

## Makrolon® Ai2417 ST

Covestro - Polycarbonates - *Polycarbonate*

### General Information

#### Product Description

MVR (300 °C/1.2 kg) 19 cm<sup>3</sup>/10 min; Automotive lighting; low viscosity; UV stabilized; easy release; injection molding - melt temperature 280 - 320 °C; available in clear transparent colors and in various signal colors; headlamp lenses for automotive forward lighting

#### General

Material Status	• Commercial: Active		
Availability	• Africa & Middle East	• Europe	• North America
	• Asia Pacific	• Latin America	
Additive	• UV Stabilizer		
Features	• Good Mold Release	• Low Viscosity	• UV Stabilized
Uses	• Automotive Applications	• Automotive Lighting	
RoHS Compliance	• RoHS Compliant		
Appearance	• Colors Available	• Translucent	
Processing Method	• Injection Molding		
ISO Designation	• PC		

### Properties <sup>1</sup>

Physical	Nominal Value	Unit	Test Method
Density (73°F)	1.20	g/cm <sup>3</sup>	ISO 1183
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	19	g/10 min	ISO 1133
Molding Shrinkage <sup>2</sup>			ISO 294-4
Across Flow : 0.0787 in	0.70	%	
Flow : 0.0787 in	0.65	%	
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus (73°F)	348000	psi	ISO 527-1/1
Tensile Stress (Yield, 73°F)	9280	psi	ISO 527-2/50
Tensile Stress (Break, 73°F)	9430	psi	ISO 527-2/50
Tensile Strain (Yield, 73°F)	6.0	%	ISO 527-2/50
Tensile Strain (Break, 73°F)	120	%	ISO 527-2/50
Nominal Tensile Strain at Break (73°F)	> 50	%	ISO 527-2/50
Flexural Modulus <sup>3</sup> (73°F)	341000	psi	ISO 178
Flexural Stress <sup>3</sup>			ISO 178
73°F	14200	psi	
3.5% Strain, 73°F	10700	psi	
Flexural Strain at Flexural Strength <sup>4</sup> (73°F)	7.0	%	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Unnotched Impact Strength			ISO 179/1eU
-22°F	No Break		
73°F	No Break		
Notched Izod Impact Strength <sup>5</sup>			ISO 180/A
-22°F, Complete Break	7.1	ft·lb/in <sup>2</sup>	
73°F, Partial Break	29	ft·lb/in <sup>2</sup>	
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (66 psi, Unannealed)	277	°F	ISO 75-2/B
Deflection Temperature Under Load (264 psi, Unannealed)	255	°F	ISO 75-2/A
Vicat Softening Temperature	289	°F	ISO 306/B120



--	286 °F	ISO 306/B50
CLTE - Flow (73 to 131°F)	3.6E-5 in/in/°F	ISO 11359-2
CLTE - Transverse (73 to 131°F)	3.6E-5 in/in/°F	ISO 11359-2

### Processing Information

Injection	Nominal Value	Unit
Drying Temperature - Dry Air Dryer	248	°F
Drying Time - Dry Air Dryer	2.0 to 3.0	hr
Suggested Max Moisture	< 0.020	%
Suggested Shot Size	30 to 70	%
Rear Temperature	482 to 500	°F
Middle Temperature	518 to 536	°F
Front Temperature	536 to 554	°F
Nozzle Temperature	554 to 572	°F
Processing (Melt) Temp	536 to 608	°F
Mold Temperature	176 to 248	°F
Back Pressure	725 to 2180	psi
Vent Depth	9.8E-4 to 3.0E-3	in

### Injection Notes

Hold Pressure (% of Injection Pressure): 50 - 75%  
Peripheral Screw Speed: 0.05 - 0.2 m/s  
Standard Melt Temperature: 300°C

### Notes

- <sup>1</sup> Typical properties: these are not to be construed as specifications.
- <sup>2</sup> 60x60x2mm, 500 bar
- <sup>3</sup> 0.079 in/min
- <sup>4</sup> 2.0 mm/min
- <sup>5</sup> 3.0 mm

