LNP™ COLORCOMP™ COMPOUND D10008P

DESCRIPTION

LNP COLORCOMP D10008P compound is based on Polycarbonate (PC) resin. Added features of this grade include: Flame Retardant, Exceptional Processing.

GENERAL INFORMATION	
Features	Flame Retardant, High Flow, Aesthetics/Visual effects, Non Cl/Br flame retardant
Fillers	Unreinforced
Polymer Types	Polycarbonate (PC)
Processing Techniques	Injection Molding

INDUSTRY	SUB INDUSTRY
Automotive	Automotive Interiors
Consumer	Home Decoration, Sport/Leisure, Personal Accessory, Home Appliances, Commercial Appliance
Electrical and Electronics	Mobile Phone - Computer - Tablets

TYPICAL PROPERTY VALUES

Revision 20231109

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Stress, yield, 50 mm/min	63	MPa	ISO 527
Tensile Stress, break, 50 mm/min	50	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	6	%	ISO 527
Tensile Strain, break, 50 mm/min	70	%	ISO 527
Tensile Modulus, 1 mm/min	2350	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	90	MPa	ISO 178
Flexural Modulus, 2 mm/min	2300	MPa	ISO 178
Tensile Stress, yld, Type I, 50 mm/min	62	MPa	ASTM D638
Tensile Stress, brk, Type I, 50 mm/min	65	MPa	ASTM D638
Tensile Strain, yld, Type I, 50 mm/min	6	%	ASTM D638
Tensile Strain, brk, Type I, 50 mm/min	120	%	ASTM D638
Tensile Modulus, 50 mm/min	2370	MPa	ASTM D638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	93	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	2300	MPa	ASTM D790
Hardness, Rockwell M	70	-	ASTM D785
Hardness, Rockwell R	118	-	ASTM D785
Taber Abrasion, CS-17, 1 kg	10	mg/1000cy	ASTM D1044
IMPACT [1]			
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	12	kJ/m²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm	10	kJ/m²	ISO 179/1eA
Izod Impact, notched 80*10*4 +23°C	12	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	10	kJ/m²	ISO 180/1A

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Izod Impact, unnotched 80*10*4 +23°C	NA	kJ/m²	ISO 180/1U
Izod Impact, unnotched 80*10*4 -30°C	NA	kJ/m²	ISO 180/1U
Izod Impact, notched, 23°C	640	J/m	ASTM D256
Izod Impact, notched (natural, tints)	640	J/m	ASTM D256
Tensile Impact Strength, Type S	378	kJ/m²	ASTM D1822
Falling Dart Impact (D 3029), 23°C	169	J	ASTM D3029
Instrumented Dart Impact Energy @ peak, 23°C	54	J	ASTM D3763
Izod Impact, unnotched, 23°C	3204	J/m	ASTM D4812
THERMAL [1]			
HDT/Be, 0.45MPa Edgew 120*10*4 sp=100mm	133	°C	ISO 75/Be
HDT/Ae, 1.8 MPa Edgew 120*10*4 sp=100mm	121	°C	ISO 75/Ae
Vicat Softening Temp, Rate A/50	145	°C	ISO 306
Vicat Softening Temp, Rate B/50	139	°C	ISO 306
Vicat Softening Temp, Rate B/120	140	°C	ISO 306
Thermal Conductivity	0.2	W/m-°C	ISO 8302
CTE, 23°C to 80°C, flow	7.E-05	1/°C	ISO 11359-2
Ball Pressure Test, 125°C +/- 2°C	PASSES	-	IEC 60695-10-2
HDT, 1.82 MPa, 3.2mm, unannealed	126	°C	ASTM D648
HDT, 0.45 MPa, 6.4 mm, unannealed	137	°C	ASTM D648
HDT, 1.82 MPa, 6.4 mm, unannealed	126	°C	ASTM D648
CTE, -40°C to 95°C, flow	6.84E-05	1/°C	ASTM E831
Specific Heat	1.25	J/g-°C	ASTM C351
Thermal Conductivity	0.19	W/m-°C	ASTM C177
Relative Temp Index, Elec [2]	130	°C	UL 746B
Relative Temp Index, Mech w/impact [2]	130	°C	UL 746B
Relative Temp Index, Mech w/o impact [2]	130	°C	UL 746B
PHYSICAL [1]			
Melt Volume Rate, MVR at 300°C/1.2 kg	23	cm³/10 min	ISO 1133
Specific Gravity	1.2	-	ASTM D792
Specific Volume	0.83	cm³/g	ASTM D792
Density	1.19	g/cm³	ASTM D792
Water Absorption, (23°C/24hrs)	0.15	%	ASTM D570
Water Absorption, (23°C/Saturated)	0.35	%	ASTM D570
Water Absorption, equilibrium, 100°C	0.58	%	ASTM D570
Melt Flow Rate, 300°C/1.2 kgf	25	g/10 min	ASTM D1238
Mold Shrinkage, flow, 3.2 mm [3]	0.5 – 0.7	%	SABIC method
OPTICAL [1]			
Light Transmission, 2.54 mm	88	%	ASTM D1003
Haze, 2.54 mm	1	%	ASTM D1003
Refractive Index	1.586	-	ASTM D542
ELECTRICAL [1]			
Volume Resistivity	1.E+17	Ω.cm	ASTM D257
Dielectric Strength, in air, 3.2 mm	14.9	kV/mm	ASTM D149
Relative Permittivity, 50/60 Hz	3.17	-	ASTM D150
Relative Permittivity, 1 MHz	2.96	-	ASTM D150

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Dissipation Factor, 50/60 Hz	0.0009	-	ASTM D150
Dissipation Factor, 1 MHz	0.01	-	ASTM D150
High Voltage Arc Track Rate {PLC}	2	PLC Code	UL 746A
Comparative Tracking Index (UL) {PLC}	2	PLC Code	UL 746A
Volume Resistivity	>1.E+15	Ω.cm	IEC 60093
Surface Resistivity, ROA	>1.E+15	Ω	IEC 60093
Dielectric Strength, in oil, 0.8 mm	35	kV/mm	IEC 60243-1
Dielectric Strength, in oil, 1.6 mm	27	kV/mm	IEC 60243-1
Dielectric Strength, in oil, 3.2 mm	17	kV/mm	IEC 60243-1
Relative Permittivity, 1 MHz	2.7	-	IEC 60250
Dissipation Factor, 50/60 Hz	0.001	-	IEC 60250
Dissipation Factor, 1 MHz	0.01	-	IEC 60250
Relative Permittivity, 50/60 Hz	2.7	-	IEC 60250
Hot-Wire Ignition (HWI), PLC 2	≥1.5	mm	UL 746A
Hot-Wire Ignition (HWI), PLC 3	≥1.1	mm	UL 746A
High Amp Arc Ignition (HAI), PLC 0	≥1.5	mm	UL 746A
High Amp Arc Ignition (HAI), PLC 1	≥3	mm	UL 746A
High Amp Arc Ignition (HAI), PLC 2	≥1.1	mm	UL 746A
FLAME CHARACTERISTICS [2]			
UL Yellow Card Link	E121562-103956751	-	-
UL Yellow Card Link 2	E207780-103876512	-	-
UL Recognized, 94V-2 Flame Class Rating	≥1.1	mm	UL 94
Oxygen Index (LOI)	25	%	ISO 4589
INJECTION MOLDING [4]			
Drying Temperature	120	°C	
Drying Time	3 – 4	Hrs	
Drying Time (Cumulative)	48	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	270 – 295	°C	
Nozzle Temperature	265 – 290	°C	
Front - Zone 3 Temperature	270 – 295	°C	
Middle - Zone 2 Temperature	260 – 280	°C	
Rear - Zone 1 Temperature	250 – 270	°C	
Mold Temperature	70 – 95	°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) The information stated on Technical Datasheets should be used as indicative only for material selection purposes and not be utilized as specification or used for part or tool design.

(2) 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.

(3) 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.

(4) Injection Molding parameters are only mentioned as general guidelines. These may not apply or may need adjustment in specific situations such as low shot sizes, large part molding, thin wall molding and gas-assist molding.

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