min	4450	MPa	ISO 178
<b>IMPACT</b>			
Izod Impact, notched, 23°C	17	cm-kgf/cm	ASTM D 256
Izod Impact, notched, -30°C	9	cm-kgf/cm	ASTM D 256
Instrumented Impact Total Energy, 23°C	611	cm-kgf	ASTM D 3763
Izod Impact, notched 80*10*3 +23°C	20	kJ/m <sup>2</sup>	ISO 180/1A
Izod Impact, notched 80*10*3 -30°C	10	kJ/m <sup>2</sup>	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm	20	kJ/m <sup>2</sup>	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*3 sp=62mm	10	kJ/m <sup>2</sup>	ISO 179/1eA

<sup>1</sup> 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.

<sup>2</sup> Only typical data for material selection purpose. Not to be used for part or tool design.  
<sup>3</sup> This rating is not intended to reflect hazards presented this or any other material under actual fire conditions.  
<sup>4</sup> Own measurement according to UL.  
<sup>5</sup> 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.

Dongguan Yi-Ming Plastic Chemical Co., Ltd.

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备注：以上原料物性数据由厂家发布, 我公司仅提供参考！数据如有变动，请联系原料生产厂家获知。我公司不承担任何法律责任！

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<b>THERMAL</b>			
Vicat Softening Temp, Rate B/50	139	°C	ASTM D 1525
HDT, 1.82 MPa, 3.2mm, unannealed	121	°C	ASTM D 648
CTE, -40°C to 40°C, flow	4.3E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, xflow	5.9E-05	1/°C	ASTM E 831
Thermal Conductivity	0.2	W/m-°C	ISO 8302
CTE, -40°C to 40°C, flow	4.3E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	5.9E-05	1/°C	ISO 11359-2
Ball Pressure Test, 125°C +/- 2°C	PASSES	-	IEC 60695-10-2
Vicat Softening Temp, Rate B/50	139	°C	ISO 306
Vicat Softening Temp, Rate B/120	141	°C	ISO 306
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	122	°C	ISO 75/Af
<b>PHYSICAL</b>			
Specific Gravity	1.3	-	ASTM D 792
Mold Shrinkage, flow, 3.2 mm (5)	0.4 - 0.6	%	SABIC Method
Melt Flow Rate, 260°C/5.0 kgf	7	g/10 min	ASTM D 1238
Density	1.3	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	6	cm <sup>3</sup> /10 min	ISO 1133
Melt Volume Rate, MVR at 300°C/5.0 kg	24	cm <sup>3</sup> /10 min	ISO 1133

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PROCESSING PARAMETERS	TYPICAL VALUE	UNIT
<b>Injection Molding</b>		
Drying Temperature	100 - 110	°C
Drying Time	3 - 4	hrs
Maximum Moisture Content	0.04	%
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
<b>Sheet Extrusion</b>		
Drying Temperature	110 - 120	°C
Drying Time	3 - 4	hrs
Drying Time (Cumulative)	8	hrs
Maximum Moisture Content	0.04	%
Melt Temperature	250 - 270	°C
Barrel - Zone 1 Temperature	195 - 205	°C
Barrel - Zone 2 Temperature	200 - 220	°C
Barrel - Zone 3 Temperature	220 - 240	°C
Barrel - Zone 4 Temperature	230 - 260	°C
Adapter Temperature	230 - 260	°C
Die Temperature	230 - 245	°C
Roll Stack Temp - Top	100 - 110	°C
Roll Stack Temp - Middle	110 - 120	°C
Roll Stack Temp - Bottom	145 - 155	°C

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