Other Characteristics

General Characteristic and Grade Lineup
Physical Properties
Injection Molding / Fabricatinging
Applications

Evolved Gases from Moldings

When SUMIKASUPER LCP moldings are heated, extremely low amounts of gases are generated, as is shown in Figure 2.

Figure 1 Method of analysis of gas generation from the moldings

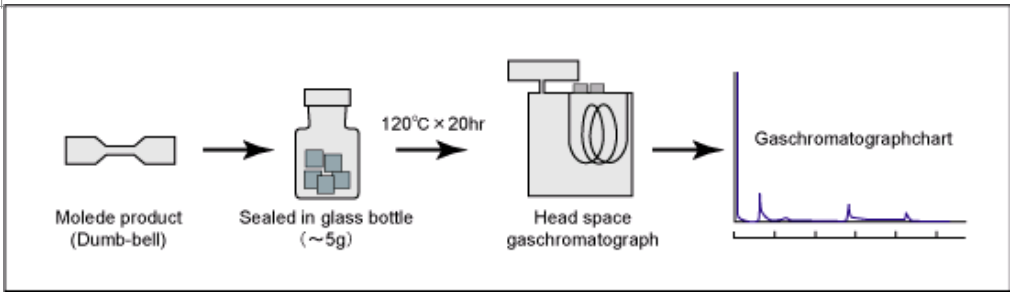
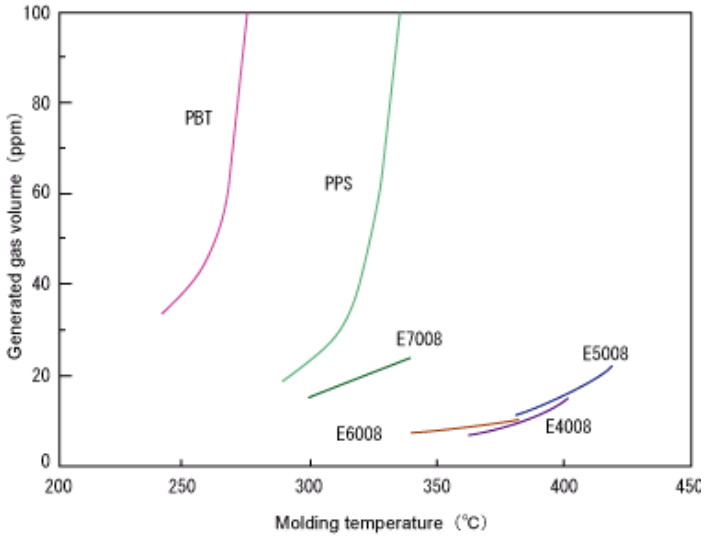


Figure 2 Amount of Gas Generation from SUMIKASUPER LCP



Analysis device :Head space gaschromatograph
Specimen pre-treatment conditions :120 ℃ , 20hr heating

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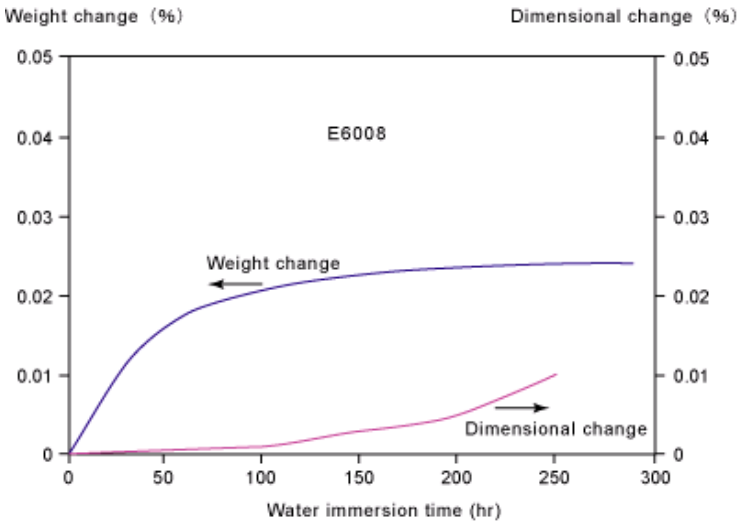
Water Absorption

SUMIKASUPER LCP shows very low water absorption of only 0.02%.
As well, even if left in water over extended periods of time, almost no changes in weight or dimensions will be observed (Figure 3).

Figure 3 Changes in Weight and Dimensions due to Water Absorption (E6008)



Test piece: 64 x 64 x 3t mm

Chemical Resistance

The table below shows data on chemical resistance for SUMIKASUPER LCP. SUMIKASUPER LCP possesses outstanding chemical resistance and will not expand or deteriorate when exposed to oils, even at high temperatures. However, the evaluation of effects should be conducted on actual moldings prior to usage.

Table 1 Chemical Resistance

Chemical name	Condition		SUMIKASUPER LCP
	Temperature(℃)	Time	Evaluation
20% hydrochloric acid	50	30 days	○
20% sulfuric acid	50	30 days	○
40% nitric acid	50	30 days	○
Glacious acetic acid	50	30 days	○
10% sodium hydoxide	50	30 days	×
10% aqueous ammonia	50	30 days	×
Acetone	Reflux	100hr	○
Methylethyl ketone	Reflux	100hr	△
Trichloroethane	Reflux	100hr	○
Methylene chloride	Reflux	100hr	○
Toluene	Reflux	100hr	○
Methanol	Reflux	100hr	○
Ethanol	Reflux	100hr	○
Ethyl acetate	Reflux	100hr	△
Dimethyl formamide	Reflux	100hr	×
Gasoline	Room temperature	30 days	○
Engine oil	120	2000hr	○
Gear oil	120	2000hr	○

Evaluation : ○ : Reduction of tensile strength 5% or less Change of weight 2% or less
× : Not usable.

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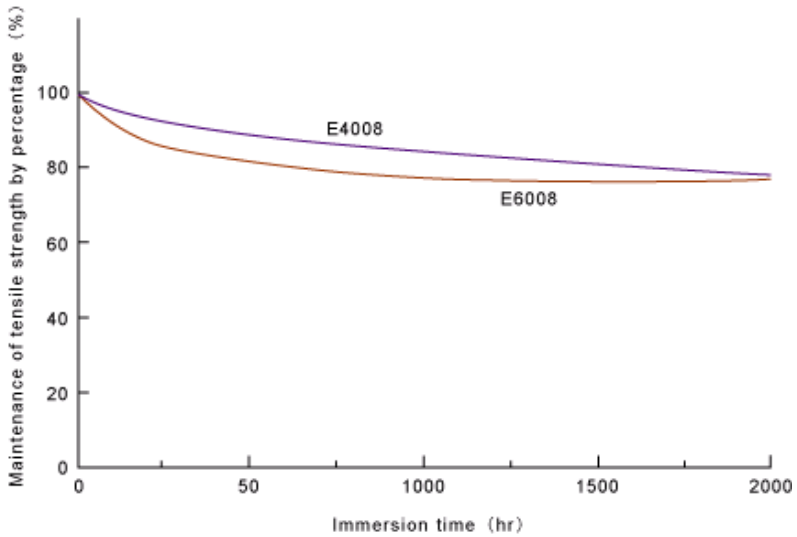
Hot Water Resistance

SUMIKASUPER LCP still demonstrates effective levels of strength, even after 2000 hours of soaking in hot water, at a temperature of 80 ℃. However, when exposed to steam at temperatures of greater than 120 ℃, hydrolysis begin to occur, causing large strength degradation and rendering the product unusable.

Figure 4 Hot Water Resistance (80 ℃)



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