SolutionPartner

LG Chem

LUPOY GN1008RF

Injection Molding , PC

Description

Halogen Free Flame Retardent, High impact strength

Application

IT&OA (Notebook PC battery pack housing)

Properties	Test Condition	Test Method	Unit	Typical Value
Physical				
Specific Gravity		ASTM D792	-	1.19
Molding Shrinkage (Flow), 3.2mm		ASTM D955	%	0.5 ~ 0.7
MFR Melt Flow Rate	300℃/1.2 kg	ASTM D1238	g/10min	18
				Lower number more difficult to process
Mechanical				
Tensile Strength, 3.2mm		ASTM D638		
@ Yield	50mm/min		kg/cm^2	620
Tensile Elongation, 3.2mm		ASTM D638		
@ Break	50mm/min		%	100
Flexural Strength, 3.2mm	10mm/min	ASTM D790	kg/cm^2	980
Flexural Modulus, 3.2mm	10mm/min	ASTM D790	kg/cm^2	25,000
IZOD Impact Strength, 3.2mm		ASTM D256		
(Notched)	23℃		kg·cm/cm	65
	-30℃		kg·cm/cm	
Rockwell Hardness	R-Scale	ASTM D785	-	
Thermal				
Heat Deflection Temperature, 6.4mm		ASTM D648		
(Unannealed)	18.6kg		℃	102
	4.6kg		℃	
Vicat Softening Temperature		ASTM D1525		
	5kg, 50℃/h		℃	
Ball Pressure Temperature		IEC 60695-10-2	℃	
Flammability		UL94		
0.4mm			class	V2
0.6mm			class	V0
0.8mm			class	V0
3.0mm			class	V0
Relative Temperature Index		UL 746B		
Electrical			℃	80
Mechanical with Impact			℃	80
Mechanical without Impact			℃	80

When MFR is lower then V0 is lower. However we cannot mould 1.5mm thickness when MFR is below 18.

Note) Typical values are only for material selection purpose, and variation within normal tolerances are for various colors.
Values given should not be interpreted as specification and not be used for part or tool design.
All properties, except melt flow rate are measured on injection molulded specimens and after 48 hours storage at 23℃, 50% relative humidty.

Updated : Jul-09, 2014

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Electrical

Comparative Tracking Index(CTI)	Solution A	IEC 60112	Volts
Surface Resistivity		IEC 60093	Ohm
Volume Resistivity	23℃	ASTM D257	Ohm·m
Arc Resistance	23℃	ASTM D495	Ohm·cm
Dielectric Strength, 1mm	23℃	ASTM D149	kV/mm
Dielectric Constant (10^6 Hz)	23℃	ASTM D150	sec

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All properties, except melt flow rate are measured on injection molulded specimens and after 48 hours storage at 23℃, 50% relative humidty.

Processing Guide (Injection Molding)

Processing Parameters		Unit	Value
Drying Temperature		℃	85 ~ 95
Drying Time		hrs	3 ~ 5
Maximum Moisture Content		%	0.02
Melt Temperature		℃	245 ~ 285
Cylinder Temperature	Rear	℃	245 ~ 260
	Middle	℃	260 ~ 275
	Front	℃	265 ~ 280
Nozzle Temperature		℃	270 ~ 285
Mold Temperature		℃	70 ~ 90
Back Pressure		kg/cm^2	
Screw Speed		rpm	40 ~ 70

Note) Back Pressure & Screw Speed are only mentioned as general guidelines.
These may not apply or need adjustment in specific situations such as low shot sizes, thin wall molding and gas-assist molding.

Updated : Jul-09, 2014

Test Report

Grade	**LUPOY EF1006FP** **LUPOY GN1008RF**
Issue date	**31.01.2020**

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- **Internal test result carried out at LG Chem lab.**

Properties	Material	Test method	Test Result
Glow Wire Ignition Temperature (GWIT)	LUPOY EF1006FP	IEC 60695-2-13	Pass 775^{0}C at 2.0mm
	LUPOY EF1006FP	IEC 60695-2-13	Pass 775^{0}C at 1.0mm
	LUPOY GN1008RF	IEC 60695-2-13	Pass 850^{0}C at 2.0mm
	LUPOY GN1008RF	IEC 60695-2-13	Pass 875^{0}C at 1.0mm

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LG Chem Poland Sp. z o.o.

Component - Plastics E353371

Guide Information

LG CHEM POLAND SP Z OO

UL. LG 3 BISKUPICE PODGORNE, KOBIERZYCE 55-040 PL

LUPOY GN-1008RF(#)

Polycarbonate (PC) "Lypoy", furnished as pellets

Color	Min. Thk (mm)	Flame Class	HWI	HAI	RTI Elec	RTI Imp	RTI Str
ALL	0.4	V-2	-	-	80	80	80
	0.6	V-0	-	-	80	80	80
	0.8	V-0	-	-	80	80	80
	3.0	V-0	-	-	80	80	80

Comparative Tracking Index (CTI): -
Inclined Plane Tracking (IPT) kV: -
Dielectric Strength (kV/mm): -
Volume Resistivity (10^x ohm-cm): -
High-Voltage Arc Tracking Rate (HVTR): -
High Volt, Low Current Arc Resis (D495): -
Dimensional Stability (%): -

(#) - May be followed by optional suffix letter from A-Z incl., except F, and except Grades AF302G, HT700B, XR401B, LI912A, AF303G, AF303S, XR404T, XR407D, XR407E, HF380X.

ANSI/UL 94 small-scale test data does not pertain to building materials, furnishings and related contents. ANSI/UL 94 small-scale test data is intended solely for determining the flammability of plastic materials used in the components and parts of end-product devices and appliances, where the acceptability of the combination is determined by UL.

Report Date: 2012-03-09
Last Revised: 2012-03-05

IEC and ISO Test Methods

Test Name	Test Method	Units	Thk (mm)	Value
Flammability	IEC 60695-11-10	Class (color)	0.4	V-2 (ALL)
			0.6	V-0 (ALL)
			0.8	V-0 (ALL)
			3.0	V-0 (ALL)
Glow-Wire Flammability (GWFI)	IEC 60695-2-12	°C	-	-
Glow-Wire Ignition (GWIT)	IEC 60695-2-13	°C	-	-
IEC Comparative Tracking Index	IEC 60112	Volts (Max)	-	-
IEC Ball Pressure	IEC 60695-10-2	°C	-	-
ISO Heat Deflection (1.80 MPa)	ISO 75-2	°C	-	-
ISO Tensile Strength	ISO 527-2	MPa	-	-
ISO Flexural Strength	ISO 178	MPa	-	-
ISO Tensile Impact	ISO 8256	kJ/m^2	-	-
ISO Izod Impact	ISO 180	kJ/m^2	-	-
ISO Charpy Impact	ISO 179-2	kJ/m^2	-	-