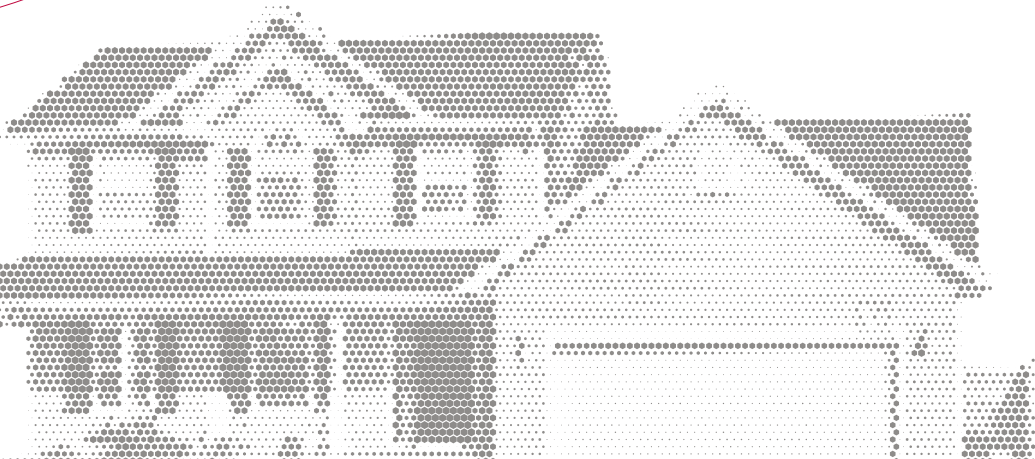
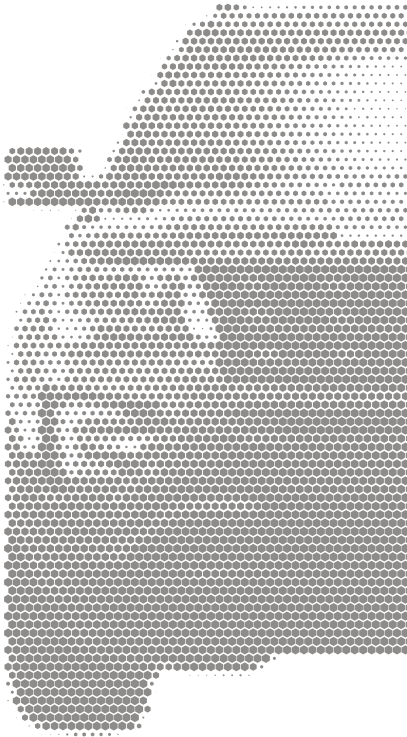


LG Chem ABS & ASA

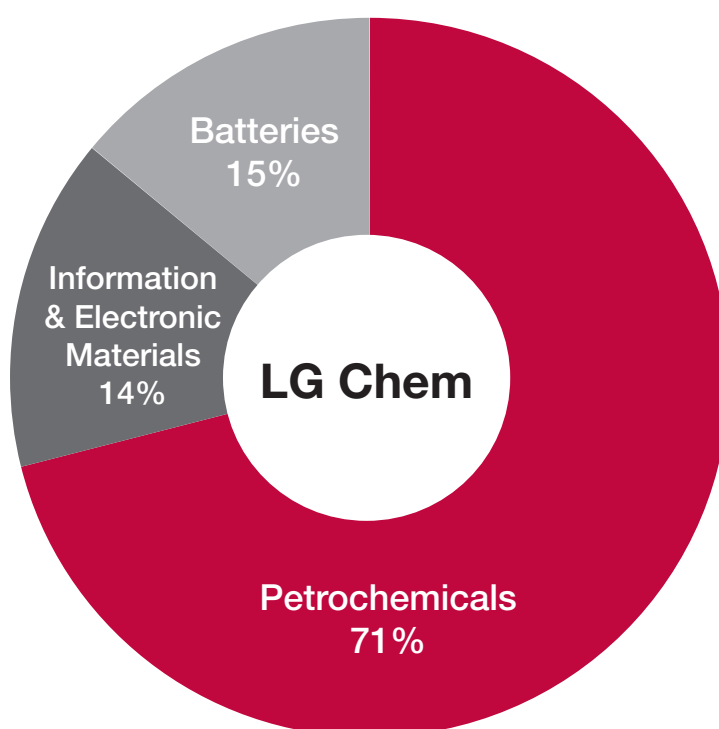


ABS Business

ABS, the core business of LG Chem, continues to expand its market presence globally by offering cost competitiveness & operational excellence.

• ABS is today the core business of LG Chem

Petrochemicals account for 71% of the total LG Chem sales and ABS for 19% of Petrochemicals sales. ABS is one of the core business in LG Chem with continuous investment plans.



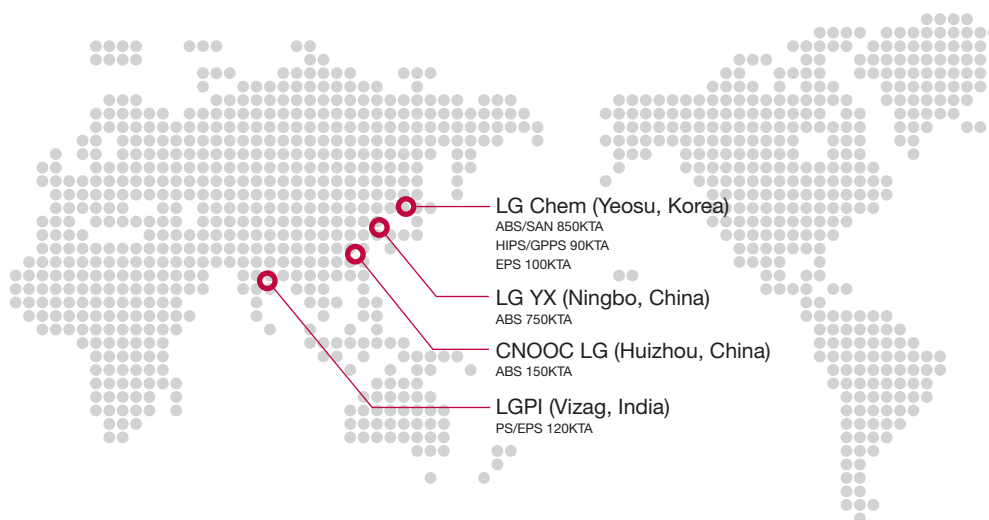
Division	Products
ABS	ABS, ASA, SAN, GPPS, HIPS
EP	PC, PC+ABS, PBT, TPEE, Nylon, Modified PP, PPS
NCC	Ethylene, Propylene, Butadiene, Benzene, SM, Phenol, BPA
PO	HDPE, LDPE, PP, EVA, Elastomer
PVC Plasticizers	PVC, Plasticizer, Caustic Soda, CNT
Acrylates / SAP	Acrylates, SAP, Alcohol, NPG, PSA
Rubber/ Specialty Polymers	BR, SBR, SSBR, NBR, MBS, NBL, SBL, SBS

Production Site & Integration

LG Chem's multi-site production capability ensures stability and flexibility of reliable supply.

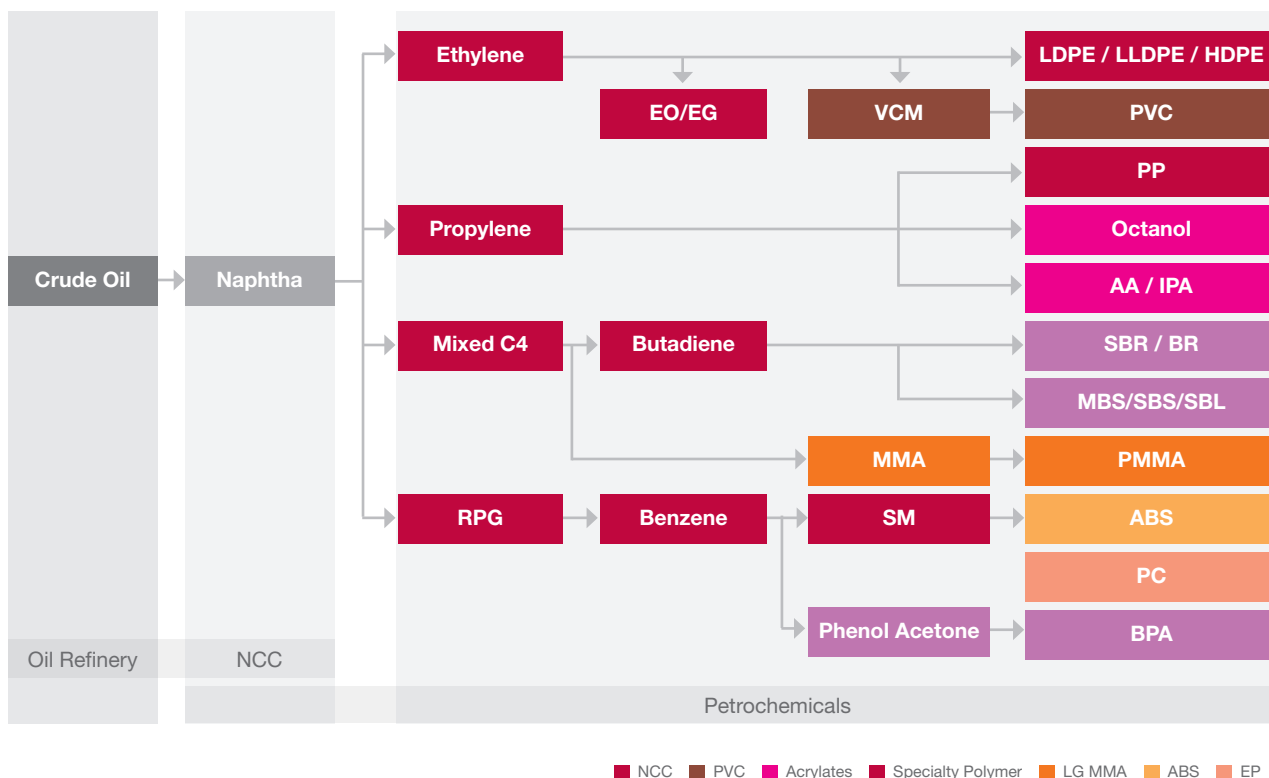
• ABS production sites

LG Chem is today the Global No. 1 ABS manufacturer who has continuously invested on ABS production capacity expansion & studies feasibility for new plants.



• Petrochemical Schematic

LG Chem's completely vertical integration is the key for stable supply and cost competitiveness.



Grade Line-up

• General Purpose ABS

- High Impact
- High Flow
- High Gloss
- Specialty
 - High Stiffness
 - Anti-static
 - Paintability

• Anti-scratch ABS

- High Gloss
- High Impact & Flow

• Transparent ABS

- General Purpose
- Extrusion
- High Impact
- No whitening
- High Hardness

• Extrusion ABS

- General Extrusion
 - High Impact
 - High Flow
- Refrigerator Specialty
 - Cyclopentane
 - HCFC
 - Solstice LBA

• Heat Resistance ABS

- High Gloss & Painting
- Low Gloss & Low TVOC

• Flame Retardant ABS

- Halogen
 - 1.5mm V-0
 - 2.0mm V-0
 - 2.5mm V-0
- Non-halogen

• Metal Plating ABS

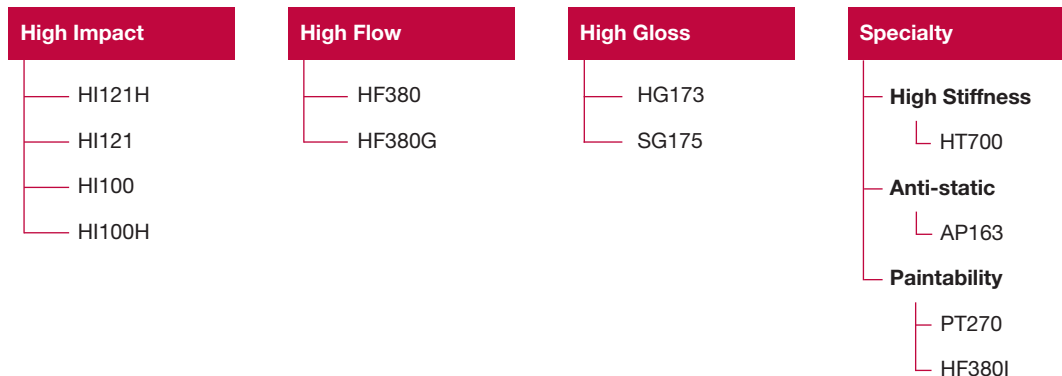
- General Purpose
- Medium Heat Resistance

• ASA

- General Purpose
- High Gloss Extrusion
 - General
 - Co-extrusion
- Low-Gloss Extrusion
- High Heat Resistance

General Purpose ABS

• Line-up



• Characteristics

- High impact strength
- High flow
- High glossy

• Applications

- Electric & Electronic product
- Home & Office appliance
- Helmet / Pipe

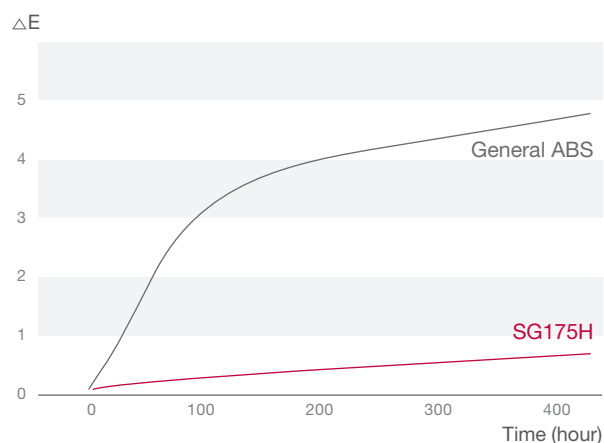


• Technical Data

- Weatherability Test

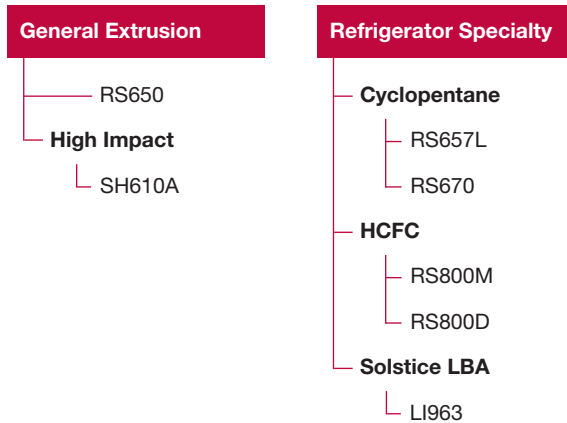
Test Method	
Lamp	Xenon 6500 watts
Filter	Boro / Borosilicate
Black Panel Temp	55°C
Relative Humidity	55%
Irradiance	0.3w/m ² / 340mm
Cycle Program	Light-only mode

- Test Result



Extrusion ABS

• Line-up



• Characteristics

- Possible to extrude thin thickness sheet
- Excellent high temperature tensile strength for vacuum forming

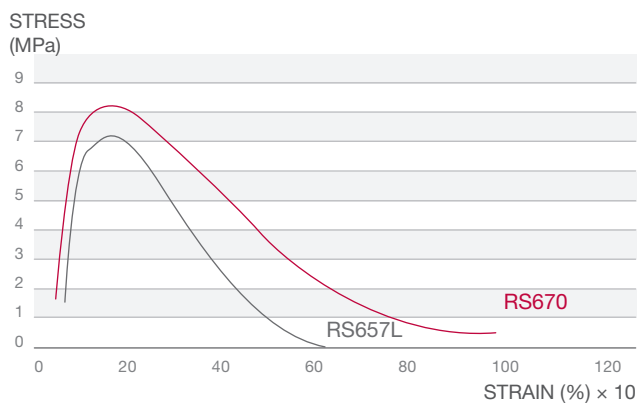
• Applications

- Refrigerator sheet
- Profile
- Pipe



• Technical Data

- High Temperature Tensile Strength Test

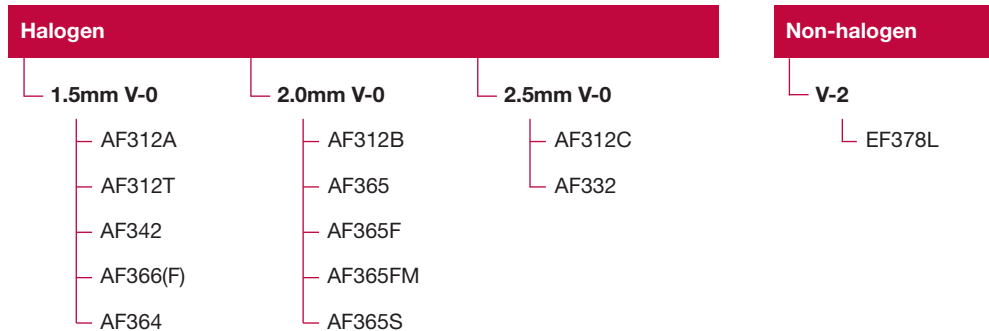


- Bending Test

Solstice LBA		
Bending Test	General Extrusion ABS	LI963
	Crack	No Crack

Flame Retardant ABS

• Line-up



• Characteristics

- UL94
- High flowability
- High gloss (Triazine type)

• Applications

- Display housing
- Battery housing
- OA housing
- PCB box

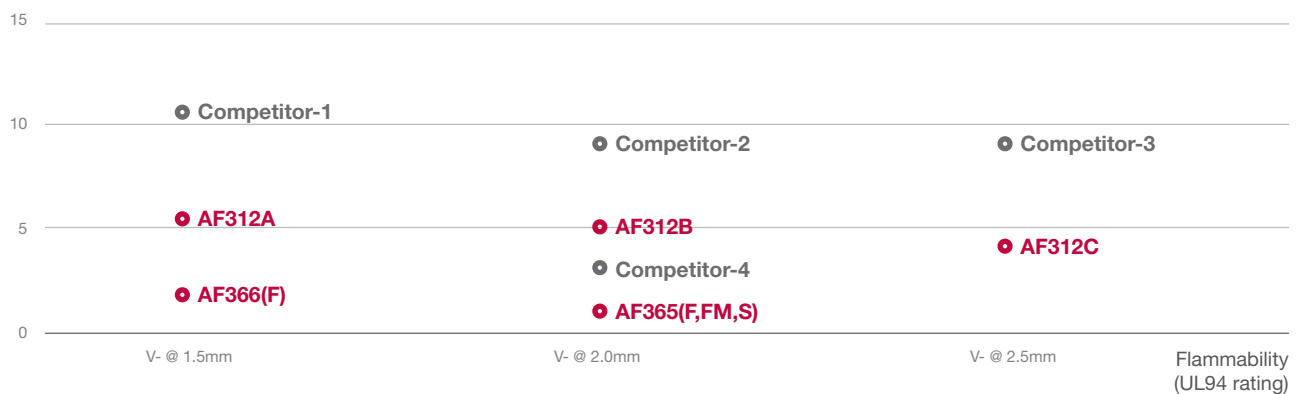


• Technical Data

- Heat Stability Test

Staying in injection cylinder for 15min. at 230°C

Discoloration (ΔE)



Anti-scratch ABS

• Line-up

High Gloss

XG569C

High Impact & Flow

XG570

• Characteristics

- Excellent anti-scratch
- High flow
- High gloss

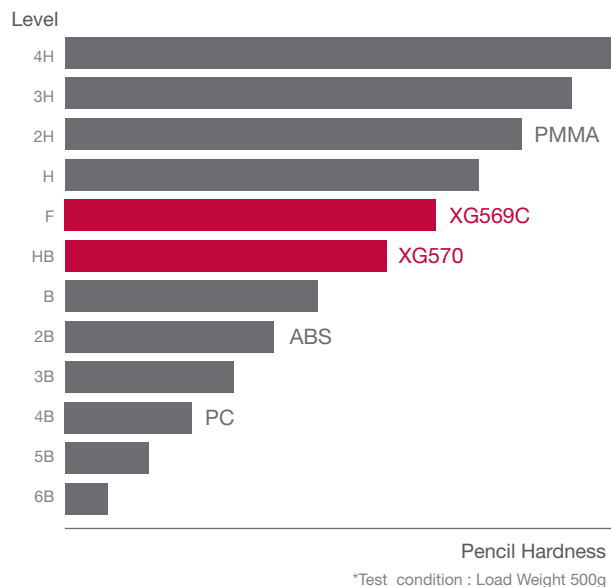
• Applications

- TV stand base
- TV front cabinet
- Audio
- Video housing
- Bezel



• Technical Data

- Anti-scratching Test Data



- Comparison Table

Properties	XG569C	General ABS	Neat PMMA
Impact Strength	12	20	1
Pencil Hardness*	F	2B	2H
Transparency	Transparent, Semi-transparent	Opaque	Transparent, Semi-transparent

*Pencil hardness : 4B < 3B < 2B < B < HB < F < 1H < 2H < 3H < 4H

WEAK ← → STRONG

Transparent ABS

• Line-up

General Purpose	Extrusion	High Impact	No Whitening	High Hardness
TR558A TR557	TR556	TR552	TR552F	TR551

• Characteristics

- High hardness
- High impact
- No Stress whitening
- Extrusion molding
- General purpose

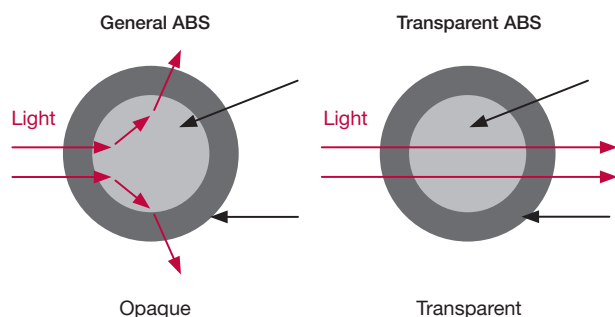
• Applications

- Vacuum cleaner
- Washing machine
- Toy
- Edge of furniture
- Air conditioner
- Transparent sheets



• Technical Data

- Transparent Principle



	PCTG / PETG	PC	Transparent ABS	Reinforced PMMA
Transparency	Excellent	Good	Good	Excellent
Izod Impact Strength	-	Excellent	Good	Bad / Weak
Low Temp Impact Strength	-	Weak	Weak	Bad
Processability	Bad	Bad	Good	Good
Heat Resistance	Bad	Excellent	Good	Good
Chemical Resistance	Good	Weak	General	General
Colorability	Good	Bad	Good	Good

Metal Plating ABS

• Line-up

General Purpose

MP211
MP220
MP220J

Medium Heat

MP230

• Characteristics

- Gorgeous surface with less gel
- High peel-off strength with optimized rubber size, content and molecular weight etc.

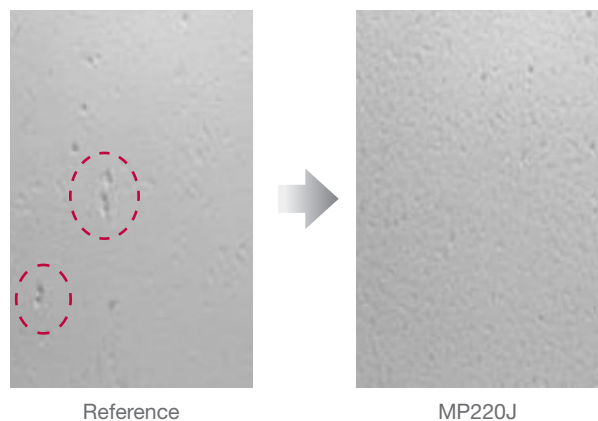
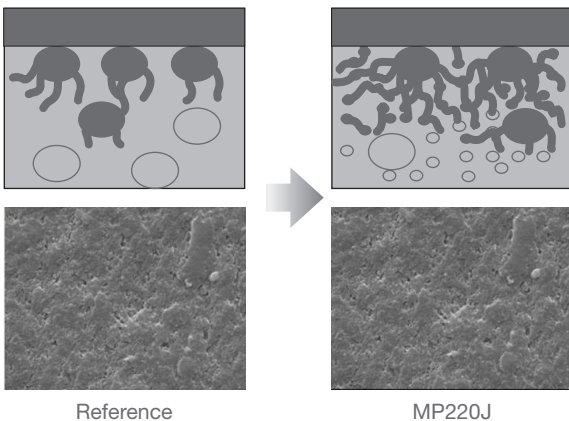
• Applications

- Automotive : Radiator grille, garnish etc.
- Home appliance : Washing machine door panel etc.
- Miscellaneous : Shower head, cosmetic cover etc.



• Technical Data

- High Peel-off Strength with optimized Rubber
- Less Gel Property



Heat Resistance ABS

• Line-up

Heat Resistance ABS	Low Gloss & Low TVOC
ER461	ER400
XR401	XR410
XR404	XR440
XR409H	XR490
XR474	

• Characteristics

- Various heat resistance Line-up
- High gloss & Painting : Good thinner chemical resistance
- Low gloss & Low TVOC : Gorgeous surface
- Low TVOC, Low odor

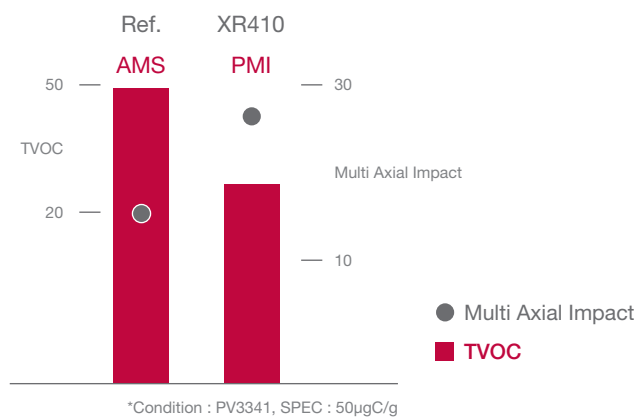


• Applications

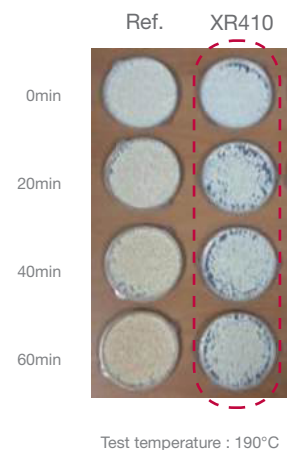
- Automotive Interior & Exterior : Radiator Grille, Side mirror, Rear lamp, Console etc.
- Home appliance : Microwave oven, heater etc.

• Technical Data

- Low TVOC & Multi-axial Impact

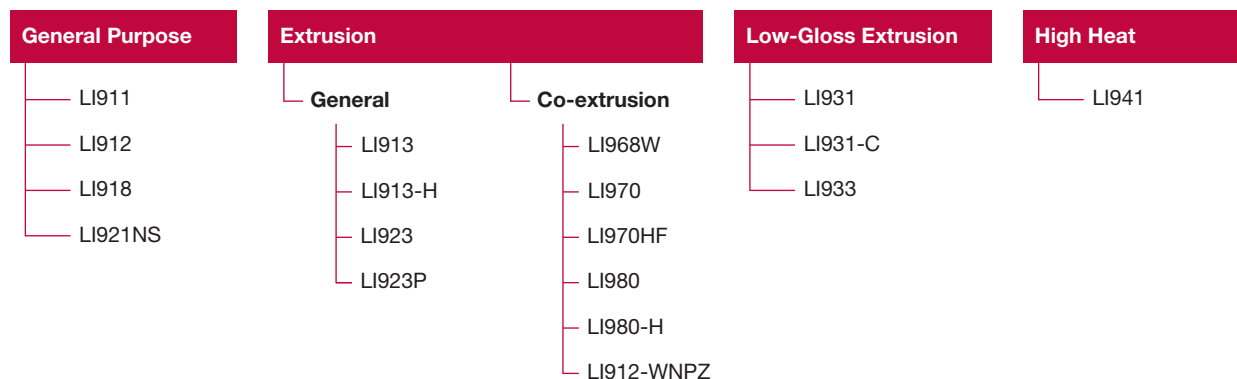


- High Heat Resistance



ASA

• Line-up



• Characteristics

- Excellent weather resistance
- Wide color/gloss range
- Good chemical resistance
- Easy co-extrusion
- Easy recycling

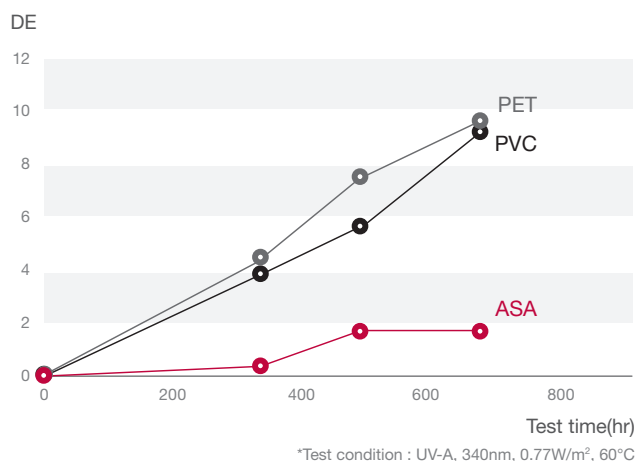


• Applications

- Building/Construction : Window profile, roofing, door frame, etc.
- Automotive : Radiator grille, side mirror etc.

• Technical Data

- Comparison of Weatherability



- Comparison Table

	Poly	UV	PVC	PET	ASA
Eco Friendly	×	×	×	⊙	⊙
Weather Resistance	×	×	○	○	⊙
Smoothness	×	×	△	○	⊙
2nd Processability	×	×	⊙	△	⊙
A/S Availability	×	×	⊙	⊙	⊙
Heat Resistance	×	×	×	△	⊙

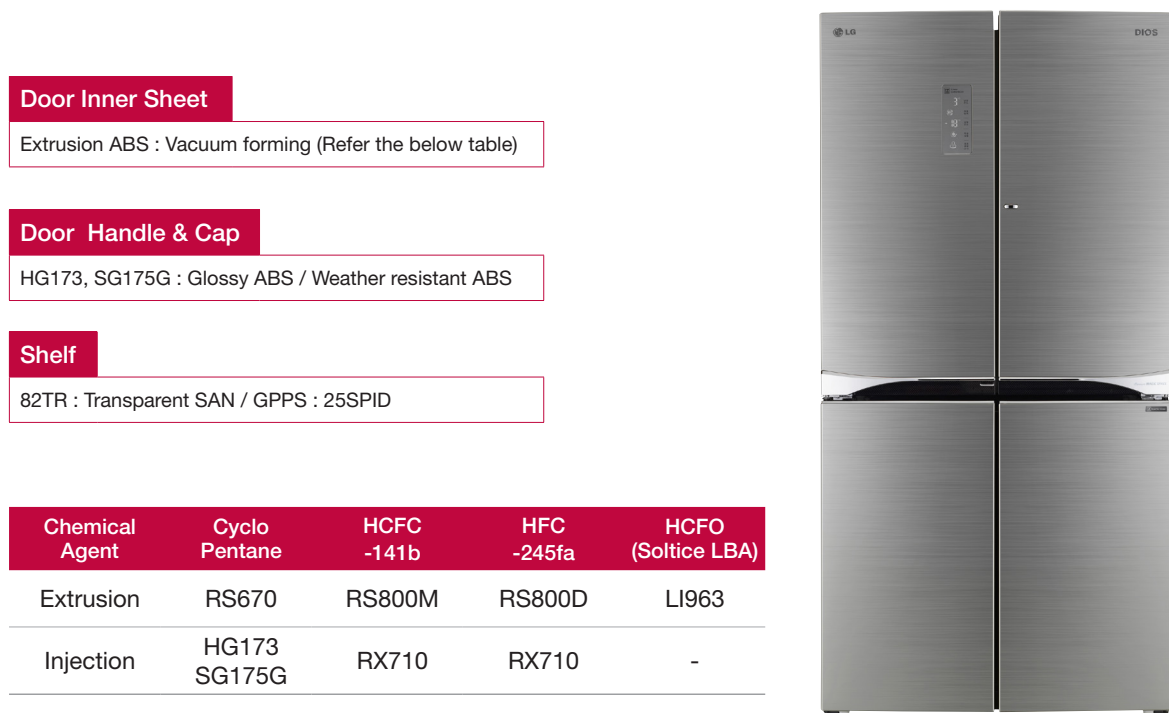
⊙ Best ○ Good △ Bad × Worst

Applications for Electric & Electronic

• Washing Machine



• Refrigerator



Applications for Electric & Electronic

• Display

Front Cover

XG569C : Anti-scratch and high gloss ABS

Back cover

AF365F, AF365FM (2.0T V0)
: High heat stability & High flow



• Office Appliance

Multifunction Devices

EF378L : Halogen Free
AF342 : High Weathering Resistance
AF366(F) : High Heat Stability
410AF(HIPS) : Good Process Ability

Printer & Toner

EF378L : Halogen Free
AF342 : High Weathering Resistance
AF366(F) : High Heat Stability
408AF(HIPS) : Good Process Ability



• Vacuum Cleaner



Body Cover & Grip

HG173, SG175G : Glossy ABS / Weather resistant ABS

Air Vent

XR404 & XR409H : High heat resistance ABS

Stick

HG173, SG175G : Glossy ABS / Weather resistant ABS

Dust Tank

TR558A : High flow transparent ABS
TR580 : Chemical resistant transparent ABS

Joint & Plate

HI100 : High impact strength ABS

• Air Conditioner

Main Board

LI918 : Super weather resistant and Gloss ASA
 HF380 : High flow ABS
 HI121UNS : Anti-static ABS
 XG569C : Anti-scratch and High gloss ABS

Vane

HF380 : High flow ABS
 ER461 & XR401 : Heat Resistance ABS

Gear

HT700 : High Stiffness ABS

Deco Sheet

LI923P : Weatherability ASA



• Air Cleaner

Housing

SG175H : Glossy ABS / Weatherability ABS
 HF388H : Low VOC / High Flow ABS



• Humidifier

Water Tank

TR558A : Transparent ABS

Housing

SG175H : Glossy ABS / Weatherability ABS
 HF388H : Low VOC / High Flow ABS
 HF380NB : Anti-bacteria ABS



• Water Purifier

Front Deco

XG569C : Anti-scratch ABS
 SG175G : Glossy ABS / Weather resistant ABS
 HF388H : Low VOC / High Flow ABS

Housing

XR409H : Heat Resistance ABS
 SG175G : Glossy ABS / Weather resistant ABS
 Metal Feel
 HF388H : Low VOC / High Flow ABS



• Bidet

Control box & Housing

AF365B : Flame retardant ABS
 EF378LX : Non-halogen, Anti-bacterial

Control Switch & Sensor

TR551 : Transparent ABS



Applications for Construction Materials

Roofing

LI970 : Good weatherability
LI969 : Good heat resistance

Siding

LI931: Low gloss
LI931C : Low gloss, Good weatherability

Rain Gutter

LI970 : Good weatherability
LI918 : High flow



Garage Door

LI941: High heat resistance

Profile

LI970 : Good weatherability
LI980 : High gloss
LI980-G : Super gloss

Handrail

LI913H : High impact

Furniture Sheet, Edge Band

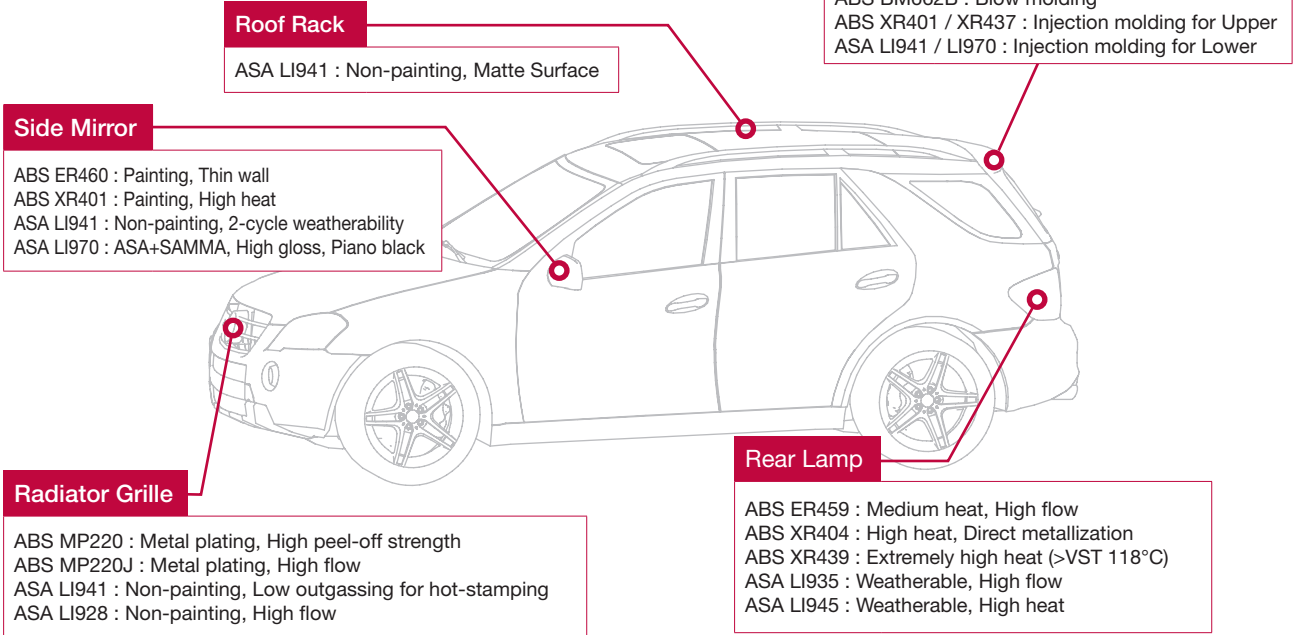
LI923P : High toughness
LI913H : High impact

Door

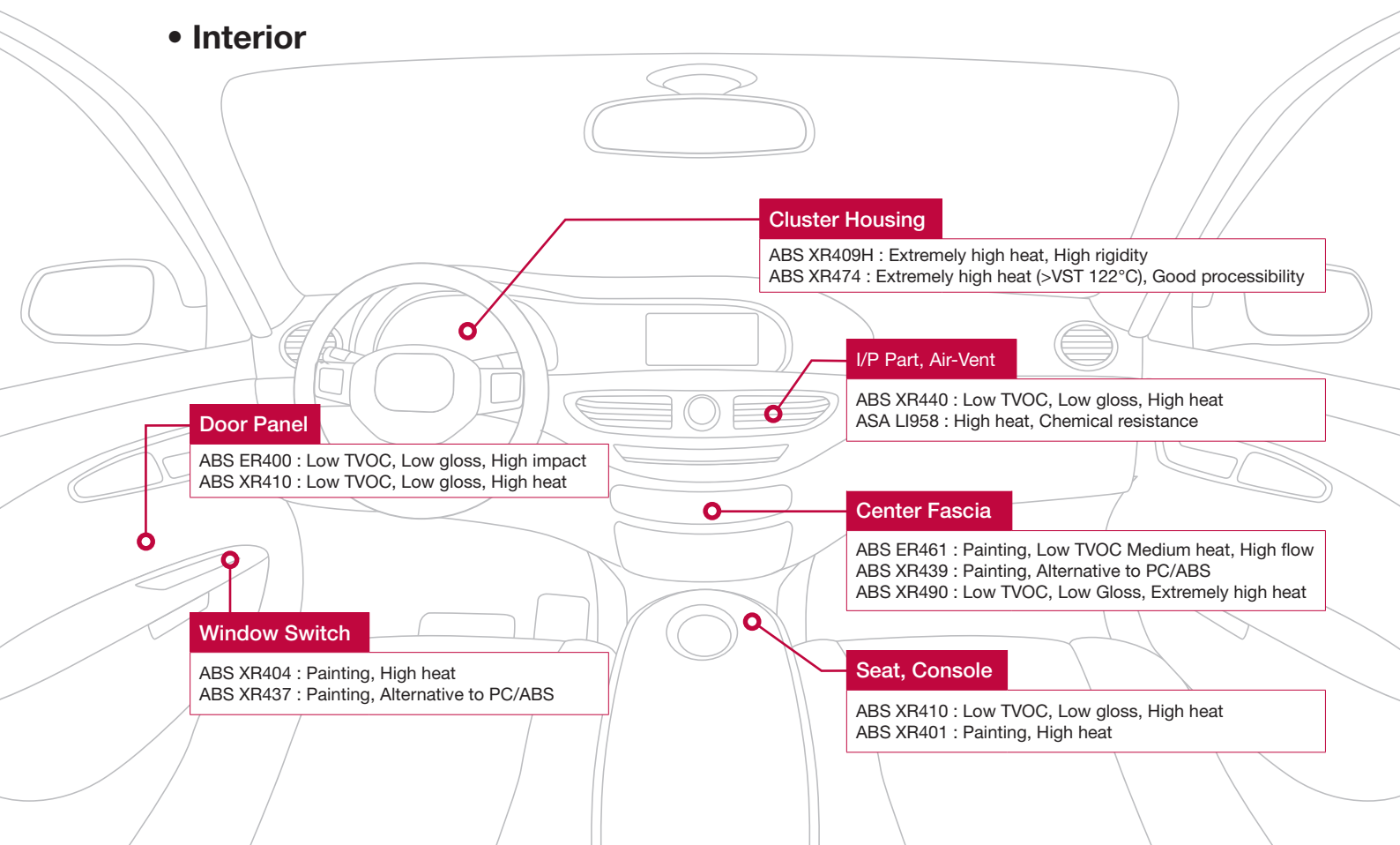
LI970 : Good weatherability
LI941 : High heat resistance

Applications for Automotive

• Exterior



• Interior



Tech Center

LG Chem provides excellent technical service for customers through its Tech Center, which is an internationally accredited facility.

• Injection Molding

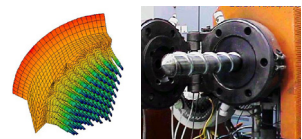
- Optimization of mold design
- Flow analysis and troubleshooting



• Extrusion

- Screw / Die design
- Process analysis by CFD*

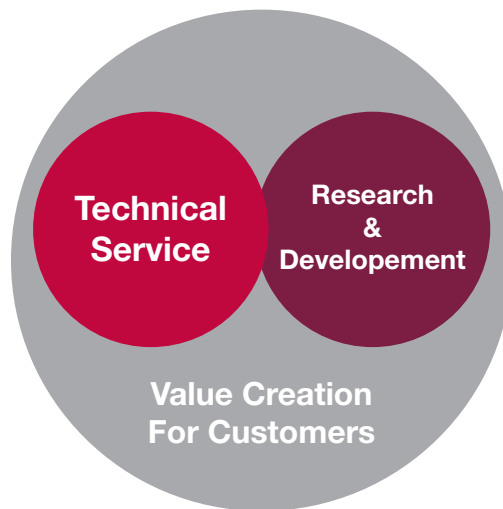
*CFD : Computational Fluid Dynamics



• Material Properties Evaluation

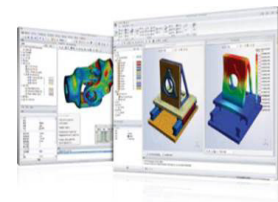
- Material database
- Long-term material properties
- Reliability evaluation
- KOLAS* acquisition

*Korea Laboratory Accreditation Scheme



• Product Design

- Structural analysis
- Thermal analysis
- Design of plastic parts

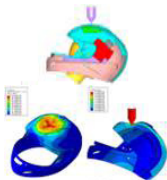


LG Chem's advanced analysis techniques and well-equipped devices enable full technical support for customers.

• Structural Analysis / Impact & Crash Design



Arm rest



Motorcycle helmet

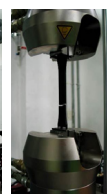


Safety

• Material Properties

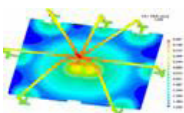


Fatigue property

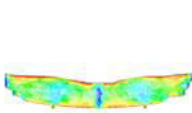


Creep resistance

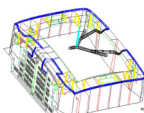
• Injection Molding Analysis



Gate & runner optimization



Material Orientation

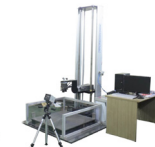


GAIM

• Product Reliability



Falling weight impact tester



Residual stress measurement

Color Design Center

With its 20 years of experience, the LG Chem Color Design Center's color matching competence can save customers valuable time. Through its Central Color Data System, identical color is available regardless of manufacturing location.

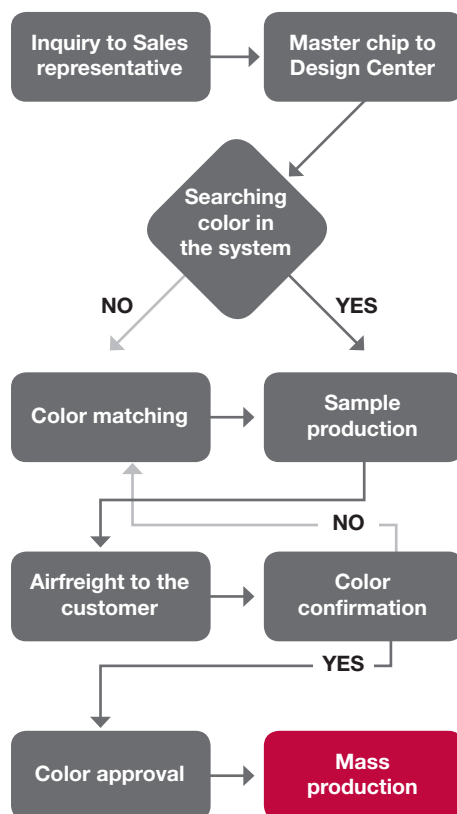
Color Design Center

Speed	Average of 5.6 days for color development
Accuracy	Less than 7% of re-coloring until approval
Capacity	Annually 6,300 color-matching



Color Development Process

Global On-line Order System : www.lgcolor.com



1 Weighing colorant



2 Mixing colorant



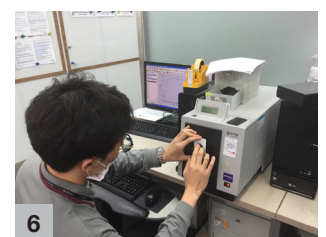
3 Sample production



4 Preparing color chips



5 Visual inspection



6 Approval by spectrophotometer

ABS

HI100 / HI100H / HI121 / HI121H, HF380 / HF380G

Properties		Test Condition	Test Method	Unit	High Impact				High Flow		
					HI100	HI100H	HI121	HI121H	HF380	HF380G	
Physical Properties											
Specific Gravity			ASTM D792	-	1.02	1.02	1.03~1.07	1.04~1.07	1.04~1.06	1.04~1.06	
Molding Shrinkage			ASTM D955	%	0.4~0.7	0.4~0.7	0.4~0.7	0.4~0.7	0.4~0.7	0.4~0.7	
Melt Flow Rate		220°C/10kg	ASTM D138	g/10min	12	11	21	22	42	53	
Mechanical Properites											
Tensile Strength		50mm/min	ASTM D638	kg/cm²	380	385	460	500	450	440	
Tensile Elongation	@Yield	50mm/min	ASTM D638	%	>5				>10		
	@Break			%	>10	>10	>10	>10			
Tensile Modulus		1mm/min	ASTM D790	kg/cm²	16,400						
Flexural Strength		15mm/min	ASTM D790	kg/cm²	600	610	730	800	720	710	
Flexural Modulus		15mm/min	ASTM D790	kg/cm²	18,500	19,000	25,000	27,000	24,500	24,500	
Izod Impact Strength	6.4mm	23°C	ASTM D256	kg-cm/cm	43	43	33	20	25	25	
		-30°C		kg-cm/cm	28	25	13		12	12	
	3.2mm	23°C		kg-cm/cm	45	43	33	21	25	25	
		-30°C		kg-cm/cm	28	25	13		12	12	
Rockwell Hardness		R-sacale	ASTM D785	-	92	93	108	110	106	106	
Thermal Properties											
Heat Deflection Temp.	Unannealed	18.6kg		°C	84	84	85	85	85	85	
		4.6kg		°C	90						
Vicat Softening Temp.	5kg/50	5kg/50		°C	90	90	93	92	93	93	
	1kg/120	1kg/120		°C							
Flammability	UL94	1/8"		Class	HB (1.5mm) HB (1.5mm)						
		1/10"		Class							
		1/12"		Class							
		1/16"		Class	HB (3.0mm) HB (3.0mm)				HB	HB	
Processing Guide											
Haze	3mm	23°C/50% RH	ASTM D1003	%							
Total Light Transmission		3mm	23°C/50% RH	ASTM D1003	%						
Gloss		45°C	ASTM D2457	-							

Disclaimer 1) Typical values are only for material selection purpose, and variation within normal tolerances are for various colors.
2) Values given in the table should not be interpreted as material specification and it can not be used for part or tool design.

ABS

HG173 / SG175, PT270 / HF380I, HT700, AP163, RS650 / RS657L / RS670 / SH610A

High Gloss		Paintability		High Stiffness	Anti-static	Extrusion			
HG173	SG175	PT270	HF380I	HT700	AP163	RS650	RS657L	RS670	SH610A
1.05	1.05	1.02~1.05	1.04~1.07	1.05	1.07	1.04	1.04	1.04	1.04
0.4~0.7	0.4~0.7	0.4~0.7	0.4~0.7	0.4~0.7	0.4~0.7	0.4~0.7	0.4~0.7	0.4~0.7	0.4~0.7
23	33	29	39	18	30	6	4.5	4.5	1
470	500	400	440	520	440	485	490	500	420
						>5	>5	>5	>5
>10	>10	>10	>10	30	20	35	35	35	35
		16,900		24,300	16,900				
740	800	640	710	850	710	800	760	790	640
25,500	26,500	22,000	24,500	28,500	22,000	25,500	24,000	25,500	21,100
24	20	36	28	20		30	38	30	43
11	8	20		7			16	11	
25	23	40	28	20	50	33	47	32	50
11	8	20		7			17	12	
109	110	100	105	113		107	105	106	97
85	86	85	85	88	86	87 (88)	89 (90)	89 (90)	87 (88)
89		87		90	90	95 (95)	94 (96)	94 (96)	92 (94)
93	93	92	93	95	93	95	96	96	94
			HB (1.5mm)	HB	HB	HB	HB	HB	HB
	HB	HB	HB (3.0mm)	HB	HB	HB	HB	HB	

Disclaimer 1) Typical values are only for material selection purpose, and variation within normal tolerances are for various colors.
2) Values given in the table should not be interpreted as material specification and it can not be used for part or tool design.

ABS

TR551 / TR552 / TR556 / TR557 / TR558A

Properties		Test Condition	Test Method	Unit	Transparent				
					TR551	TR552	TR556	TR557	TR558A
Physical Properties									
Specific Gravity			ASTM D792	-	1.1	1.06	1.09	1.09	1.1
Molding Shrinkage			ASTM D955	%	0.4~0.7	0.4~0.7	0.4~0.7	0.4~0.7	0.4~0.7
Melt Flow Rate		220°C/10kg	ASTM D138	g/10min	8	11	5	21	25
Mechanical Properites									
Tensile Strength		50mm/min	ASTM D638	kg/cm²	580	400	480	470	510
Tensile Elongation	@Yield	50mm/min	ASTM D638	%	6	8	6	5	6
	@Break			%	20	25	30	30	30
Tensile Modulus		1mm/min	ASTM D790	kg/cm²	28,000	18,000	32,500	21,400	22,200
Flexural Strength		15mm/min	ASTM D790	kg/cm²	940	620	770	700	770
Flexural Modulus		15mm/min	ASTM D790	kg/cm²	28,000	18,000	22,500	22,000	25,000
Izod Impact Strength	6.4mm	23°C	ASTM D256	kg-cm/cm	12	22	20	17	12
		-30°C		kg-cm/cm	6	11	9	9	6
	3.2mm	23°C		kg-cm/cm	13	23	20	17	13
		-30°C		kg-cm/cm	6	9	8	8	6
Rockwell Hardness		R-sacale	ASTM D785	-	117	100	109	107	113
Thermal Properties									
Heat Deflection Temp.	Unannealed	18.6kg		°C	87	82	85	81	83
		4.6kg		°C	94	87	92	90	92
Vicat Softening Temp.	5kg/50	5kg/50		°C	90	84	90	85	88
	1kg/120	1kg/120		°C					
Flammability	UL94	1/8"		Class	HB	HB	HB	HB	HB
		1/10"		Class					
		1/12"		Class					
		1/16"		Class	HB	HB	HB	HB	HB
Processing Guide									
Haze	3mm	23°C/50% RH	ASTM D1003	%	1.9	2.2	2.3	2.0	1.8
Total Light Transmission		3mm	23°C/50% RH	ASTM D1003	%	90	90	90	90
Gloss		45°C	ASTM D2457	-					

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ABS

MP211 / MP220, XG569C / XG570, AF312A/AF312B/AF312C/AF364/AF365/AF365F/AF366/EF378L

Metal Plating		Anti-scratch		Flame Retardant							
MP211	MP220	XG569C	XG570	AF312A	AF312B	AF312C	AF364	AF365	AF365F	AF366	EF378L
1.05	1.05	1.1	1.06	1.19	1.19	1.18	1.19	1.19	1.18	1.19	1.06
0.4~0.7	0.4~0.7	0.4~0.7	0.4~0.7	0.4~0.7	0.4~0.7	0.4~0.7	0.4~0.7	0.4~0.7	0.4~0.7	0.4~0.7	0.4~0.7
27	20	11	22	60	60	60	10	30	75	25	58
440	470	600	500	450	440	440	430	450	420	450	450
25	25	30	30	Min 20	Min 20	Min 20	Min 20	Min 20	Min 20	Min 20	Min 20
720	760	980	840	700	720	700	720	750	680	720	720
23,500	25,000	29,000	29,000	26,000	27,000	26,000	24,000	26,000	23,000	25,000	23,000
29	27	10	17	21	22	23	16	18	16	18	13
31	31	5	8	7	7	8	5	6	5	6	
		10	17	25	27	27	19	24	21	21	17
		5	8	7	8	8	7	8	6	7	
105	105	118	115	105	105	104	105	108	105	108	105
85	89	84	88	76	77	77	93	86	84	84	78
		86	90	84	84	84	103	92	91	90	85
95	97	95	94	83	84	84	100	93	91	91	86
				-	-	-	-				
HB	HB	HB	HB	V-0	V-2 (1.0mm)	-	V-0	V-1 (1.8mm)	V-1 (1.8mm)	V-0	V-2
				V-0,5VB	V-0,5VB (2.1mm)	-	V-0,5VA	V-0,5VB	V-0,5VB	V-0,5VB	
				V-0,5VA	V-0,5VA	V-0	-			V-0,5VA	
		HB	HB	V-0,5VA	V-0,5VA	V-0	V-0,5VA	V-0,5VA	V-0,5VA	V-0,5VA	V-2

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ABS

ER400 / XR410 / ER461 / XR401 / XR404 / XR409H / XR474

Properties		Test Condition	Test Method	Unit	Heat Resistance						
					ER400	XR410	ER461	XR401	XR404	XR409H	XR474
Physical Properties											
Specific Gravity			ASTM D792	-	1.04	1.05	1.05	1.05	1.05	1.06	1.07
Molding Shrinkage			ASTM D955	%	0.4~0.7	0.4~0.7	0.4~0.7	0.4~0.7	0.4~0.7	0.4~0.7	0.4~0.7
Melt Flow Rate		220°C/10kg	ASTM D138	g/10min	8	7	14	9	7	3	3
Mechanical Properites											
Tensile Strength		50mm/min	ASTM D638	kg/cm²	550	480	500	500	530	500	480
Tensile Elongation	@Yield	50mm/min	ASTM D638	%							
	@Break			%	20	20	25	20	20	20	15
Tensile Modulus		1mm/min	ASTM D790	kg/cm²							
Flexural Strength		15mm/min	ASTM D790	kg/cm²	850	750	800	800	860	800	780
Flexural Modulus		15mm/min	ASTM D790	kg/cm²	26,000	24,000	26,000	26,000	27,000	26,000	25,000
Izod Impact Strength	6.4mm	23°C	ASTM D256	kg-cm/cm	21	14	28	25	14	17	13
		-30°C		kg-cm/cm	9	8	10	8	5	7	5
	3.2mm	23°C		kg-cm/cm	23	16	30	27	16	18	14
		-30°C		kg-cm/cm	10	8	10	9	6	8	6
Rockwell Hardness		R-sacale	ASTM D785	-	110	107	110	110	112	111	113
Thermal Properties											
Heat Deflection Temp.	Unannealed	18.6kg		°C	92	97	39	97	102	106	112
		4.6kg		°C			100	106	111	115	120
Vicat Softening Temp.	5kg/50	5kg/50		°C	101	107	100	106	112	116	122
	1kg/120	1kg/120		°C							
Flammability	UL94	1/8"		Class	HB	HB	HB	HB	HB	HB	HB
		1/10"		Class							
		1/12"		Class							
		1/16"		Class							
Processing Guide											
Haze	3mm	23°C/50% RH	ASTM D1003	%							
Total Light Transmission	3mm	23°C/50% RH	ASTM D1003	%							
Gloss		45°C	ASTM D2457	-							

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ASA

LI911 / LI912 / LI918 / LI921NS, LI913 / LI913-H / LI923 / LI923P

General				Extrusion			
LI911	LI912	LI918	LI921NS	LI913	LI913-H	LI923	LI923P
1.07	1.07	1.07	1.07	1.07	1.07	1.06	1.07
0.4~0.7	0.4~0.7	0.4~0.7	0.4~0.7	0.4~0.7	0.4~0.7	0.4~0.7	0.4~0.7
20	12	20	12	5	5	5	8
500	480	490	480	410	340	480	520
>6	>6	>6	>6	>5		>6	>6
20	25	25	25	35	90	25	30
22,100	21,200		21,500	17,600		21,900	
800	770	780	760	630	500	760	850
23,500	22,500	22,500	23,000	18,500	15,000	23,000	24,000
12	16	16	12	35	30	18	6
3	4		3	6		4	2
14	18	17	14	45		25	5
3	4		3	6		4	2
107	103	104	103	92	82	103	106
87	86	86	86	86	81	86	86
96	96		96	96		97	
96	95	95	95	94		96	
HB	HB	HB	HB	HB	HB	HB	HB
HB	HB	HB	HB	HB	HB	HB	HB

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ASA

LI931 / LI931-C / LI933, LI941

Properties		Test Condition	Test Method	Unit	Low Gloss Extrusion			Heat Resistance
					LI931	LI931-C	LI933	LI941
Physical Properties								
Specific Gravity			ASTM D792	-	1.07	1.07	1.07	1.08
Molding Shrinkage			ASTM D955	%	0.4~0.7	0.4~0.7	0.4~0.7	0.4~0.7
Melt Flow Rate		220°C/10kg	ASTM D138	g/10min	7	6	12	6
Mechanical Properites								
Tensile Strength		50mm/min	ASTM D638	kg/cm²	330	300	400	480
Tensile Elongation	@Yield	50mm/min	ASTM D638	%	>6			
	@Break			%	65	30	25	
Tensile Modulus		1mm/min	ASTM D790	kg/cm²	17,000			
Flexural Strength		15mm/min	ASTM D790	kg/cm²	500	420	650	770
Flexural Modulus		15mm/min	ASTM D790	kg/cm²	15,500	13,500	19,500	23,500
Izod Impact Strength	6.4mm	23°C	ASTM D256	kg·cm/cm	9	7	13	14
		-30°C		kg·cm/cm	4		4	4
	3.2mm	23°C		kg·cm/cm	10		18	17
		-30°C		kg·cm/cm	5		4	6
Rockwell Hardness		R-sacale	ASTM D785	-	81	80	100	104
Thermal Properties								
Heat Deflection Temp.	Unannealed	18.6kg		°C	79	78	84	94
		4.6kg		°C	85		93	
Vicat Softening Temp.	5kg/50	5kg/50		°C	86		92	102
	1kg/120	1kg/120		°C				
Flammability	UL94	1/8"		Class	HB			HB
		1/10"		Class				
		1/12"		Class				
		1/16"		Class	HB			
Processing Guide								
Haze	3mm	23°C/50% RH	ASTM D1003	%				
Total Light Transmission	3mm	23°C/50% RH	ASTM D1003	%				
Gloss		45°C	ASTM D2457	-	30	30		

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ASA

LI912-WNPZ / LI968W / LI970 / LI970HF / LI980 / LI980-H

Co-extrusion					
LI912-WNPZ	LI968W	LI970	LI970HF	LI980	LI980-H
1.07	1.09	1.12	1.12	1.09	1.09
0.4~0.7	0.4~0.7	0.4~0.7	0.4~0.7	0.4~0.7	0.4~0.7
7.5	11	12	30	15	30
400	480	450	510	400	500
>6	>6	>6	>6	>6	>6
50	25	25	20	70	45
	21,000	20,000	22,400		
600	750	730	780	700	820
18,000	23,000	21,000	23,000	17,600	22,000
26	14	13	6	12	8
	4	4	2		
	18	18	6		
	4	4	2		
90	102	103	108	96	110
86	86	82	85	80	85
	96	91	95		
	92	87	90		
HB	HB	HB	HB	HB	HB
HB	HB	HB	HB	HB	HB

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- Representative Offices (16)
- Marketing Subsidiaries (8)
- Manufacturing Subsidiaries (3)

HQ – South Korea

LG Chem., Ltd.

+82-2-3773-3745
26th Floor, East Building, LG Twin Tower, 128, Yeouidaero,
Yeongdeungpo-gu, Seoul, 07336, South Korea

Tech Center – South Korea

LG Chem., Ltd. Tech Center
+82-42-860-8211
188, Munji-ro, Yuseong-gu, Daejeon, 34122, South Korea

America

LG Chem America, Inc.

Detroit

+1-248-307-1800
1857 Technology Dr. Troy, MI 48083 U.S.

Atlanta

+1-678-762-1030
3475 Piedmont Road NE, Suite 1200, Atlanta, Georgia, 30305 U.S.

Brazil

LG Chem Brazil, Ltd.

+55-11-2159-7111
Av.Dr.Chucuri Zaidan,940 - Torre II - 18 Andar Vila Cordeiro - CEP 04583-110 -
Sao Paulo/SP - Brazil

Europe

LG Chem Europe GmbH

Frankfurt

+49-69-710-445-114
Lyoner street 15, Atricom C8, D-60528, Frankfurt/m, Germany

Milano

+ 39-02-4547-8737
Viale Milano Fiori Palazzo Q5 20089 – RozzanoMilano - Italy

China

LG Chem China Investment Co., Ltd.

Beijing

+86-10-6563-2130
22nd Floor, West Tower, Twin Towers, B-12 Jianguomenwai Avenue, Chaoyang
District, Beijing, 100022, PRC.

Shanghai

+86-21-6087-2900
Whelock square, 12F, West Nanjing Road No.1717, Jingan District, Shanghai,
200040, PRC.

Guangzhou

+86-20-3878-1200
26/F, East Tower, Fortune Plaza, 116, East Tiyu Rd., Tianhe, Guangzhou, PRC.

Chongqing

+86-23-6768-7030
Rm 1802, Building 4, Group B, Caifu East Rd, Foreign Biz Zone, New North
District, Chongqing, PRC.

Japan

LG Chem Japan Co., Ltd.

+81-3-5299-4530
14F, Kyobashi Trust Tower, 2-1-3, Kyobashi, Chuo-ku, Tokyo, 104-0031 Japan

Taiwan

LG Chem (Taiwan), Ltd.

+886-2-8751-9977 (Ext : 173)
5 & 6F, No.58, Ruihu St., NeiHu Dist, Taipei City 11494, Taiwan

Vietnam

LG Chem., Ltd. (Hochiminh Office)

+84-8-3822-0409
AB Tower 10th floor 76 Le Lai, Ben Thauh Ward, District 1, Hochiminh City, Vietnam

Thailand

LG Chem., Ltd. (Bangkok Office)

Phone : +66-2-665-7417
159 Sermit Tower 19th Floor Asok, Sukhumvit 21 Road, Klongton-Nua, Wattana,
Bangkok 10110, Thailand

Malaysia

LG Chem Malaysia SND. BHD

+60 3-2022-1687
11F Menara Hap seng 2 Jalan P.Ramlee Kuala Lumpur, Malaysia

Indonesia

LG Chem., Ltd. (Jakarta Office)

+62-21-2967-5040
The City Center (TCC) Batavia, Tower One, 18Fl. 02B, Jl. KH. Mas Mansyur Kav. 126.
Jakarta Pusat 10220, Indonesia

India

LG Chemical Petrochemical India Pvt. Limited

Gurgaon

+91-124-469-2616
3rd Floor, Building No. 10, Tower B, DLF Cyber City, Phase II, Gurgaon - 122002,
Haryana, India

Mumbai

+91-22-6566-6762
601 & 602, A-Wing, 6th Floor, Delphi Orchard Avenue Hiranandani Gardens, Powai
Mumbai -400076, Maharashtra, India

Chennai

+91-044-4299-4251
Room no-234A, Regus Olympia, Olympia Tech Park Level : 2, ALTIUS Building,
1-SIDCO Industrial Estate, Guindy, Chennai-600032, T.N, India

Turkey

LG Chem TK Kimya San. Ve Tic. Ltd. Sti

+90-212-285-0171
Maslak Mah. Ahi Evran Cad. No:6 42 Maslak Ofis 3 ZK-06, 34398, Sariyer, Istanbul,
Turkey

Russia

LG Chem., Ltd. (Moscow Office)

+7-495-258-2335
Room 1409, Office Bldg., World Trade Center, 12 Krasnopresnenskaya Nab. Moscow,
123610, Russia