

KompoGTe[®]

Long Fiber Reinforced
Thermoplastic

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Company at a glance

KOLON INDUSTRIES is dedicated to making the world a better place by drawing on the DNA of KOLON Group, 'LifeStyle Innovator.' As a leading engineering plastics manufacturing company in Korea, it has developed a diverse product portfolio, which includes POM, PA, PBT, TPEE, and supplies these products to over 90 countries worldwide.

KOLON INDUSTRIES is committed to providing unique value to its customers, through continuous research and development and by improving the competitiveness of its products.

KOLON INDUSTRIES has gained market recognition and the trust of its customers. In the future, We will continue to grow as a company that garners attention in the market and earns the trust of its customers by providing even greater value to them.



ESTABLISHMENT
April, 1957



HEAD OFFICE
Korea



SALES
3,425 mil. USD (2025)

KompoGTe®

Long Fiber Reinforced
Thermoplastic

KompoGTe®

KompoGTe® is reinforced composite material. Two or more materials are artificially bind to bring out the superior characteristics from each or to create a whole new properties.

KompoGTe® has Long Fiber Reinforced Thermoplastic(LFT).

KompoGTe® has superior properties comparing to traditional materials in properties such as strength, fatigue resistance, wear resistance, impact resistance, and etc.

Therefore, not only auto industry have large interest in KompoGTe®, but sports, ship, construction, energy industries also have their highlight on it. We, KOLON INDUSTRIES, have our own unique impregnation technology enable us to produce reinforced composite material with excellent performance.

CHARACTERISTIC OF KompoGTe®

LFT

MECHANICAL PROPERTIES

KompoGTe® LFT is produced through optimized impregnation technology. Continuous Glass Fiber and Carbon Fiber are added to Polypropylene and Polyamide to acquire better stiffness and strength.

Grades reinforced with glass fiber have superior stiffness, and we provide various glass fiber reinforced grades.

LENGTH OF REINFORCEMENTS

The length of KompoGTe® LFT pellet is controlled by pultrusion method to 6 ~ 12mm. Remaining length of glass fiber after injection molding is 10 times longer than SGF(shot glass fiber) reinforced grade, enabling KompoGTe® LFT to perform better mechanical properties.

APPLICATIONS (LFT)

ENGINE COVER



SEAT UNDER COVER



BATTERY TRAY

LE1G50BL

- ▶ High Stiffness
- ▶ Easy to Mold



IP CORE



HEAD LAMP BRACKET



REAR ARM REST

LE1G30BL1

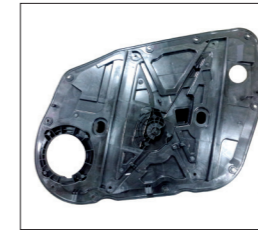
- ▶ High Stiffness
- ▶ Easy to Mold



DOOR MODULE PLATE

LE1G20HIBL

- ▶ Dimensional Stability
- ▶ High Impact



ION FILTER HOUSING

LE1G30BL1

- ▶ Low Cation Migration
- ▶ Easy to Mold



BATTERY TUB

LE1G60BL

- ▶ High Stiffness
- ▶ Dimensional Stability



OVERVIEW PRODUCT PORTFOLIO

CATEGORY	FEATURE	GRADE	MAIN APPLICATION
LFT	GF Reinforced	LE1G20BL1	Glove Box
		LE1G25BL	Hunting Gun Body
		LE1G30BL1	Window Motor Housing, Arm Rest, Arm Rest Box
		LE1G30HBL	Accelerator Pedal Module
		LE1G40	TGS Bracket
		LE1G40BL1	Headlamp Bracket
		LE1G502	Washing Machine Tub
		LE1G50BL1	Battery Tub
		LE1G60BL	Battery Tub
	GF Reinforced, Impact Modified	LE1G30HSBL	Engine Cover
		LE1G20HIBL	Door Module
		LE1G30HI	Headlamp Bracket
		LE1G30HIBL	
		LE1G40HIBL2	Seat Under Cover
	Flame Retardance	LE1G10V0BL	
		LE1G30BLW	Active Air Flap Housing
	Polyamide Base	LN1G30BL	
		LN1G40BL	
		LN1G50BL	

KompoGTe® LFT Material

RESIN		REINFORCEMENT	CONTENT		CHARACTERISTIC	COLOR	
L		1	G	4	0	I	B L

RESIN

LN1	PA6
LN3	PA66
LN9	PA alloy
LA1	POM
LE1	PP

REINFORCEMENT

C	CONTENT
20	

CHARACTERISTICS

B	Blending
F	High flow
H	Heat resistant
HI	High Impact
R	Water resistant
W	Weather resistant

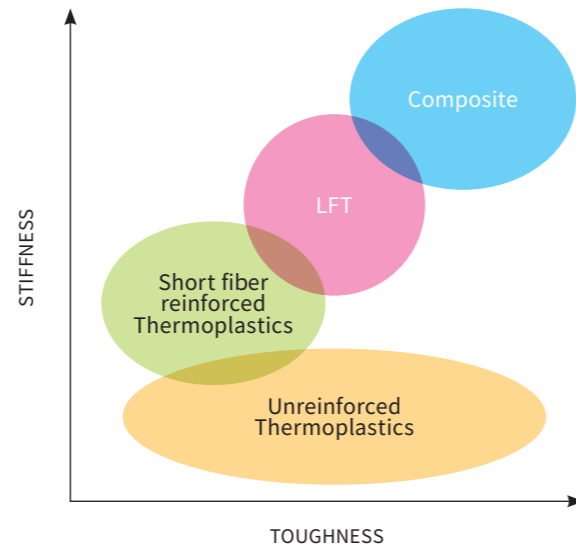
COLOR

BL	Black
WH	White
GR	Gray

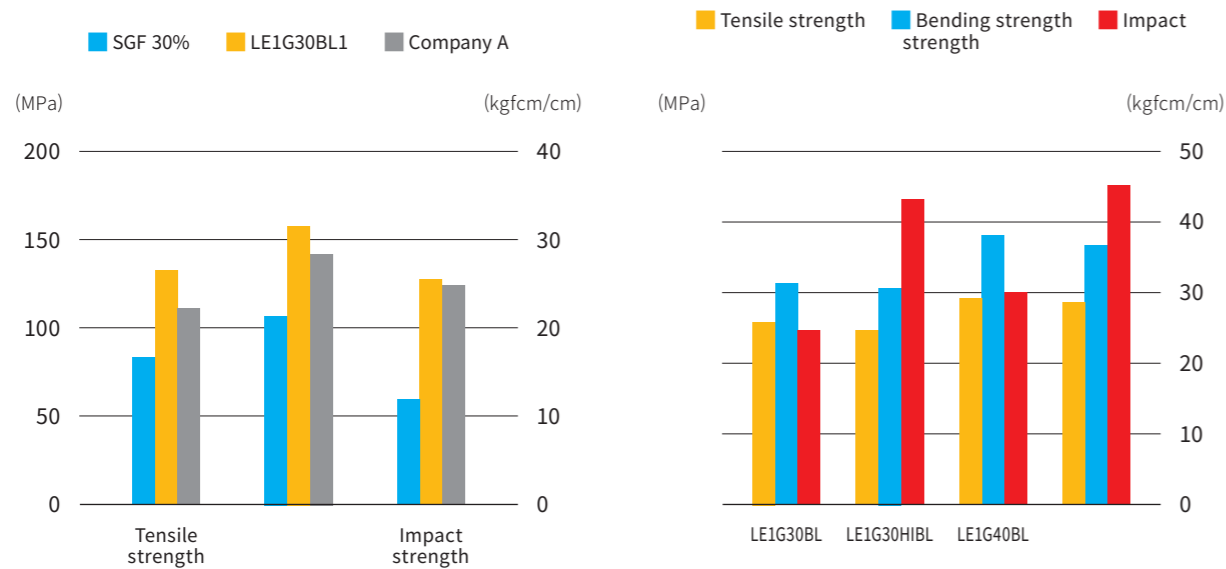
THE PROPERTIES OF KompoGTe® LFT

HIGH STIFFNESS & IMPACT RESISTANCE

KompoGTe® LFT is superior in stiffness and impact resistance compared to short fiber reinforced materials. In addition, our impregnation technology provides property compared to competitors.



MECHANICAL PROPERTIES



MECHANICAL PROPERTIES of KompoGTe® (LFT)

Property	Specific Gravity	Ash	Tensile Strength	Flexural Strength	Flexural Modulus	Impact Strength (Notched IZOD)	Heat Deflection Temperature
TEST METHOD	ISO 1183	ISO 3451	ISO 527	ISO 178	ISO 178	ISO 180	ISO 75
UNIT		%	MPa	MPa	MPa	KJ/m2	°C
LE1G20BL1	1.02	20	110	135	4,450	16.8	157
LE1G30BL1	1.10	30	135	170	6,150	23.8	160
LE1G30HI	1.10	30	135	170	6,000	26.8	159
LE1G30HIBL	1.10	30	125	160	5,950	24.4	159
LE1G40	1.18	40	145	200	8,100	28.0	163
LE1G40BL1	1.18	40	140	185	7,750	25.9	163
LE1G40HIBL2	1.20	40	145	190	7,500	29.4	163
LE1G50BL1	1.29	50	160	210	9,800	31.5	163
LE1G502	1.29	50	160	225	10,400	32.7	163
LE1G60	1.41	60	150	190	11,500	29.2	163
LE1G60BL	1.41	60	150	220	14,500	34.0	163
LN1G30BL	1.36	30	165	240	8,300	24.3	220

INJECTION CONDITIONS & HANDLING PRECAUTIONS of KompoGTe®(LFT)

PRE DRYING

KompoGTe® is a reinforced polypropylene product with low water absorption, but it is recommended to dry it before use after opening. If exposed to high humidity environments or not used immediately after opening, it may result in cosmetic defects such as Silver Streak.

DRYING CONDITION

Heating or dehumidification drying at 80~90°C, in 2~4 hours

INJECTION CONDITIONS

To determine the optimal molding conditions for KompoGTe®, resin flow characteristics, molding shrinkage, dimensional precision, quality stability, uniformity, and economy should be considered. These considerations require a pre-production review before mold making. KompoGTe® has differences in shrinkage rate depending on the fiber orientation, so pre-production review is essential before mold making

The screw of the injection molding machine should have a compression ratio of 2.4-3.4 or higher, and it is advantageous to use a screw-type injection molding machine with improved wear resistance and chrome plating. We recommend using an injection molding machine designed specifically for long fibers, but a general-purpose injection molding machine can also be used. However, in the case of a general-purpose injection molding machine, the residual length of glass fibers may be reduced.

Generally, the injection temperature for KompoGTe® is set 20°C higher than its melting point of 165°C, but it is recommended to set it below 270°C to prevent thermal decomposition and discoloration. If the melt temperature is too high, the resin can degrade, causing an increase in volatile content, which can lead to the formation of bubbles or silver streaks on the product surface, and increase the likelihood of shrinkage or warpage. In addition, if the injection pressure is too high, the fiber residual length may decrease, which can degrade the material properties, so it is recommended to set the maximum pressure below 15% of the highest back pressure.

INJECTION CONDITIONS & HANDLING PRECAUTIONS of KompoGTe®(LFT)

THERMAL DECOMPOSITION

When KompoGTe® is molded at temperatures above 270°C or left in the cylinder at temperatures above 240°C for a long time (more than 20 minutes), it may cause thermal decomposition gas and discoloration of the resin.

PREVENTION OF DECOMPOSITION

- Try to keep the injection temperature setting below 260°C if possible.
- When the operation is stopped for a long time, purge the resin inside the cylinder and stop the operation.
- When the operation is stopped and delayed, set the cylinder temperature to around 170°C.
- Keep the resin and recycled material away from moisture and contamination.

MATERIAL RECYCLE

KompoGTe® does not recommend the use of recycled materials to obtain high-quality molded products. If using recycled materials, please manage the proportion of recycled materials to be 10% or less.

CAUTION FOR MATERIAL RECYCLE

- Repeated use of recycled material may cause deterioration of properties.
- If the particles of recycled material are not uniform, molding defects may occur due to differences in degradation and gas generation.
- If the amount of recycled material is high, dimensional differences may occur in the molded product.
- Avoid moisture absorption and contamination of recycled material.

CONDITIONS FOR INJECTION MOLDING

MOLDING PARAMETERS	Reinforced 20% KompoGTe® LFT	Reinforced 30% KompoGTe® LFT	Reinforced 40% KompoGTe® LFT	Reinforced 50% KompoGTe® LFT	Reinforced 60% KompoGTe® LFT	
Recommended Moisture Contents(%)	≤ 0.1					
Melting Temperature (°C)	165 ± 5					
Cylinder Temperature (°C)	Nozzle	225 ~ 245	230 ~ 250	235 ~ 255	235 ~ 255	235 ~ 255
	Front	225 ~ 245	230 ~ 250	235 ~ 255	235 ~ 255	235 ~ 255
	Middle	220 ~ 240	220 ~ 240	220 ~ 240	220 ~ 240	220 ~ 240
	Rear	200 ~ 220	200 ~ 220	200 ~ 220	200 ~ 220	200 ~ 220
Mold Temperature (°C)	40 ~ 80					
Holding Pressure (%)	35 ~ 65 of maximum injection pressure					
Cushion (mm)	5 ~ 10					



For more detailed information regarding injection molding conditions, please contact the technical support representative at KOLON INDUSTRIES.



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