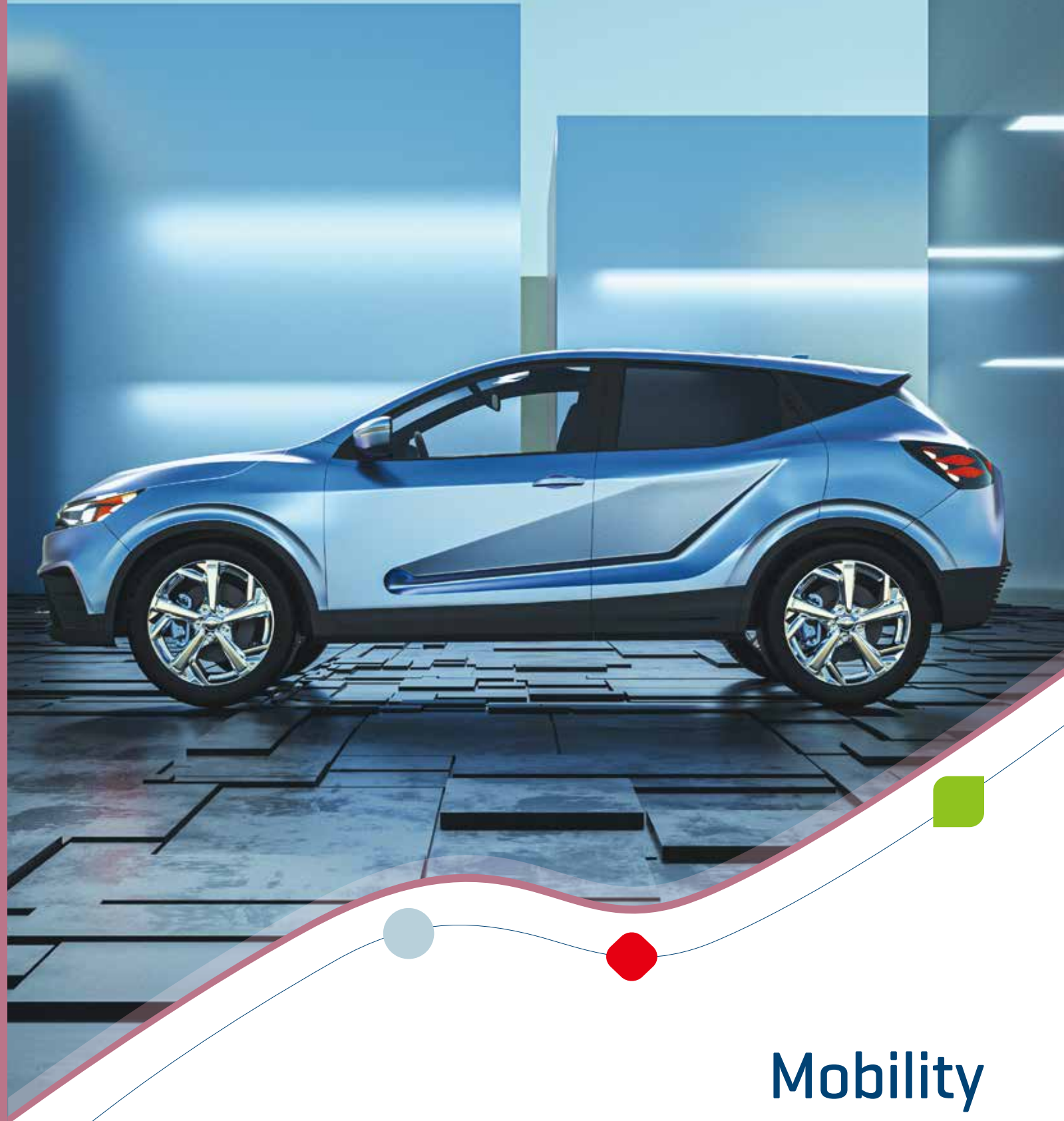


Mobility Material Solutions

The Future of Mobility



Mobility Material Solutions

Contents

- 01 Product Portfolio
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Product Portfolio

LOTTE Chemical is committed to creating value beyond customer's expectation, at the center of **future** of automotive based on **competitive** products, **innovative** solution, and in close partnership with you.

Compound PP & LFT

Popelen.

Exterior

High Modulus

Thin-wall

Interior

High Impact

Scratch Resistant

Supran.

PP/LGF

High Modulus

High Impact

High Heat Resistant

Low Emission

ABS & ASA

storex®

ABS

Metal Plating

Heat Resistant

ASA

General/High Weatherable

High Gloss (ASA/PMMA)

PC, PC Alloys & EP

INFINO.

PC

Lens PC

Light Diffusion PC

PC Alloy

PC/ABS

PC/Polyester

PC/ASA

EP

Flame Retardant

Light-weight

Performance Materials

Lottmer.

TPE

TPE-V

TPE-S

Howpol.

EPP

General

HRF

Total Solution for Mobility

Interior



Fresh Interior



Upscale Design

- Instrument Panel
- Center Console
- Seat Assembly
- Door Module

Exterior



Weatherability



Safety

- Front Grille
- Spoiler
- Outside Mirror

Structure & Powertrain



Light-weight & Metal Replacement



Part-integrated Design

- Front End Module
- Sunroof Frame
- Fender
- EV Battery

Lighting



Functionality & Productivity



Optical Solution

- Head Lamp
- Rear Lamp



Compound PP & LFT



PRODUCT LINE UP

Popelen

Compound PP

Exterior & Lighting

High Modulus

- G-152
- GLW-373
- GHE-400NPH
- SRX-373M

Thin-wall

- SRX-373TM

Interior

High Impact

- GHPP-362T
- HIP-373P
- HIP-374

Scratch Resistant

- QHCA-352M
- JHC-372GW
- HSP-387C

Supran

LFT

PP/LGF

High Modulus(General)

- PP-1320B
- PP-1330B
- PP-1340B

High Impact

- PP-2320E
- PP-2340BJ

High Heat Resistant

- PP-1330H
- PP-1360H

Low Emission

- PP-1330LE
- PP-1360LE

Compound PP for Exterior & Lighting

KEY FEATURES

High Modulus

- Durability
- High Heat Resistance
- Dimensional Stability

Thin-wall

- Flowability
- High Modulus
- Low Density

APPLICATIONS

High Modulus

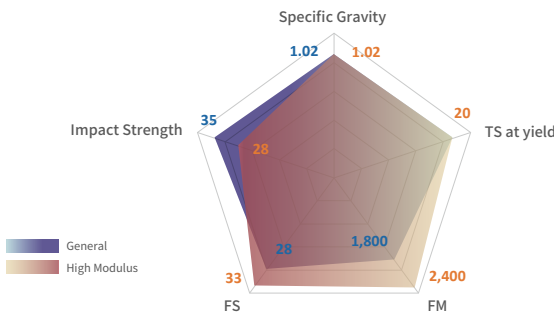
- Bumper (Bracket)
- Cowl Top Cover
- Head Lamp Housing

Thin-wall

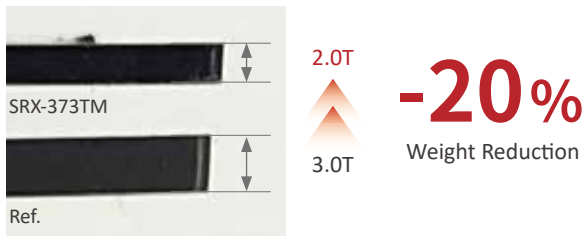
- Bumper (Fascia, Grille)

CHARACTERISTICS

Balanced Properties



Thin-wall : Weight Reduction



PRODUCT DATA

Grade			G-152	GLW-373	GHE-400NPH	SRX-373M	SRX-373TM
Properties	Test Method	Unit	Bumper Bracket	H/L Housing	Bumper		
Specific Gravity	ISO 1183	-	1.04	1.11	0.99	1.02	1.02
MI	ISO 1133	g/10min	-	27	33	38	40
TS at yield	ISO 527	MPa	74	48	15	20	20
FM	ISO 178	MPa	112	77	-	28	33
FS	ISO 178	MPa	4,250	3,700	1,700	2,030	2,400
Impact Strength	ISO 180 1A (23°C)	KJ/m²	8.5	6.2	50 (ISO 179 1eA)	35	28
HDT	ISO 75A-2(1.8MPa)	°C	145	145 (0.45MPa)	52	101 (0.45MPa)	103 (0.45MPa)



Cowl Top Cover



Head Lamp Housing

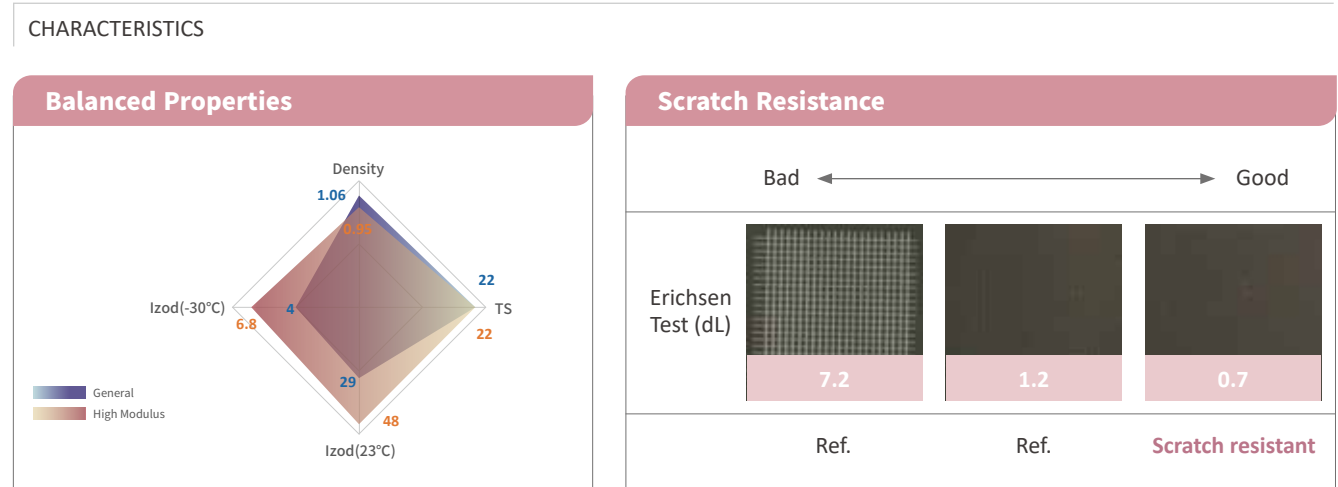


Bumper Fascia

※ For inquiries about anti-microbial, eco-friendly materials, please contact us.

Compound PP for Interior

KEY FEATURES		APPLICATIONS	
High Impact	Scratch Resistant	High Impact	Scratch Resistant
• High Impact • Dimensional Stability	• Weatherability • Scratch Resistance • Surface Quality • Fouling Resistance	• Instrument Panel	• Door Trim • Cockpit • Seat Back (Cover) • Console • Instrument Panel



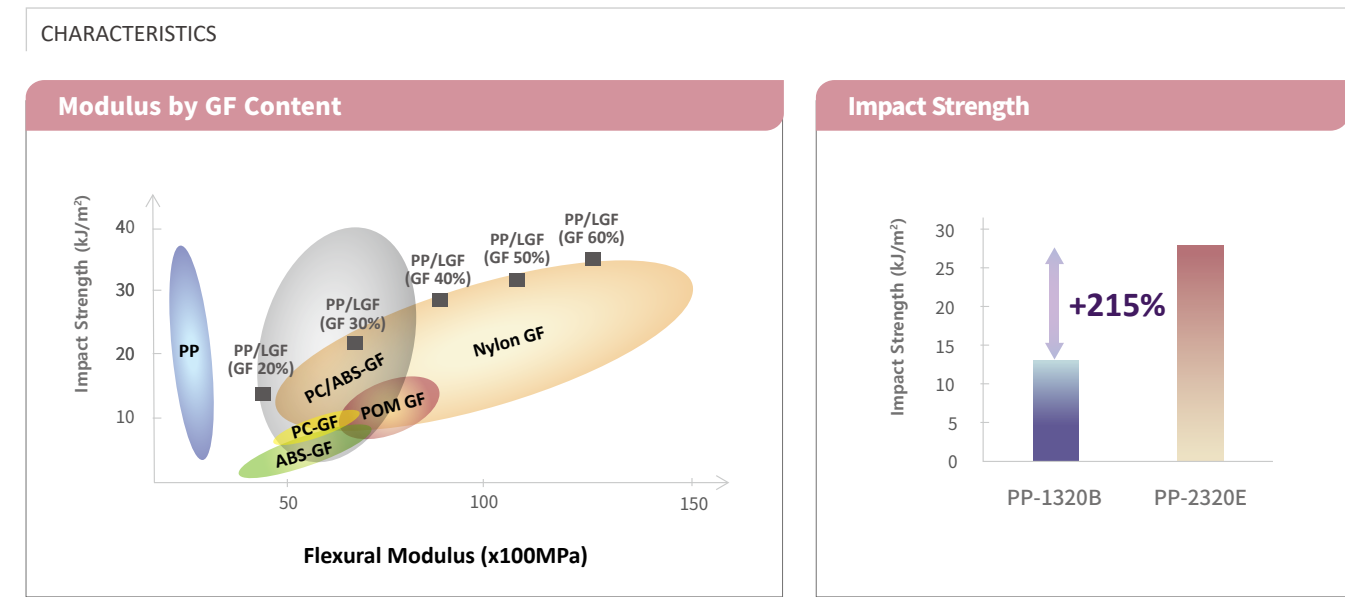
PRODUCT DATA

Grade			GHPP-362T	HIP-373P	HIP-374	QHCA-352M	JHC-372GW	HSP-387C
Properties	Test Method	Unit	Instrument Panel			Door Trim	Console	Door Trim
Specific Gravity	ISO 1183	-	1.04	0.96	1.01	1.01	1.04	0.98
MI	ISO 1133	g/10min	20	11	30	20	25	30
TS at yield	ISO 527	MPa	17	22	20	17	20	22
FM	ISO 178	MPa	-	31	30	-	34	36
FS	ISO 178	MPa	1,850	1,850	2,000	1,800	2,050	2,200
Impact Strength	ISO 180 1A (23°C)	KJ/m ²	40	48	58	30	5	33
HDT	ISO 75A-2 (1.8MPa)	°C	104	98	95	87	104	105



High Modulus LFT / High Impact LFT

KEY FEATURES		APPLICATIONS	
High Modulus	High Impact	High Modulus	High Impact
• Impregnation Property • Dispersibility	• Impact Strength	• Door Module	• Step Pad • Instrument Panel • Active Grille Shutter



PRODUCT DATA

Properties	Test Method	Unit	PP-1320B	PP-1330B	PP-1340B	PP-2320E	PP-2340BJ
GF	-	%	20	30	40	20	40
Specific Gravity	ISO 1183	-	1.03	1.1	1.21	1.03	1.21
TS at yield	ISO 527	MPa	90	110	130	65	121
FM	ISO 178	MPa	130	170	190	80	170
FS	ISO 178	Mpa	4,800	6,900	9,000	3,300	7,400
Impact Strength	ISO 180 1A (23°C)	KJ/m ²	13	17	25	29	28
HDT	ISO 75A-2 (1.8MPa)	°C	151	155	156	151	156



High Heat Resistant LFT / Low Emission LFT

KEY FEATURES

High Heat Resistant

- High Heat Resistance
- High Modulus

Low Emission

- Low TVOC

APPLICATIONS

High Heat Resistant

- Front End Module
- Fan Shroud
- Tail Gate

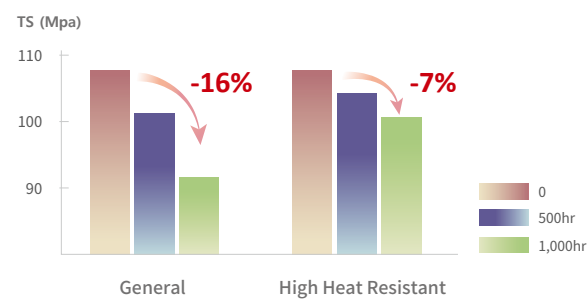
Low Emission

- Door Module
- Instrument Panel

CHARACTERISTICS

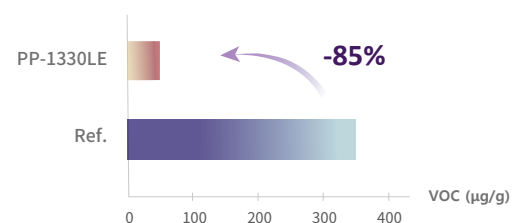
High Heat Resistance

- No change in appearance after 1,000 hours at 150°C
- Less than 10% decrease in tensile strength



Low Emission

OEM Spec	BMW	Daimler	VW
VOC/FOG (VDA278)	≤ 100/200	≤ 250/500	≤ 100/250
Test Result	40/50		



PRODUCT DATA

Properties	Test Method	Unit	PP-1330H	PP-1360H	PP-1330LE	PP-1360LE
GF	-	%	30	60	30	60
Specific Gravity	ISO 1183	-	1.11	1.47	1.11	1.47
TS at yield	ISO 527	MPa	110	140	110	140
FM	ISO 178	MPa	170	210	170	210
FS	ISO 178	MPa	6,500	13,000	6,300	13,000
Impact Strength	ISO 180 1A (23°C)	KJ/m²	17	35	16	35
HDT	ISO 75A-2 (1.8MPa)	°C	155	158	155	158



Front End Module



Tail Gate



Door Module



starex®

ABS & ASA



Anti-microbial



Eco-friendly
(Recycled/BiO)

PRODUCT LINE UP

Metal Plating ABS

- Adhesion Strength
 - MP-0160 R
- Surface Quality
 - MP-0670
- Heat Resistant
 - MP-0310 (VST 103°C)
 - MP-0320 (VST 106°C)

Heat Resistant ABS

- General
 - VST 100°C
 - SR-0300
 - VST 106°C
 - SR-0320 K
 - VST 111°C ↑
 - SR-0325LT
 - SR-0330M
 - SR-0340M

Low VOC

- VST 106°C
 - SR-0320LT
- VST 111°C ↑
 - SR-0325L
 - SR-0330L
 - SR-0340L

Low Gloss

- LH-0300
- SR-0300G

ASA

- General
 - WR-9300HF
 - WR-9330I
 - WR-9120 J
- High Weatherable
 - WX-9300UV
 - WX-9310UV
- Super High Weatherable
 - WX-9310UA

High Gloss ASA/PMMA

- High Weatherable
 - WX-9950
- Super High Weatherable
 - WX-9950UV
 - WX-9950U
- High Impact
 - WX-9950S

※ For inquiries about anti-microbial, eco-friendly materials, please contact us.

Metal Plating ABS

KEY FEATURES

- Adhesion Strength
- Surface Quality
- Quality Stability

CHARACTERISTICS

Metal Plating

Metal Plating Specimen - Cross Section

- Well dispersed rubber and quality consistency

	Morphology	Dispersion Ability	Surface Quality
		Unevenly dispersed	Bad
		Well dispersed	Good

APPLICATIONS

- Front Grille

PRODUCT DATA

Properties	Test Method	Unit	MP-0160 R	MP-0670
Specific Gravity	ISO 1183	-	1.04	1.04
MI	ISO 1133 (200°C,5kg)	g/10min	1.5	2.3
TS at yield	ISO 527	MPa	49	51
Impact Strength	ISO 180 1A (23°C)	KJ/m ²	26	27
HDT	ISO 75A-2 (1.8MPa)	°C	80	75



Front Grille

Heat Resistant ABS _ Low Odor, Low Gloss

KEY FEATURES

- Heat Resistance
- Heat Stability
- Low Odor
- Low Gloss

CHARACTERISTICS

TVOC

Gloss : Corrosion Surface Comparison

- Corroded Specimen (LOTTE)

APPLICATIONS

- Center Console
- Window Switch Panel
- Door Panel

PRODUCT DATA

Properties	Test Method	Unit	SR-0325L	LH-0300
Specific Gravity	ISO 1183	-	1.06	1.04
MI	ISO 1133 (220°C,10kg)	g/10min	8	10
TS at yield	ISO 527	MPa	50	38
Impact Strength	ISO 180 (23°C)	KJ/m ²	13	16
HDT	ISO 75A-2 (1.8MPa)	°C	92	80



Center Console

Window Switch Panel

Door Module

General/High Weatherable ASA

KEY FEATURES

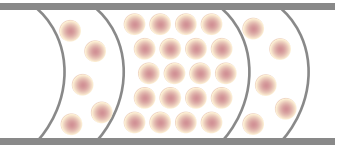
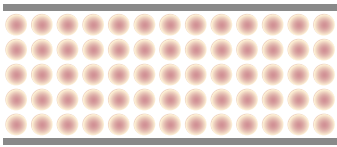
- Weatherability
- Flowability
- Balanced Properties

APPLICATIONS

- Front Grille
- Outside Mirror
- Spoiler

CHARACTERISTICS

Weatherability				
Grade	Color	OEM (Test Method)	Weather-ability	
WX-9300UV	K22914	Ford (ASTM D7869)	Gray scale 4 (2,250hr)	
WX-9310UV	K23292	BMW (ISO 4892)	dE 2.0 (1,500hr)	
WX-9310UA	K22715	VW (PV-3929, PV-3930 2Cycle)	Gray scale 4 (3,200hr)	

	General ASA	LOTTE ASA
Concept		
Apperance		

PRODUCT DATA

Properties	Test Method	Unit	WX-9300UV	WX-9310UV	WX-9310UA
Specific Gravity	ISO 1183	-	1.08	1.08	1.08
MI	ISO 1133 (220°C,10kg)	g/10min	10	6	7
TS at yield	ISO 527	MPa	47	49	49
Impact Strength	ISO 179 1eA (23°C)	KJ/m²	12	14	14
HDT	ISO 75A-2 (1.8MPa)	°C	77	78	80



Front Grille



Spoiler

High Gloss ASA/PMMA

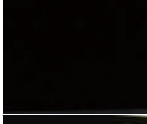
KEY FEATURES

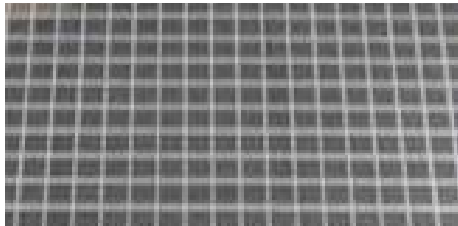
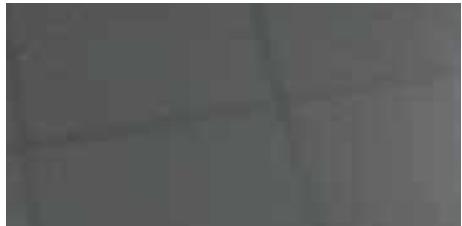
- High Gloss
- Weatherability
- Scratch Resistance

APPLICATIONS

- Front Grille
- Pillar
- Exterior Garnish

CHARACTERISTICS

Weatherability				
Grade	Color	OEM (Test Method)	Weather-ability	
WX-9950UV	K24948	GM (SAE J 2527)	dE : 1.2 (4,500KJ)	
WX-9951UV	K24948	Ford (ASTM D7869)	dE : 1.3 (4,500KJ)	
WX-9950U	K25600	BMW (ISO 4892)	dE : 1.6 (4,800hr.)	

Scratch Resistance	
General ASA/PMMA	LOTTE ASA/PMMA
	
dL = 6	dL = 0.5~1

PRODUCT DATA

Properties	Test Method	Unit	WX-9950UV	WX-9951UV	WX-9950U
Specific Gravity	ISO 1183	-	1.16	1.15	1.15
MI	ISO 1133(220°C,10kg)	g/10min	5	6	5.5
TS at yield	ISO 527	MPa	65	58	52
Impact Strength	ISO 180 1A (23°C)	KJ/m²	4	5.5	7
HDT	ISO 75A-2 (1.8MPa)	°C	77	75	75



Front Grille

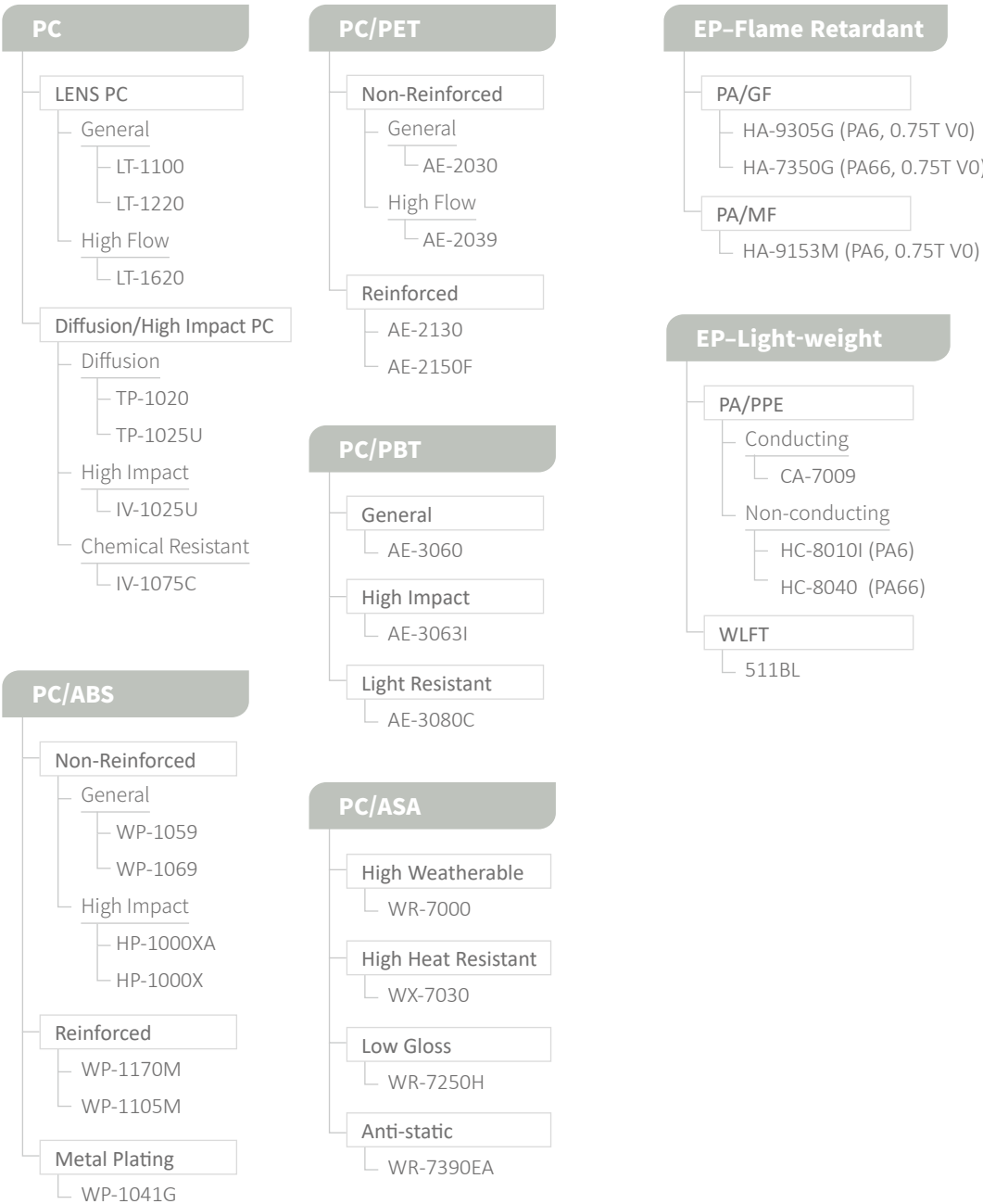


Pillar



INFINO® PC, PC Alloys & EP

PRODUCT LINE UP



Lens PC

KEY FEATURES

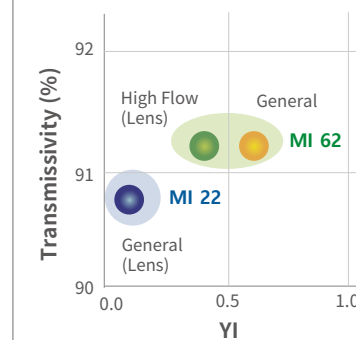
- Weatherability
- Optical Property
- Processability
- Low Gas

APPLICATIONS

- Head/Fog Lamp Lens & Bezel
- Rear Lamp Reflector
- Interior Garnish

CHARACTERISTICS

Transmissivity



PRODUCT DATA

Properties	Test Method	Unit	LT-1100	LT-1220	LT-1620
Specific Gravity	ISO 1183	-	1.2	1.2	1.2
MI	ISO 1133 (300°C, 1.2kg)	g/10min	11	22	62
TS at yield	ISO 527	MPa	64	64	64
Impact Strength	ISO 180 1A (23°C)	KJ/m²	80	65	50
HDT	ISO 75A-2 (1.8MPa)	°C	125	123	121



Head Lamp Lens



Head Lamp Bezel

Diffusion/High Impact PC

KEY FEATURES

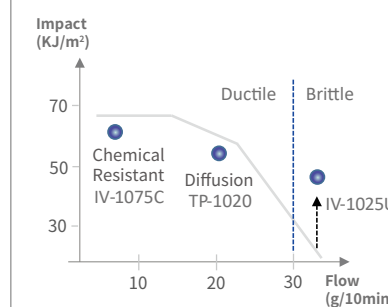
- Processability
- Surface Quality
- High Luminance
- Chemical Resistance

APPLICATIONS

- Door Garnish
- HVAC Overlay
- Button

CHARACTERISTICS

Ductile-Brittle Transition



PRODUCT DATA

Properties	Test Method	Unit	TP-1020	IV-1075C	IV-1025U
Specific Gravity	ISO 1183	-	1.19	1.19	1.19
MI	ISO 1133 (300°C, 1.2kg)	g/10min	20	7	33
TS at yield	ISO 527	MPa	59	59	59
Impact Strength	ISO 180 1A (23°C)	KJ/m²	53	62	47
HDT	ISO 75A-2 (1.8MPa)	°C	124	118	117
Light Resistance	84MJ, 1T	-	-	dE 2.0↓	dE 2.0↓



HVAC Overlay, Button

※ For inquiries about anti-microbial, eco-friendly materials, please contact us.

PC/ABS _ Reinforced, Metal Plating

- KEY FEATURES
- Reinforced

 - Heat Resistance
 - Paintability
- Metal Plating

 - Processability
 - Durability
 - Impact Strength

- APPLICATIONS
- Reinforced

 - Cowl Top Cover
 - Center Garnish
 - Spoiler
- Metal Plating

 - Front Grille
 - Wheel Cover
 - Outside Door Handle

PRODUCT DATA					
Properties	Test Method	Unit	PC/ABS/MF		PC/ABS
			WP-1105M	WP-1170M	WP-1041G
Specific Gravity	ISO 1183	-	1.25	1.28	1.09
MI	ISO 1133	g/10min	22 (260°C, 5kg)	12.5 (260°C, 5kg)	35 (250°C, 10kg)
FM	ISO 178	MPa	3,050	3,800	19,500
Impact Strength	ISO 180 1A (23°C)	KJ/m²	12	6	55
HDT	ISO 75A-2 (1.8MPa)	°C	120	121	93



Spoiler

Wheel Cover

Outside Door Handle

PC/Polyester

- KEY FEATURES
- Pc/Pet

 - Paintability
 - Surface Quality
 - High Heat Resistance
 - Chemical Resistance
 - Dimensional Stability
- Pc/Pbt

 - Flowability
 - Light Resistance
 - High Modulus
 - Dimensional Stability

- APPLICATIONS
- Pc/Pet

 - Front Grille
 - Spoiler
 - Air Deflector
- Pc/Pbt

 - Door Handle
 - Interior Garnish
 - Air Vent

PRODUCT DATA						
Properties	Test Method	Unit	PC/PET		PC/PBT	
			AE-2030	AE-2150F	AE-3060	AE-3080C
Specific Gravity	ISO 1183	-	1.2	1.35	1.21	1.19
MI	ISO 1133	g/10min	22 (260°C, 5kg)	30 (260°C, 5kg)	10 (250°C, 5kg)	15 (250°C, 5kg)
FM	ISO 178	MPa	2,200	4,300	2,100	2,100
Impact Strength	ISO 180 1A (23°C)	KJ/m²	59	5	69	60
HDT	ISO 75A-2 (1.8MPa)	°C	97	115	90	95



Front Grille

Spoiler

Air Vent

PC/ASA

- KEY FEATURES
- Weatherability
 - Processability

- APPLICATIONS
- Front Grille
 - Spoiler
 - Pillar
 - Body Panel
 - Exterior Garnish
 - Overhead Console
 - Roof Rack

CHARACTERISTICS

Weatherability, Light Resistance

	Grade	OEM/Color	Spec	Result
Weatherability	WR-7000	FCA/GXH, GM/848	SAE J 2527(2,500kJ/m²), dE<3	2
	WX-7030	Fiat /ALL	FIAT 50451(1,500hr), dE<3	2
Light Resistance	WR-7250H	HKMC/ALL	MS210-05(84MJ/m²), dE<2	1

Balanced Properties

WR-7000 Reference 1.

WX-7030 Reference 2.

Properties	Test Method	Unit	WR-7000	WX-7010	WX-7030	WR-7250H
Specific Gravity	ISO 1183	-	1.15	1.16	1.16	1.16
MI	ISO 1133(250°C, 10kg)	g/10min	23	30	38	40
FM	ISO 527	MPa	53	56	60	57
Impact Strength	ISO 180 1A (23°C)	KJ/m²	40	50	50	55
HDT	ISO 75A-1 (1.8 MPa)	°C	98	101	113	105



Spoiler

Overhead Console

Roof Rack

Flame Retardant EP

- KEY FEATURES
- Electrical Properties
 - Flame Retardant

- APPLICATIONS
- Battery Module Housing
 - Busbar Holder
 - Seperator

CHARACTERISTICS

Tensile Strength, HDT

Application : Battery

Pouch Type

Pouch Frame

- FR mPPE/GF
- FR PA6/MF

Prismatic Type

Top Cover

- FR PC, FR PC/ABS

Busbar Holder

- FR PA/GF, FR mPPE/GF

Separator

- FR mPPE/GF, FR PA/GF

Housing & End plate

- FR PA66/GF

Properties	Test Method	Unit	HA-9305G	HA-7350G	HA-9153M
GF	-	%	30	35	15(MF)
Specific Gravity	ISO 1183	-	1.43	1.48	1.28
TS at yield	ISO 527	MPa	147	157	40
FM	ISO 178	MPa	235	240	75
FS	ISO 178	MPa	10,100	10,400	3,400
Impact Strength	ISO 180 1A (23°C)	KJ/m²	10	8	3
HDT	ISO 75A-2 (1.8MPa)	°C	202	230	78

PRODUCT DATA

Light-weight EP

WLFT

※ Woven Long-Fiber Hybrid Thermoplastic Composites

KEY FEATURES

- Weight Reduction
(20% Lighter Than Steel)
- High Modulus
- High Strength

APPLICATIONS

- Bumper Back Beam
- Battery Pack
- Stiffener

CHARACTERISTICS

WLFT Composition layer

LFT

WFT

LFT

WFT

LFT

High Modulus : Dead Load Test

- Excellent high modulus compared to ref. (UD_GF45)

※ UD : Uni Directional

High Strength : Collision Test

- Before
- After

No product damage after collision test

PRODUCT DATA

Properties	Test Method	Unit	WLFT-511BL
Specific Gravity	ASTM D792	-	1.19
TS at yield	ASTM D638	MPa	216
Impact Strength	ASTM D256	J	460
High-velocity Impact	ASTM D256	J	30
HDT	ASTM D648	°C	160



Performance Materials

PRODUCT LINE UP

Lottmer

TPE

TPE-V (TPV)

- Weatherable

HS-350DB
- High Flow

HS-385AB
- Heat & Oil Resistant

HX-064AB

TPE-S (TPS)

- High Flow

SE-050AB(S2)
- Injection Adhesion (Over molding)

SH-660AB

Howpol

EPP

General

- General

EPP-B15P

- Expansion ratio : 10~75times

- Color : ALL (*B:Black)
- Flame Retardant

EPP-B15P_FR

- Expansion ratio : 10~40times

- Color : ALL
- Anti-static

EPP-B15P_AS

- Expansion ratio : 13.5~40times

- Color : ALL
- Semi-conducting

EPP-B15P_ES

- Expansion ratio : 10~40times

- Color : Black(Only)

High Resilience (HRF)

- HRF-B15P

Expansion ratio : 10~45times

Color : ALL
- ※ HRF : High Resilience Foam

※ For inquiries about anti-microbial, eco-friendly materials, please contact us.



KEY FEATURES

- Resilience (Rubber)
- Processability (Thermoplastic Resin)
- Weatherability
- Light Resistance

APPLICATIONS

- Glass Run Channel
- Cowl Top Cover Strip
- Hvac Door Seal
- Door Curtain
- Car Mat
- Clamp Rubber
- Fuel Door Seal

PRODUCT DATA

Grade			HS-350DB	HS-385AB	HX-064AB	SE-050AB	SH-660AB
Properties	Test Method	Unit	Weatherability	Weatherability, Flowability	Heat & Oil Resistance	Flowability	PA Adhesion
Hardness	ISO 868	[Shore A]	50 [Shore D]	85	70	50	60
Specific Gravity	ISO 1183	-	0.95	0.96	0.97	0.96	1.08
TS at yield	ISO 34	kgf/cm ²	145	80	66	55	40
Elongation	ISO 34	%	600	500	450	650	400
100%Modulus	ISO 34	kgf/cm ²	-	48	28	15	-



Cowl Top Cover Strip



Car Mat



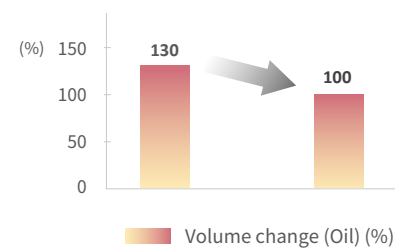
Fuel Door Seal

CHARACTERISTICS

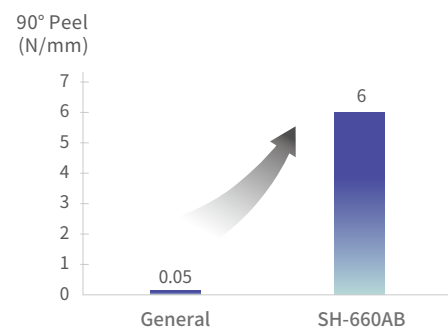
Weatherability, Light Resistance

TEST		dE	
		Result	SPEC.
Light Resistance	SAE J 2412	0.8	
Weatherability	SAE J 1960	1.3	<3
Arizona	Duration 105,000 TNR Langleys	1.6	

Oil Resistance



Injection Adhesion



- SH-660AB



- General (peeled off)



KEY FEATURES

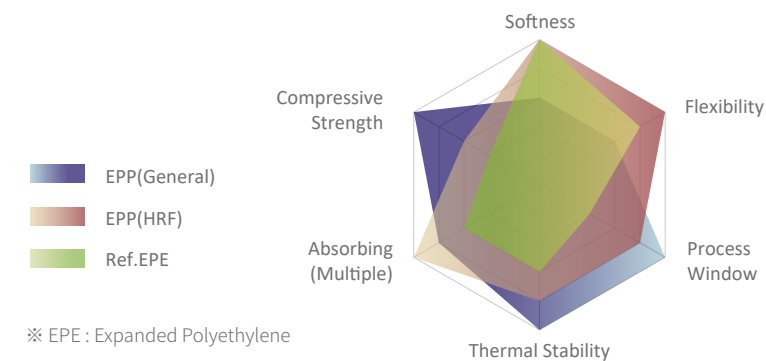
- Recyclability
- Resilience Restoring Strength
- Buoyancy
- Sound /Heat Insulation
- Chemical Resistant

APPLICATIONS

- Energy Absorber
- Tool Box
- Sunvisors

CHARACTERISTICS

Product Properties



Flexural Properties Comparison

- Flexural test



- Resilience

Product (W20P) * White, 20 times	EPP(General)	EPP(HRF)	Ref. (EPE)
Tensile Elongation (%)	25	51	35
Compressive strength (@25%, kgf/Cm ²)	2.1	0.9	0.8

PRODUCT DATA

Properties	Test Method	Unit	EPP(General)		EPP(HRF)	
			15P	30P	15P	30P
Specific Gravity	LCC Method	-	60	30	60	30
TS at yield	ISO 1798	kPa	842	333	720	213
Elongation	ISO 1798	%	20	19	50	40
Compressive Strength (25%)	ISO 3386-1	kPa	370	117	127	79



Tool Box



Energy Absorber



CASE STUDY

ASA/PMMA

LOTTE Chemical introduces ASA/PMMA materials that put together the advantages of ASA and PMMA by utilizing its differentiated technology platform. The high-gloss non-painting product, which does not require post-processing, features colorability, high weather resistance and scratch resistance.



OEM APPROVAL LIST			
Brand	Model	Year	Applications
Cadillac	Escalade	2019	Grille
Chevrolet	Trail Blazer	2020	Grille
BYD	Tang	2020	Outside Mirror
Hyundai	Creta	2021	Pillar

KEY FEATURES	
• High Gloss • Weatherability, UV Stability • Scratch Resistant, High Impact	
CUSTOMER BENEFIT	
• MIC Solution : Piano black color • Scratch Resistance, Impact Strength	

Door Module LFT

LOTTE Chemical has developed PP/LGF compounds and secured processing technology such as proprietary resin impregnation, thereby improving long glass fiber impregnation and dispersibility in a way that ensures stable and balanced material property as well as excellent appearance.



OEM APPROVAL LIST			
Brand	Model	Year	Applications
BMW	X3/X4/X5	2017	Carrier plate
Daimler	CLE, A-Class	2018	Carrier plate
Tesla	Model Y	2021	Carrier plate
Ford	Escape	2018	Carrier Plate
Hyundai	Sorento Tucson	2020	Carrier plate

KEY FEATURES	
• Excellent Side Impact Strength (Door) • Dimensional Stability : Low WArpage • Low Tvoc	
CUSTOMER BENEFIT	
• Metal Replacement • Weight Reduction (20% lighter than steel), Design Freedom	

LOTTE CHEMICAL R&D INFRA SOLUTION

LOTTE Chemical's Advanced Materials business provides unique products and latest technologies to customers by strengthening its R&D infrastructure and setting up a certification system.

In-house Integrated Process

LOTTE Chemical provides certification services tailored for customers by running an internal material safety testing and certification programs.

In-house Integrated Process

Certification Test

Certification Report

Result Review

- **UL 94 [Flame Retardant] Cert. Lab**
Asia-first UL 94 Flame retardant cert in-house test lab (2012)
- **UL RTI [Long-term Heat-resistance] Cert. Lab**
- South Korea-first RTI (746B) long-term heat-resistance cert in-house test lab (2018)
- Long-term heat-resistance test & Review

In-house UL Certification Lab

LOTTE Chemical offers materials and color design in line with new trends and concepts, and provides material design solutions tailored for customers through collaboration.

- Meta trend & MYX material, mass production case for specific application
- Customized Color Solutions : More than 70,000 colors

CAE Engineering

We provide CAE total solutions including design and process optimization based on computer simulation models of automotive parts that need the application of materials.

Parts Planning	Part Design & Analysis	Process & Part Develop-	Performance Verification
Discover and broaden new app.	Optimal part design	New process design	Verification of material properties
Review new materials & processes	Design for mass producing parts	Optimized process development	Verification of part performance
	Computer simulation	Mold technology	
Collision analysis(Bumper)	Flow analysis(IP, Door Module)	Real car crash test	Pendulum test



About LOTTE

A global group creating a better life for all, LOTTE endeavors to realize this ambitious dream.



New Today,
Better Tomorrow

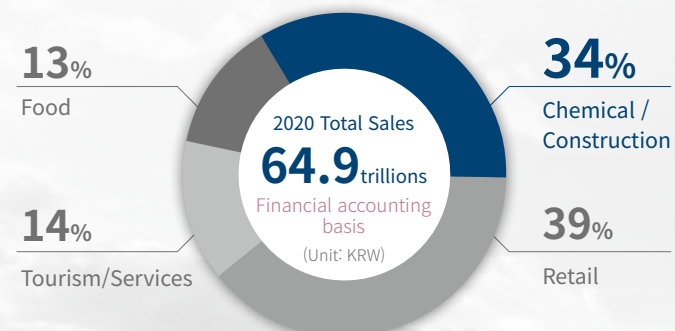
MISSION

We enrich people's lives by providing superior products and services that our customers love and trust.

VISION

Lifetime
Value
Creator

Major Business Unit Portfolio



About LOTTE CHEMICAL

LOTTE Chemical's technologies help to enrich our daily lives.

Field of Business



Basic
Chemicals

Basic/Intermediate Petrochemicals
Polymer
Monomer

Ethylene, Propylene, BD, SM, OX, C5
PE, PP, PET
EO/EG/GE, EOA, PIA/PTA/MMA

Advanced
Materials

High Performance
Plastic Materials

STOREx Styrene & general product ABS, ABS Alloy, ASA, PP
INFINO Engineering plastics PC, PC Alloy & High Performance EP
Performance materials PP Compound, TPE, Modified adhesive resin,
LFT, EPP

Construction Materials
Water Treatment
Membrane

Acrylic solid surface, Engineered stone, Porcelain surface

Capacity (Unit: KTA)



BASIC CHEMICALS



Product	Capacity (KTA)
EL	4,513
PL	1,697
BD	450
BZ	766
TL	339
MX	139

MONOMER



Product	Capacity (KTA)
EG	1,830
SM	577
PX	750
OX	210
Me-X	360
PIA	520

POLYMER



Product	Capacity (KTA)
HDPE	1,605
LLDPE	490
LDPE/EVA	360
PP	1,820
PET	520
ABS	670
PC	460

SPECIALTY



Product	Capacity (KTA)
EPDM	96
MMA	260
PMMA	110
S-SBR	100
EOA	330
Acrylic solid surface	970k sheets
Engineered stone	440k sheets

Sales & Production Sites



HQ/R&D

HQ Seoul
R&D Uiwang, Daejeon

PRODUCTION PLANT

Asia Malaysia, Uzbekistan, Pakistan,
South Korea, China, Vietnam,
India, Indonesia
Europe Hungary, Turkey (E-stone)
America U.S, Mexico

22 Countries

26 Production bases

SALES CORPORATION

Asia China, Thailand, Japan
Europe Germany, Poland
America/Africa U.S, Nigeria

Employees Worldwide



Including major subsidiaries
(Domestic & Overseas)

10,765

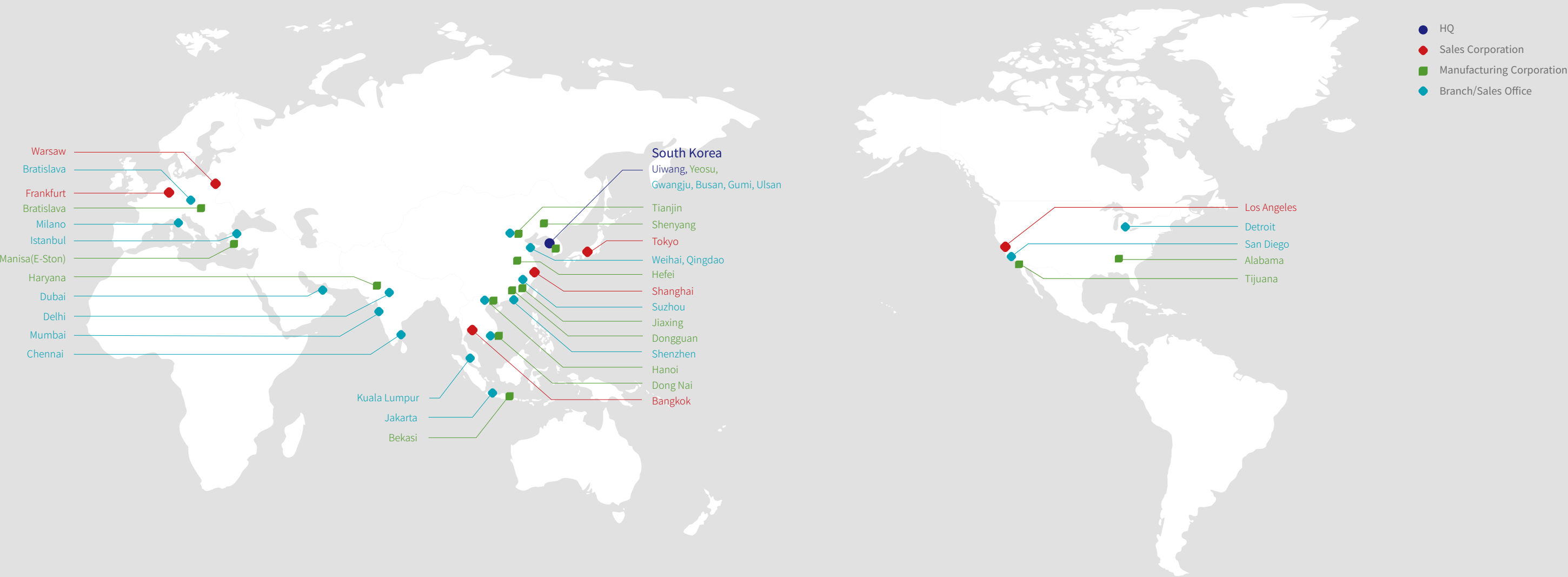
Business Performance(2021) (Unit: KRW)



Sales 18,120 billion

Capital 17,137 billion

Global **Network** [Advanced Materials]



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Uiwang(Advanced Materials) Tel. +82-31-596-3114 Yeosu Plant Tel. +82-61-689-1459 Gwangju Service Office Tel. +82-62-945-1353 Busan Service Office Tel. +82-51-465-6829 Gumi Sales Office Tel. +82-54-468-2811 Ulsan Sales Office Tel. +82-52-267-9804	Los Angeles, U.S.A. Tel. +1-714-443-0907 Frankfurt, Germany Tel. +49-6196-772-7260 Shanghai, China Tel. +86-21-6270-3000 Tokyo, Japan Tel. 81-3-6369-6429 Bangkok, Thailand Tel. +66-2-624-6726 Warsaw, Poland Tel. +48-506-760-890	ASIA Tianjin, China Tel. +86-22-5868-0291(620) Dongguan, China Tel. +86-769-8300-9852 Shenyang, China Tel. +86-198-2402-0134 Hefei, China Tel. +86-186-0573-0711 Jiaxing, China Tel. +86-185-0573-7977 Dong Nai, Vietnam Tel. +84-33-270-9970 Hanoi, Vietnam Tel. +84-33-270-9970 Haryana, India Tel. +91-88001-02170 Bekasi, Indonesia Tel. +62-21-5099-8896 EUROPE Tatabanya, Hungary Tel. +36-34-814-120 Manisa, Turkey Tel. +90-236-213-03-43 AMERICA Tijuana, Mexico Tel. +52-664-407-5813 Alabama, U.S.A. Tel. +1-334-748-0667	ASIA Suzhou, China Tel. +86-512-6262-0323 Qingdao, China Tel. +86-532-8577-9681 Shenzhen, China Tel. +86-755-8203-2323 Tianjin, China Tel. +86-22-2836-4258 Weihai, China Tel. +86-631-5666-812 Hanoi, Vietnam Tel. +84-243-227-2071 Dong Nai, Vietnam Tel. +84-251-351-4390 Kuala Lumpur, Malaysia Tel. +60-3-2283-3714 Jakarta, Indonesia Tel. +62-21-2788-3391 Chennai, India Tel. +91-44-4299-4255 Delhi, India Tel. +91-124-4153-804 Mumbai, India Tel. +91-22-6110-0177 MIDDLE EAST Dubai, U.A.E. Tel. +971-4-245-1400 EUROPE Bratislava, Slovakia Tel. +421-220-375-114 Milano, Italy Tel. +39-02-02 0069-7182 Istanbul, Turkey Tel. +90-212-437-8101(115) AMERICA Detroit, U.S.A. Tel. +1-248-509-7458 San Diego, U.S.A. Tel. +1-619-551-7000