LNP™ COLORCOMP™ COMPOUND D10008RU

203R

DESCRIPTION

LNP* COLORCOMP* D10008RU is an unfilled Polycarbonate resin. Added features of this grade include: Flame Retardant, UV Stabilized, Mold Release. Good for outdoors and lighting.

TYPICAL PROPERTY VALUES

Revision 20191216

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Tensile Stress, yld, Type I, 50 mm/min	62	MPa	ASTM D 638
Tensile Stress, brk, Type I, 50 mm/min	65	MPa	ASTM D 638
Tensile Strain, yld, Type I, 50 mm/min	7	%	ASTM D 638
Tensile Strain, brk, Type I, 50 mm/min	110	%	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	93	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	2340	MPa	ASTM D 790
Hardness, Rockwell M	70	-	ASTM D 785
Hardness, Rockwell R	118	-	ASTM D 785
Taber Abrasion, CS-17, 1 kg	10	mg/1000cy	ASTM D 1044
IMPACT			
Izod Impact, unnotched, 23°C	3204	J/m	ASTM D 4812
Izod Impact, notched, 23°C	907	J/m	ASTM D 256
Tensile Impact Strength, Type S	546	kJ/m²	ASTM D 1822
Falling Dart Impact (D 3029), 23°C	169	J	ASTM D 3029
THERMAL			
Vicat Softening Temp, Rate B/50	154	°C	ASTM D 1525
HDT, 0.45 MPa, 6.4 mm, unannealed	137	°C	ASTM D 648
HDT, 1.82 MPa, 6.4 mm, unannealed	132	°C	ASTM D 648
CTE, -40°C to 95°C, flow	6.84E-05	1/°C	ASTM E 831
Specific Heat	1.26	J/g-°C	ASTM C 351
Thermal Conductivity	0.29	W/m-°C	ASTM C177
Relative Temp Index, Elec [1]	130	°C	UL 746B
Relative Temp Index, Mech w/impact [1]	130	°C	UL 746B
Relative Temp Index, Mech w/o impact [1]	130	°C	UL 746B
PHYSICAL			
Specific Gravity	1.2	-	ASTM D 792
Specific Volume	0.83	cm³/g	ASTM D 792
Density	1.19	g/cm³	ASTM D 792
Water Absorption, 24 hours	0.15	%	ASTM D 570
Water Absorption, equilibrium, 23C	0.35	%	ASTM D 570
Water Absorption, equilibrium, 100°C	0.58	%	ASTM D 570
Mold Shrinkage, flow, 3.2 mm	0.5 – 0.7	%	SABIC method
Melt Flow Rate, 300°C/1.2 kgf	7	g/10 min	ASTM D 1238
OPTICAL			

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Light Transmission, 2.54 mm	88	%	ASTM D 1003
Haze, 2.54 mm	1	%	ASTM D 1003
Refractive Index	1.586	-	ASTM D542
ELECTRICAL			
Volume Resistivity	1.E+17	Ohm-cm	ASTM D 257
Dielectric Strength, in air, 3.2 mm	15	kV/mm	ASTM D 149
Relative Permittivity, 50/60 Hz	3.17	-	ASTM D 150
Relative Permittivity, 1 MHz	2.96	-	ASTM D 150
Dissipation Factor, 50/60 Hz	0.0009	-	ASTM D 150
Dissipation Factor, 1 MHz	0.01	-	ASTM D 150
Comparative Tracking Index (UL) {PLC}	2	PLC Code	UL 746A
High Voltage Arc Track Rate {PLC}	2	PLC Code	UL 746A
Hot-Wire Ignition (HWI), PLC 2	≥3	mm	UL 746A
Hot-Wire Ignition (HWI), PLC 3	≥1.5	mm	UL 746A
High Amp Arc Ignition (HAI), PLC 1	≥3	mm	UL 746A
High Amp Arc Ignition (HAI), PLC 2	≥1.5	mm	UL 746A
FLAME CHARACTERISTICS (1)			
UL Yellow Card Link	E121562-103952989	-	-
UL Recognized, 94V-0 Flame Class Rating	≥6	mm	UL 94
UL Recognized, 94V-2 Flame Class Rating	≥0.75	mm	UL 94
UV-light, water exposure/immersion	F1	-	UL 746C
INJECTION MOLDING			
Drying Temperature	120	°C	
Drying Time	3 – 4	hrs	
Drying Time (Cumulative)	48	hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	310 – 330	°C	
Nozzle Temperature	305 – 325	°C	
Front - Zone 3 Temperature	310 – 330	°C	
Middle - Zone 2 Temperature	300 – 320	°C	
Rear - Zone 1 Temperature	290 – 310	°C	
Mold Temperature	80 – 115	°C	
Back Pressure	0.3 – 0.7	MPa	
Screw Speed	40 – 70	rpm	
Shot to Cylinder Size	40 – 60	%	
Vent Depth	0.025 – 0.076	mm	

(1) UL Ratings shown on the technical datasheet might not cover the full range of thicknesses and colors. For details, please see the UL Yellow Card.

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