



## CYCOLAC™ Resin BDT5510

### Americas: COMMERCIAL

Automotive. High heat resistance, low gloss, color concentratable for interior applications. Natural only.

TYPICAL PROPERTIES <sup>1</sup>	TYPICAL VALUE	Unit	Standard
<b>MECHANICAL</b>			
Tensile Stress, yld, Type I, 5 mm/min	540	kgf/cm <sup>2</sup>	ASTM D 638
Tensile Modulus, 5 mm/min	23100	kgf/cm <sup>2</sup>	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	820	kgf/cm <sup>2</sup>	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	25000	kgf/cm <sup>2</sup>	ASTM D 790
Tensile Stress, yield, 50 mm/min	43	MPa	ISO 527
Tensile Modulus, 1 mm/min	2930	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	67	MPa	ISO 178
Flexural Modulus, 2 mm/min	2030	MPa	ISO 178
<b>IMPACT</b>			
Izod Impact, notched, 23°C	29	cm-kgf/cm	ASTM D 256
Falling Dart Impact (D 3029), 23°C	356	cm-kgf	ASTM D 3029
Izod Impact, notched 80*10*4 +23°C	12	kJ/m <sup>2</sup>	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	7	kJ/m <sup>2</sup>	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	13	kJ/m <sup>2</sup>	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm	7	kJ/m <sup>2</sup>	ISO 179/1eA
<b>THERMAL</b>			
HDT, 0.45 MPa, 3.2 mm, unannealed	92	°C	ASTM D 648
HDT, 1.82 MPa, 3.2mm, unannealed	81	°C	ASTM D 648
CTE, -40°C to 60°C, flow	1.35E-04	1/°C	ASTM E 831
Vicat Softening Temp, Rate B/50	98	°C	ISO 306
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	95	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	83	°C	ISO 75/Af
<b>PHYSICAL</b>			
Specific Gravity	1.05	-	ASTM D 792

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(2) Only typical data for selection purposes. 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) Internal measurements according to UL standards.

(5) 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.

(6) Needs hard coat to consistently pass 60 sec Vertical Burn.

Source GMD, last updated:

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TYPICAL PROPERTIES <sup>1</sup>	TYPICAL VALUE	Unit	Standard
<b>PHYSICAL</b>			
Mold Shrinkage, flow, 3.2 mm (5)	0.5 - 0.8	%	SABIC Method
Melt Flow Rate, 230°C/3.8 kgf	6	g/10 min	ASTM D 1238
Melt Viscosity, 260°C, 1000 sec-1	1630	poise	ASTM D 3825
Spiral Flow, 260°C, 10 ips, 3.175 X 1524 mm	736.6	mm	-
Melt Flow Rate, 220°C/10.0 kg	14	g/10 min	ISO 1133
<b>OPTICAL</b>			
Gloss, untextured, 60 degrees	25	-	ASTM D 523
<b>FLAME CHARACTERISTICS</b>			
UL Recognized, 94HB Flame Class Rating (3)	1.52	mm	UL 94

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(6) Needs hard coat to consistently pass 60 sec Vertical Burn.

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PROCESSING PARAMETERS	TYPICAL VALUE	Unit
<b>Injection Molding</b>		
Drying Temperature	90 - 95	°C
Drying Time	2 - 4	hrs
Drying Time (Cumulative)	8	hrs
Maximum Moisture Content	0.01	%
Melt Temperature	230 - 275	°C
Nozzle Temperature	230 - 275	°C
Front - Zone 3 Temperature	220 - 255	°C
Middle - Zone 2 Temperature	210 - 250	°C
Rear - Zone 1 Temperature	195 - 240	°C
Mold Temperature	50 - 80	°C
Back Pressure	0.3 - 0.7	MPa
Screw Speed	30 - 60	rpm
Shot to Cylinder Size	50 - 70	%
Vent Depth	0.038 - 0.051	mm

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