

Makrolon 2456

Food contact grades / Low viscosity

 Global grade; MVR (300 °C/1.2 kg) 19 cm³/10 min; Food contact quality; Low viscosity; Easy release; Good hydrolysis resistance; Injection molding - Melt temperature 280 - 320 °C; Available in transparent, translucent and opaque colors

ISO Shortname

ISO 7391-PC,MR,(,)-18-9

Property	Test Condition	Unit	Standard	Value
Rheological properties				
Melt mass-flow rate	300 °C; 1.2 kg	g/10 min	ASTM D1238	20
Mold shrinkage, flow/cross to flow		in/in	ASTM D955	0.005-0.007
Mechanical properties (23 °C/50 % r. h.)				
Tensile modulus	1 mm/min	lb/in ²	ASTM D638	350000
Tensile stress at yield	-	lb/in ²	ASTM D638	9400
Tensile elongation at yield	-	%	ASTM D638	6.0
Tensile elongation at break	-	%	ASTM D638	115
Tensile stress at break	-	lb/in ²	ASTM D638	8700
Izod notched impact strength	73 °F, 0.125 in	ft·lb/in	ASTM D256	14
Flexural modulus	-	lb/in ²	ASTM D790	340000
Flexural stress at 5 % strain		lb/in ²	ASTM D790	12000
Rockwell hardness		M Scale	ASTM D785	75
Rockwell hardness		R Scale	ASTM D785	120
Thermal properties				
Deflection temperature under load, Unannealed	264 psi; 0.250 in	°F	ASTM D648	259
Deflection temperature under load, Unannealed	66 psi; 0.250 in	°F	ASTM D648	273
Vicat softening temperature	50 N, 50 °C/h	°F	ASTM D1525	291
Coefficient of linear thermal expansion, flow/cross-flow		in/in/°F	ASTM D696	3.34E-05
UL94 Flame Class	Thickness tested: 1.5 mm	Class	UL 94	V-2
UL94 Flame Class	Thickness tested: 3.0 mm	Class	UL 94	HB
UL94 Flame Class	Thickness tested: 4.4 mm	Class	UL 94	HB
UL94 Flame Class	Thickness tested: 6.0 mm	Class	UL 94	HB
Oxygen index		%	ASTM D2863	28
Thermal conductivity		Btu·in/(h·ft ² ·°F)	ASTM C177	1.39
Specific heat		Btu/(lb·°F)	ASTM D2766	0.28
Relative temperature index (Tensile impact strength)	Thickness tested: 1.5 mm	°C	UL 746B	115
Relative temperature index (Tensile strength)	Thickness tested: 1.5 mm	°C	UL 746B	125
Relative temperature index (Electric strength)	Thickness tested: 1.5 mm	°C	UL 746B	125
Electrical properties (23 °C/50 % r. h.)				
Dissipation factor, Tinfoil electrodes	60 Hz	-	ASTM D150	0.0008
Dissipation factor, Tinfoil electrodes	1 MHz	-	ASTM D150	0.01
Dielectric constant, Tinfoil electrodes	60 Hz	-	ASTM D150	3.0
Dielectric constant, Tinfoil electrodes	1 MHz	-	ASTM D150	2.9
Volume resistivity, Tinfoil electrodes		Ohm·m	ASTM D257	1.0 E+14
Surface resistivity		Ohm	ASTM D257	1.0 E+16
Electrical strength	Short time under oil at 73 °F	V/mil	ASTM D149	810
Other properties (23 °C)				
Water absorption	73 °F; immersion to saturation	%	ASTM D570	0.30
Water absorption	73 °F; immersion 24 h	%	ASTM D570	0.12
Density		lb/in ³	ASTM D792	0.043
Specific volume		in ³ /lb	ASTM D792	23.1
Specific gravity		-	ASTM D792	1.2

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Property	Test Condition	Unit	Standard	Value
Material specific properties				
Refractive index		-	ASTM D542	1.586
Luminous transmittance (clear transparent materials)	0.125 in	%	ASTM D1003	88
Haze for transparent materials	0.125 in	%	ASTM D1003	< 0.8



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Test values

Unless specified to the contrary, the values given have been established on standardized test specimens at room temperature. The figures should be regarded as guide values only and not as binding minimum values. Please note that, under certain conditions, the properties can be affected to a considerable extent by the design of the mold/die, the processing conditions and coloring.

Processing note

Under the recommended processing conditions small quantities of decomposition product may be given off during processing. To preclude any risk to the health and well-being of the machine operatives, tolerance limits for the work environment must be ensured by the provision of efficient exhaust ventilation and fresh air at the workplace in accordance with the Safety Data Sheet. In order to prevent the partial decomposition of the polymer and the generation of volatile decomposition products, the prescribed processing temperatures should not be substantially exceeded.

Publisher: Global Innovations - Polycarbonates

Bayer MaterialScience AG,

D-51368 Leverkusen,