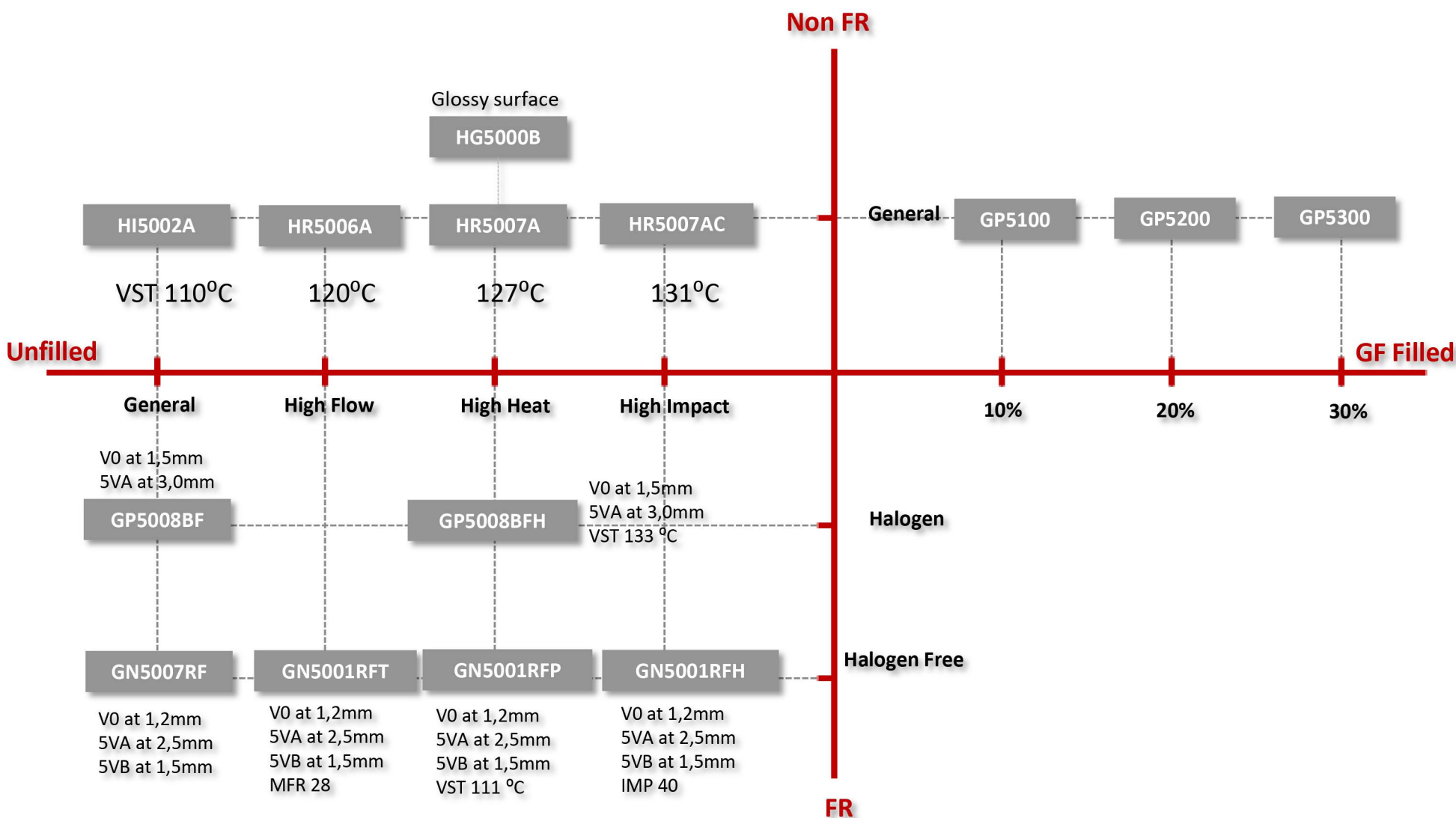

EP materials – LUPOY



EP materials - LUPOY

PC/ABS products



EP materials - LUPOY

PC/ABS products

PC/ABS Alloys		Properties		Corresponding Grades		
		Melt Index	HDT	Sabic (Cycology)	Bayer (Bayblend)	Others
General Purpose	HI5002A	8	103	C10000HF	T45	Viplex A273F
	HR5006A HR5007A	4,5	108	XC620	T65/T65XF	Pulse A35-105
	HR5007AC	4	115	C1200HF	T85/T85XF	Pulse A35-110
	MP5000AM	5,5	98	CP8320	T45PG	
Flame Retardant (Halogen)	GP5008BF	5	11	C2100		
	GP5008BFH	22	123	C2100HF		Infino VB1401
Flame Retardant (Halogen-free)	GN5001EF	8	107	CE3510	FR3030	Pulse 6000BG
	GN5001RF	16	91	C2800	FR3005	Starex NH1017
	GN5001RFG	25	94		FR3008	Infino NH1027
	GN5001RFH	13	103	C2950/2951	FR3010	Infino GC1050
	GN5001RFP	20	108	CY6110	FR3110	
	GN5007FL GN5007FM	30 18	117 120	CH6410	KU2-1514	Xantar CF407 Vampaloy 0024 V0 13
GF Reinforced	GP5100	5	110	C4210/C4210HF	T88 GF10	Pulse 979
	GP5200	3	114	C4220	T88 GF20	
	GP5300	1,5	118		T88 GF30	

PC/ABS for E&E

Applications



N-PC

Laptops, tablets



Smart grid LED Lighting



Display

TV Screens, monitors



M/P

Mobile phones, smartwatches



Small IT and components

Cameras, navigation, small devices



Office automation

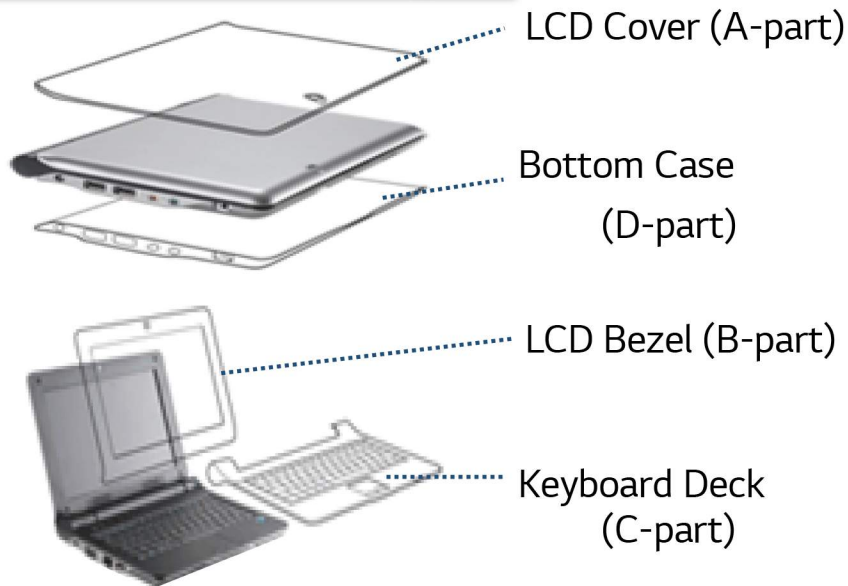
Printers, scanners

LG Chem offers many years of experience in providing material solutions for the E&E market, covering all sectors of electronic applications.

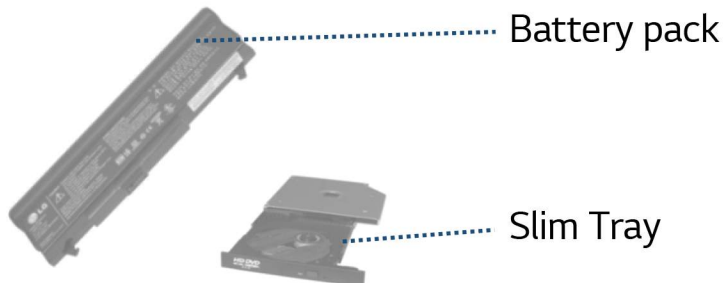
PC & PC/ABS Lupoy

Materials for notebook

Notebook PC Housing



Accessories



High Impact

GN5001RFD

1.0mm V-0

ER5001RFG

PCR content > 30%

EPEAT applicable

High Strength
(MF reinforced)

GN5151RFA

High Strength

GN5101RF

Medium Strength

ER5151RFA(L)

High Strength

EPEAT applicable

PCR content > 30%

Anti-Scratch

SG5009FA

High gloss, Good Flow

High stiffness
(GF reinforced)

GN2253F, GN2403F, GN2503F

High stiffness, Low distortion

Heat Resistance

GN1008RF, GN1008RFA

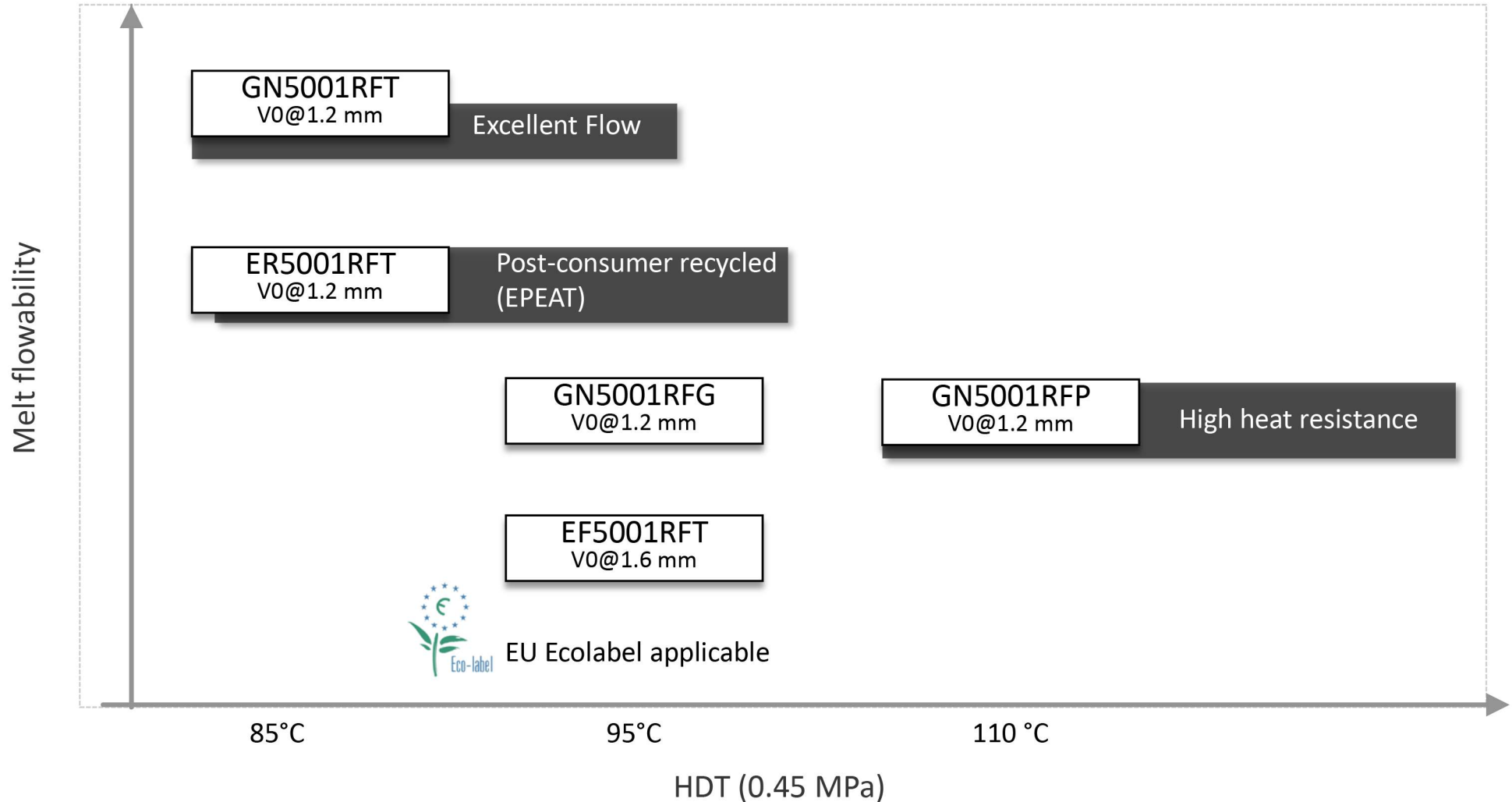
High impact, 0.6mm V-0

Low Distortion
(MF reinforced)

GN5151RFH / GN5151RFG

PC/ABS Lupoy

Flame retardant PC/ABS for display application



Materials for charger and adaptor



CTQ	Grade	Characteristic
• High heat resistance • Ball Pressure Temp : Max 125°C • RTI : Max 120°C • Flame retardant • V-0 @ 0.75~1.5mm • Halogen Free (Some Cases) • Impact Strength • Ball Drop Test : 500g, 1.3~1.5m • Finished good drop : 80~100cm • Chemical Resistance • Cooking oil, Hand Cream, • Household, Cleaner...	LUPOY GN5007FM	- V0@1.5mm (Non-Br,Cl) - RTI : 95/90/95 (1.5mm) - High Impact strength - High flow ability
	LUPOY GN1002FH	- V0@1.5mm (Non-Br,Cl) - RTI : 80/80/80 (1.5mm) - High Impact strength - High flow ability
	LUPOY EF1006F(#)	- V0@1.0mm (Non-Br, Cl, P) - RTI : 120/115/120 (1.5mm) - High Impact strength - High Heat resistance

Materials for digital camera housing

CTQ	Grade	Characteristic
Housing • High impact • Paintability • Processability	LUPOY GN5001RF	- Flame retardant (Non-Br, Cl) - High dimensional stability - Good mechanical balance - Good processability - High weather resistance



Lupoy

Point of sale system

Challenge

POS machine has many boss and button holes, so weld strength of material is very important. LUPOY GN5001RFG has a much better weld strength than competition.



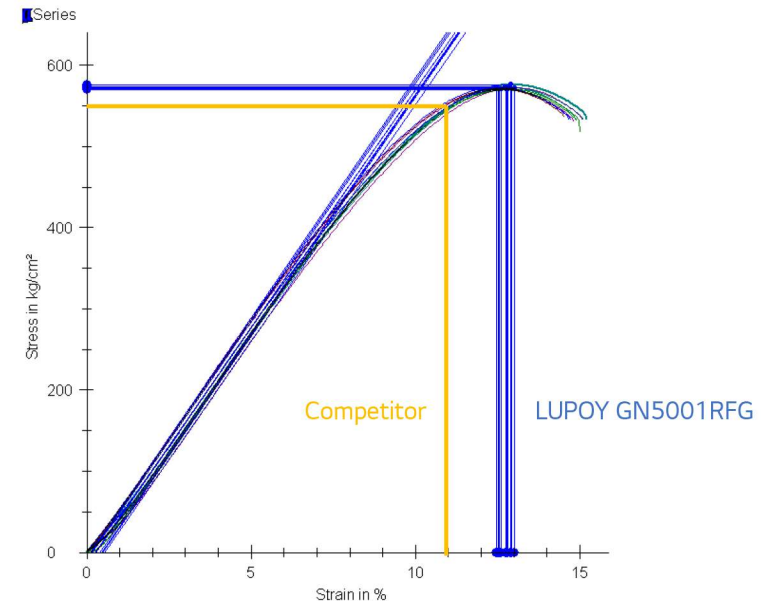
Solution

LG Chemical has solved existing boss crack problem through development of LUPOY GN5001RFG and boss design solution, which is now widely used commercially

Gate

Weld

Gate



EP materials - LUPOY

EN45545-2 Railway Standard

Requirement	Method/norm	Measured quantity	Unit	Measured value	Critical value			Crossing coefficient		
					HL1	HL2	HL3	HL1	HL2	HL3
R22	T01 EN ISO 4589-2	IO	%	49,0	28	28	32	0,57	0,57	0,65
	T10.03 EN ISO 5659-2, 25 kW·m ⁻²	D _s max	-	124	600	300	150	0,21	0,41	0,83
	T12 NF X 70-100-1 and -2, 600 °C	CIT _{NLP}	-	0,24	1,2	0,9	0,75	0,20	0,26	0,31
R23	T01 EN ISO 4589-2	IO	%	49,0	28	28	32	0,57	0,57	0,65
	T10.03 EN ISO 5659-2, 25 kW·m ⁻²	D _s max	-	124	-	600	300	-	0,21	0,41
	T12 NF X 70-100-1 and -2, 600 °C	CIT _{NLP}	-	0,24	-	1,8	1,5	-	0,13	0,16

The tested product meets the requirements of R22 and R23 according to EN 45545-2:2013+A1:2015 for safety level HL1, HL2 and HL3.



GN3101EF

Compliant with EN45545-2
railway standard R22 and R23



LG Chem Metal Plating PC/ABS

Adhesion Evaluation of Plating

Peel off strength test

Test conditions

- Specimen : 100mmx100mm
- Speed : 50mm/min
- Width: 10mm

Test Apparatus



※ Unit : N/cm

Excellent adhesion
Good rubber dispersion
Less gas & pit problem

Peeling test results

LG Chem	MP5000AM	3.1
	MP5000AMK	5.2
	MP5000AMD	4.0
	MP5000AT	7.3
Competition	A	2.7
	B	3.5

LG Chem Metal Plating PC/ABS

General material properties comparison

Properties	Method	Unit	A	B	LUPOY MP5000AM	LUPOY MP5000AMK	LUPOY MP5000AMD	LUPOY MP5000AT
Mechanical								
Tensile Strength, yld	ASTM D638	Kgf/cm ²	490	550	470	420	470	430
Tensile Elongation, brk	ASTM D638	%	70	130	140	140	110	130
Flexural Modulus (1/4")	ASTM D790	Kgf/cm ²	20,000	23,000	20,500	19,500	20,500	17,000
Flexural Strength (1/4")	ASTM D790	Kgf/cm ²	700	810	690	620	690	630
Impact								
Izod Impact, notched (1/4"), 23°C	ASTM D256	Kgf·cm/cm	51.5	50.0	49.0	49.0	50.0	52.0
Izod Impact, notched (1/4"), -30°C	ASTM D256	Kgf·cm/cm	21.5	21.5	27.0	33.0	35.0	39.0
Thermal								
HDT, 18.6 kg/cm ² , 6.4mm, unannealed	ASTM D648	°C	96	102	98	97	107	105
Physical								
Specific Gravity	ASTM D792	g/cm ³	1.08	1.12	1.11	1.10	1.12	1.12
Melt Flow Rate (250°C, 2.16Kg)	ASTM D1238	g/10min	2.5	4.6	3.7	3.0	1.9	2.6

EP materials

Chemical Resistance PC/ABS for interior applications ► LUPOY NS5000CR/CRT

Providing enhanced chemical resistance of PC/ABS material reducing chemical cracks by air fresheners & sun block for interior parts.



- Excellent chemical resistance
- Good impact strength under low temperature
- Globally unique material for PC/ABS

Product specification

- Commercial production for HKMC
- Sole homologation of HKMC SC Spec (MS214-04 Type C)

Liquid Type	Gel Type Lavender flavor	Liquid Type Lemon flavor	Sun Block SPF 30
General			
LUPOY NS5000CR			