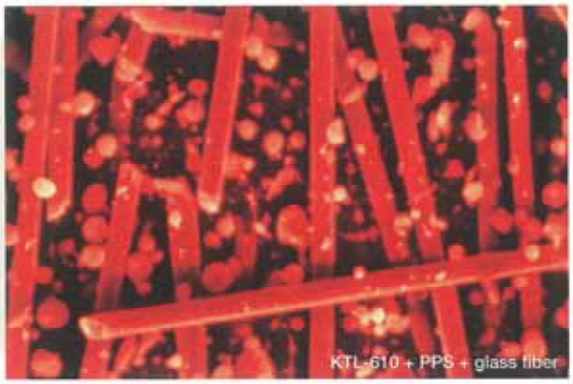
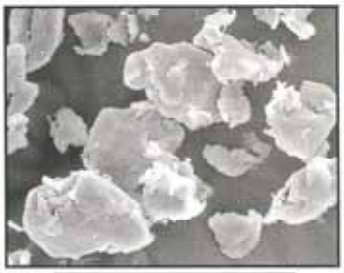
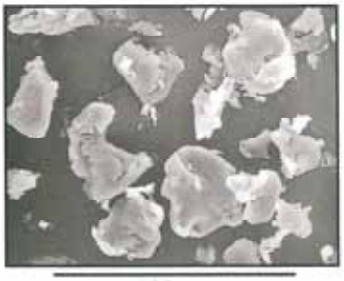
KTL·KT Series List 1

KITAMURA LIMITED
Polytetrafluoroethylene Solid Powder Lubricants

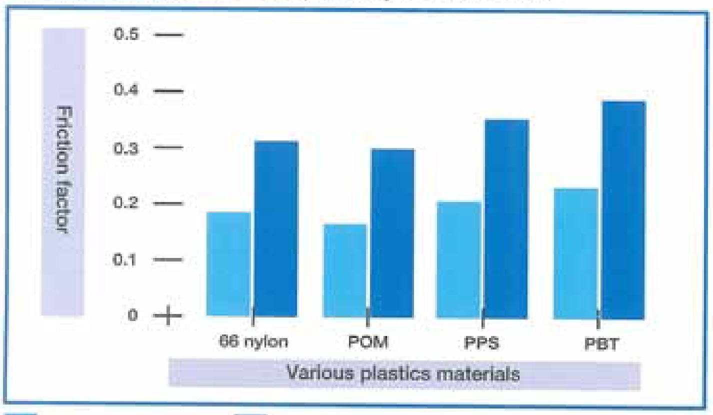


KTL/KT grades for engineering plastics additives will not flow even when molded at and over the melting point, retaining grain size for uniform dispersion.

Property \ Type		KT-300M	KT-400M
Appearance		White powder	White powder
Whiteness level		95.00 or more	95.00 or more
Specific gravity		2.1～2.2	2.1～2.2
Apparent density		0.45g/ml or more	0.45g/ml or more
Particle distribution Microtrack FRA	Max. particle size	148μm on 1% or less	104.65μm on 1% or less
	50% mean particle size	40.00±5.00μm	33.00±5.00μm
Melting point		320℃ or more	320℃ or more
Heat resistance temperature		450℃ or more	450℃ or more
Volatile loss (150℃,2hr)		0.05wt% or less	0.05wt% or less
Chemical resistance		Inert to most chemicals and solvents	Inert to most chemicals and solvents
Features		・Fine powder of completely sintered high-molecular-weight PTFE. ・Most heat-resistant. ・Does not generate pyrolysis gas at high temperatures (400℃ or higher). ・Does not flow at temperatures at or over the melting point, retaining uniform dispersion at high temperatures.	・Fine powder of completely sintered high-molecular-weight PTFE. ・Most heat-resistant. ・Does not generate pyrolysis gas at high temperatures (400℃ or higher). ・Does not flow at temperatures at or over the melting point, retaining uniform dispersion at high temperatures.
SEM photo		 100μm	 100μm
Applications		・Resin with high molding temperatures (at and over 400℃) (LCP, PEEK®, PEN, heat resistant PA, etc.) ・Engineering plastics (POM, PC, etc.) ・General-purpose resin (PP, PE, etc.) ・Thermosetting resin (epoxy, phenol) ・Reproduction mold (filter, etc.) ・FDA (CFR177.1550) (CFR175.300)	・Resin with high molding temperatures (at and over 400℃) (LCP, PEEK®, PEN, heat resistant PA, etc.) ・Engineering plastics (POM, PC, etc.) ・Thermosetting resin (epoxy, phenol) ・FDA (CFR177.1550) (CFR175.300)

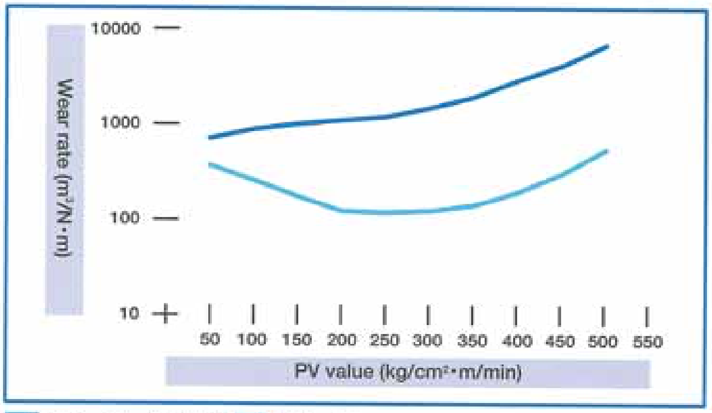
PTFE lubricant add data

Various plastics + KTL-610 (10 wt%) Friction factor



KTL-610 added　KTL-610 not added　(Other material : SUJ2)

PPS + KTL-610 (10 wt%) Wear rate

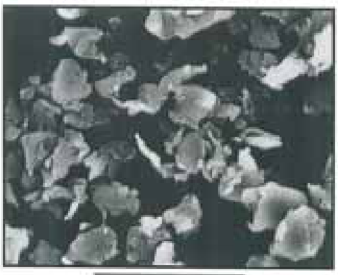


PPS + GF + KTL-610　PPS + GF　(Other material : SUJ2)

KT-600M	KTL-450	KTL-620	KTL-610
White powder	White powder	White powder	White powder
96.00 or more	95.00 or more	97.00 or more	98.00 or more
2.1～2.2	2.1～2.2	2.1～2.2	2.1～2.2
0.40g/ml or more	0.50g/ml or more	0.45±0.15g/ml	0.45±0.10g/ml
74.00μm or less	88.00μm or less	62.23μm or less	62.23μm or less
14.00±2.00μm	19.00±4.00μm	11.50±3.50μm	12.00±3.00μm
320℃ or more	320℃ or more	320℃ or more	320℃ or more
450℃ or more	410℃ or more	410℃ or more	370℃ or more
0.05wt% or less	0.05wt% or less	0.05wt% or less	0.10wt% or less
Inert to most chemicals and solvents	Inert to most chemicals and solvents	Inert to most chemicals and solvents	Inert to most chemicals and solvents

KT-600M

- Fine powder of completely sintered high-molecular-weight PTFE.
- Most heat-resistant.
- Does not generate pyrolysis gas at high temperatures (400℃ or higher).
- Does not flow at temperatures at or over the melting point, retaining uniform dispersion at high temperatures.

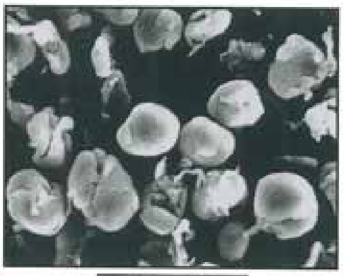


50μm

- Resin with high molding temperatures (at and over 400℃) (LCP, PEEK®, PEN, heat resistant PA, etc.)
- FDA (CFR177.1550) (CFR175.300)

KTL-450

- Fine powder of completely sintered PTFE.
- Minute mass or shape change around the melting point, contributing to high stability in mold strength and size.
- Generates small quantity of pyrolysis gas at high temperatures.
- Small melt flow and/or bleed out at temperatures at or over the melting point.
- Excellent flow and dispersion characteristics, enabling automatic feeding.

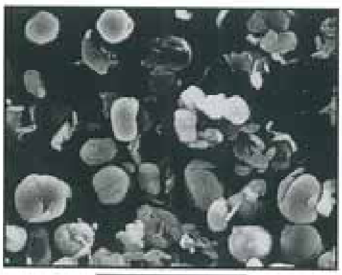


50μm

- Molding precise engineering plastics. (PPS, PI, PAI, PEI, PSU, PA, PC)
- Rubber, elastomer (fluoro-rubber, EPDM, NBR, urethane).
- Low friction paint (metallic, plastic, rubber·elastomer paint).
- FDA (CFR175.300)

KTL-620

- Fine powder of completely sintered PTFE.
- Minute mass or shape change around the melting point, contributing to high stability in mold strength and size.
- Generates small quantity of pyrolysis gas at high temperatures.
- Small melt flow and/or bleed out at temperatures at or over the melting point.
- Excellent flow and dispersion characteristics, enabling automatic feeding.

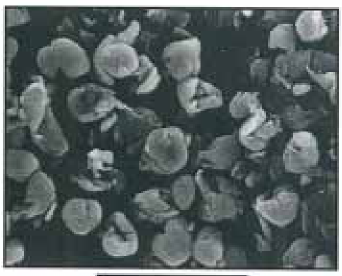


50μm

- Higher heat-resistance grade of KTL-610 (Can be suitable to PPS, LCP, etc. (high viscosity and melting point plastics))
- Molding precise engineering plastics. (PPS, PI, PAI, PEI, PSU, PA, PC)
- FDA (CFR175.300)

KTL-610

- Fine powder of completely sintered PTFE.
- Minute mass or shape change around the melting point, contributing to high stability in mold strength and size.
- Generates small quantity of pyrolysis gas at high temperatures.
- Small melt flow and/or bleed out at temperatures at or over the melting point.
- Excellent flow and dispersion characteristics, enabling automatic feeding.



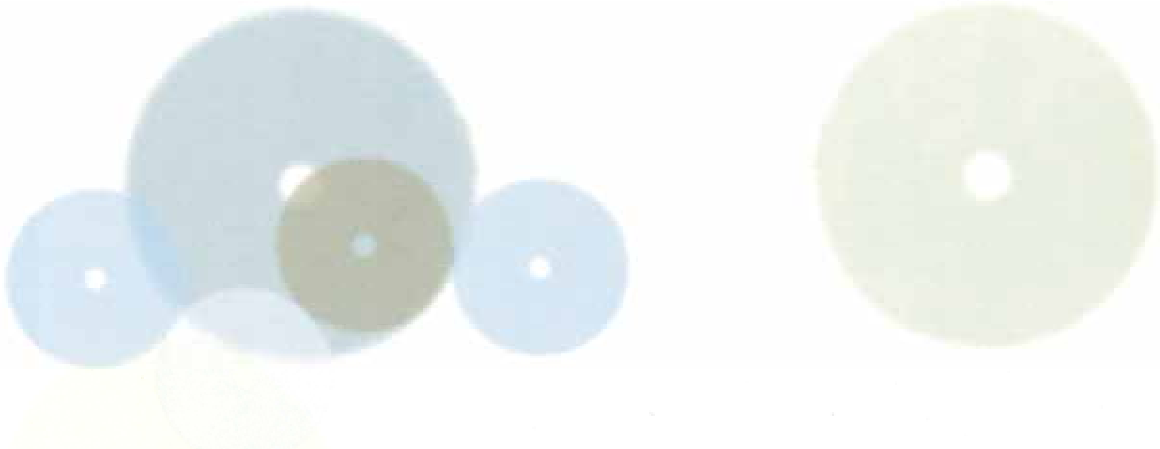
50μm

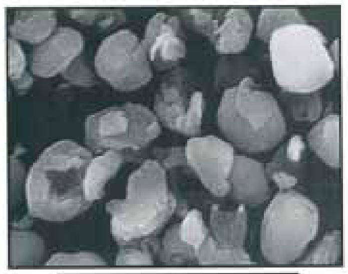
- Molding precise engineering plastics. (PPS, PI, PAI, PEI, PSU, PA, PC)
- Low friction paint (metallic, plastic, rubber·elastomer paint)
- FDA (CFR175.300)

(Note) The data in this catalog are standard values and are not guaranteed.

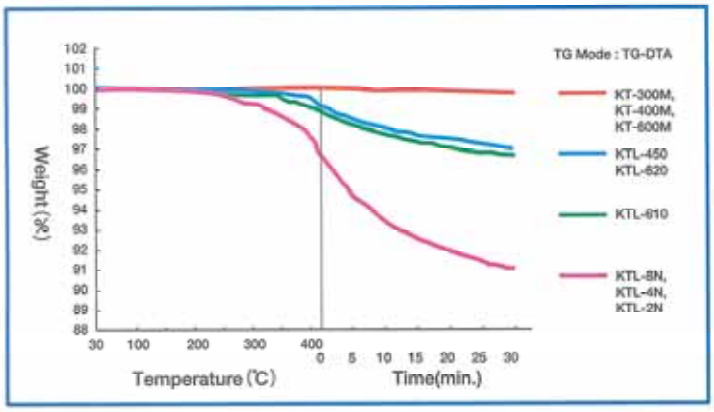
KTL・KT Series List 2

KITAMURA LIMITED
Polytetrafluoroethylene Solid Powder Lubricants



Property \ Type		KTL-20N	KTL-10N	KTL-8N
Appearance		White powder	White powder	White powder
Whiteness level		96.00 or more	96.00 or more	97.00 or more
Specific gravity		2.1～2.2	2.1～2.2	2.1～2.2
Apparent density		0.50g/ml or more	0.50g/ml or more	0.55±0.10g/ml
Particle distribution Microtrack FRA	Max. particle size	88.00μm or less	37.00μm or less	15.56μm or less
	50% mean particle size	20.00±5.00μm	10.00±3.00μm	4.30±0.70μm
Melting point		310℃ or more	310℃ or more	310℃ or more
Heat resistance temperature		250℃ or more	250℃ or more	250℃ or more
Volatile loss (150℃,2hr)		0.20wt% or less	0.20wt% or less	0.10wt% or less
Chemical resistance		Inert to most chemicals and solvents	Inert to most chemicals and solvents	Inert to most chemicals and solvents
Features		・Fine powder of completely sintered low-molecular-weight PTFE. ・Hard grain (hard to crush). ・Nearly spherical with edges rounded off. ・Disperses into solvents and varnishes with light stirring. ・Because there is no foaming or increase in viscosity, high-density blending in resin and liquid is possible.	・Fine powder of completely sintered low-molecular-weight PTFE. ・Hard grain (hard to crush). ・Nearly spherical with edges rounded off. ・Disperses into solvents and varnishes with light stirring. ・Because there is no foaming or increase in viscosity, high-density blending in resin and liquid is possible.	・Fine powder of completely sintered low-molecular-weight PTFE. ・Hard grain (hard to crush). ・Nearly spherical with edges rounded off. ・Disperses into solvents and varnishes with light stirring. ・Because there is no foaming or increase in viscosity, high-density blending in resin and liquid is possible.
SEM photo		 50μm	 50μm	 20μm
Applications		・Paints (low-friction, sound muffling, non-glossy), rubber, and elastomer paint ・FDA (CFR175.300)	・Paints (low-friction, sound muffling, prevention of scratches, non-glossy), rubber, and elastomer paint ・FDA (CFR175.300)	・Paints (low-friction, sound muffling, prevention of scratches, stain-resistance), plastic, PCM, metallic, can, rubber, elastomer, and powder paint ・General-purpose plastics (PP, PE, PBT, ABS, etc.) ・Thermoplastic elastomer and urethane ・Rubber (fluoro, urethane, silicon rubber, NBR, EPDM, etc.) ・Thermosetting resin (epoxy, phenol) ・Car wax ・Oil and grease ・FDA (CFR175.300)

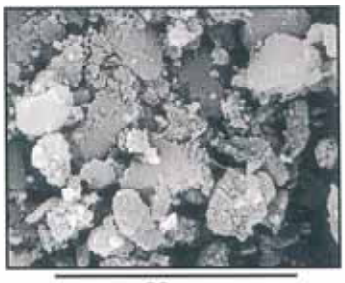
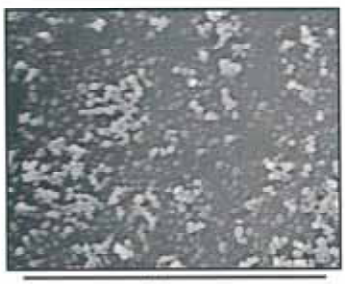
●TG-chart (Increase by 10℃/min. up to 420℃. Then hold at 30 min.)



JQA-QM4392 091-A
Main Office
Furukawa Plant

JQA-EM4662 091-C
Furukawa Plant

Kitamura's KTL/KT series has received the ISO9001 qualification.

KTL-4N	KTL-2N	KTL-8F	KTL-500F
White powder	White powder	White powder	White powder
95.00 or more	97.00 or more	97.00 or more	98.00 or more
2.1～2.2	2.1～2.2	2.1～2.2	2.1～2.2
0.55±0.10g/ml	0.50±0.10g/ml	0.40±0.10g/ml	0.20g/ml or more
11.00μm or less	7.78μm or less	15.56μm or less	1.00μm or less
3.50±0.50μm	3.00±1.00 μm	3.50±1.00μm	
310℃ or more	310℃ or more	310℃ or more	310℃ or more
250℃ or more	250℃ or more	250℃ or more	400℃ or more
0.30wt% or less	0.20wt% or less	0.10wt% or less	0.10wt% or less
Inert to most chemicals and solvents	Inert to most chemicals and solvents	Inert to most chemicals and solvents	Inert to most chemicals and solvents
・Fine powder of completely sintered low-molecular-weight PTFE. ・Hard grain (hard to crush). ・Nearly spherical with edges rounded off. ・Disperses into solvents and varnishes with light stirring. ・Because there is no foaming or increase in viscosity, high-density blending in resin and liquid is possible.	・Fine powder of completely sintered low-molecular-weight PTFE. ・Hard grain (hard to crush). ・Nearly spherical with edges rounded off. ・Disperses into solvents and varnishes with light stirring. ・Because there is no foaming or increase in viscosity, high-density blending in resin and liquid is possible.	・Coagulated powder of unsintered low-molecular-weight PTFE. ・Coagulation of fine powder. Can be made smaller with hard dispersion. ・Soft grain, prone to disfigurement. ・Relatively large specific surface area, making it difficult to deposit when dispersed in a liquid. ・Large oil absorption. ・Tends to come out to the coating surface.	・Fine powder, dispersed close to the state where very fine particles (Dp50 ≒0.3μm) have coagulated. ・Can be dispersed in liquid with the particles measuring 1μm or less in size. ・Such fine-powder features as viscosity and fibrillation are suppressed for easy handling.
 20μm	 20μm	 20μm	 10μm
・Ink offset, metallic, gravure, flexographic ink ・Paints plastic, PCM, magnesium alloy paint ・FDA (CFR175.300)	・Paints (coating thickness - 10μm or less, high radiance) ・Plastic, PCM paint ・FDA (CFR175.300)	・Ink ・Grease ・Paint (plastic, low-friction, PCM paint) ・Thermoplastic elastomer	・Paint(low-friction, heat-resistant paint) ・Thin coating ・Grease ・Thermoplastic elastomer ・Car wax

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