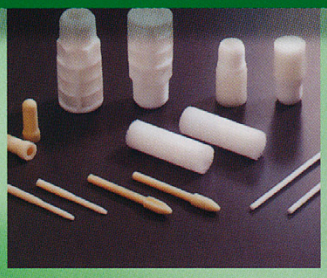
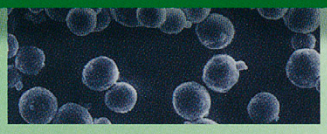
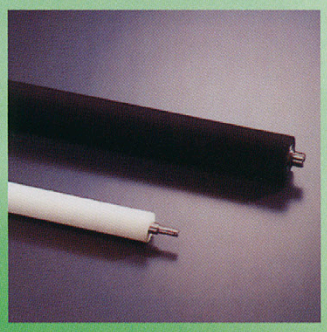
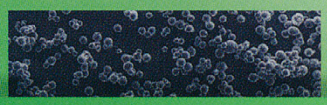
MIPELON™

MIPELON™ Fine-Particle Ultra-high Molecular Weight Polyethylene Powder









Mitsui Chemicals

Mitsui Chemical's polymer makes your life better

MIPELON™ is ultra-high molecular weight polyethylene in the form of fine powder developed by Mitsui Chemicals. While the average particle size of conventional ultra-high molecular weight polyethylene powder is 150 to 200 μm, MIPELON™ can be successfully reduced to fine particles with an average particle size of 10 to 30 μm by our special polymerization technology, as well as retaining its high molecular weight.

Abrasion Resistance

Gives improved lubrication, abrasion resistance, impact strength, and chemical resistance when added to various rubbers and resins.

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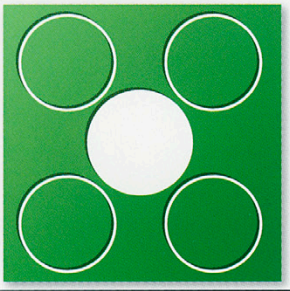


Easy dispersion properties

Result in exceptional mechanical properties when mixed with fillers and pigments.

ization technology

LON™

Low water-absorption

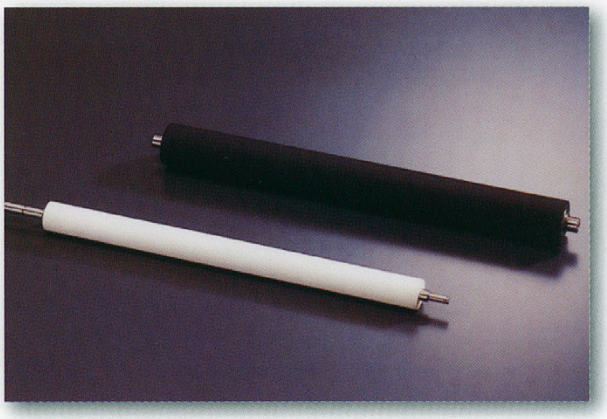
Yields products with superior heat and water resistance.

Food Safety

There are some grades conforming to the FDA regulations (CFR Title 21 Section 177. 1520. (c) 2.2) and EU regulations for food safety.

Excellent performance in

Applications

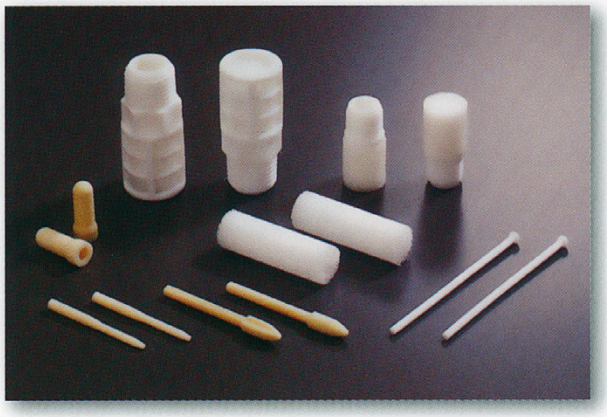


Modified resins and rubbers (compound)

The addition of MIPELON™ to polyacetal, polyamide, or phenol resin improves results in improved self-lubrication properties. Adding MIPELON™ to rubber not only improves self-lubrication, but also increases resistance to chemicals.

Self-lubricating materials (compound)

MIPELON™ particles are extremely small compared with conventional ultra-high molecular weight polyethylene, so large amounts of fillers such as carbon, graphite, or molybdenum disulfide are readily dispersed. It yields materials with exceptional self-lubricating properties.



Filters

Sintered MIPELON™ makes an excellent porous filter as a consequence of its tiny particle size.

various occasions

Physical Properties

Property	Unit	Test method	MIPELON™		
			XM-220	XM-221U	PM-200 (Development product)
Molecular weight	$\times 10^4$	MCI Method	200	200	180
Density	kg/m^3	MCI Method	940	940	940
Bulk specific gravity	kg/m^3	ASTM D1895	400	400	300
Tensile strength at break	MPa	ASTM D638	44	44	44
Elongation at break	%	ASTM D638	350	350	350
Shore hardness	D	ASTM D2240	65	65	65
Coefficient of friction	—	—	0.2	0.2	0.2
Melting point	℃	ASTM D3418	136	136	136
Average particle size	μm	Coulter counter method	30	25	10
Particle size distribution	%	Coulter counter method			
～ 20μm			10	20	98
20μm ～ 30μm			35	55	2
30μm ～ 40μm			35	20	
40μm ～			20	5	

※Note: Date in this table are typical values, not quality assurance specifications.

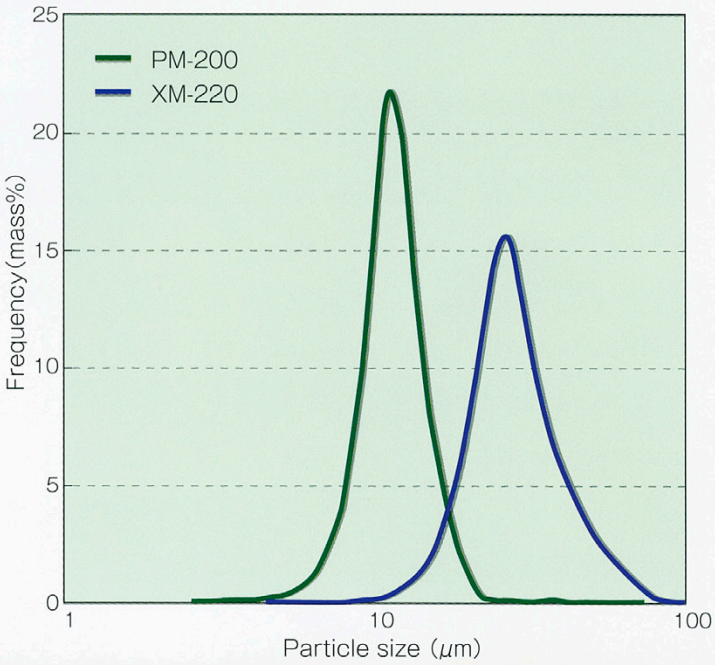
Others

Aside from improved self-lubrication, the addition of MIPELON™ to greases, lubricants, printing ink, coating materials, and pigments results in a matte finish.

Solutions satisfying adva

Particle Size Distribution

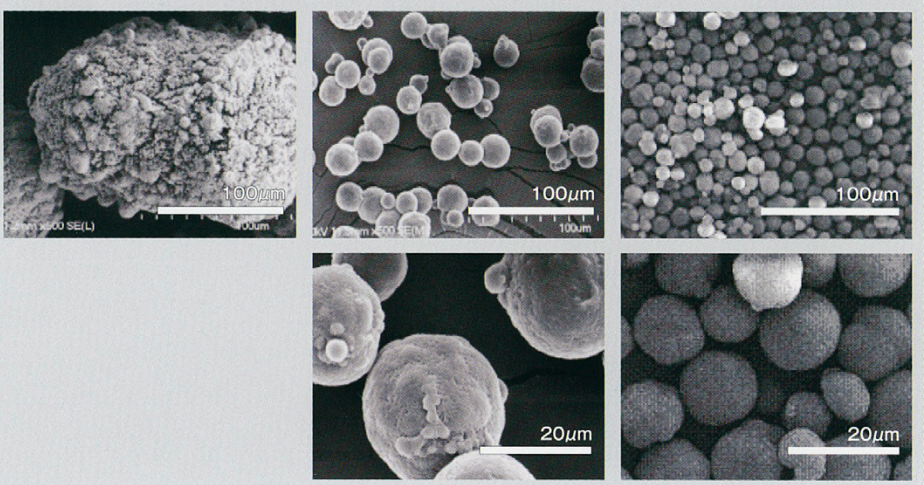
MIPELON™ is proper to use in sintered filter due to its narrow particle size distribution.



Electron Microscopic Images

Surface of MIPELON™ is smooth and its shape is spherical.

HI-ZEX MILLION™ (150μm)	MIPELON™ (30μm) XM-220	MIPELON™ (10μm) PM-200



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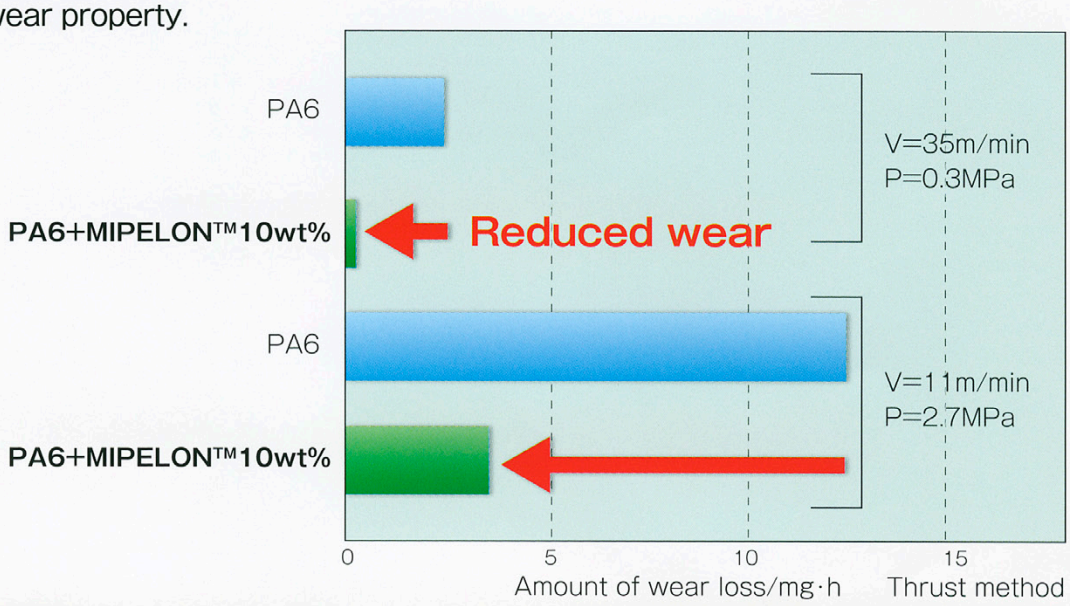
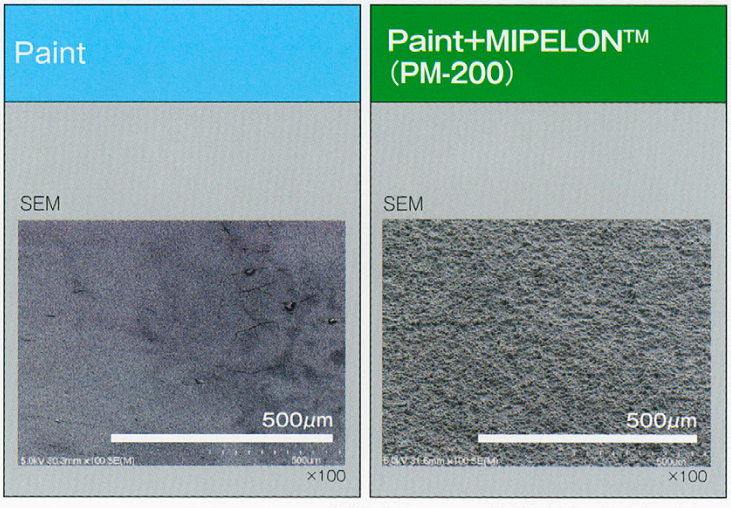
Wear property

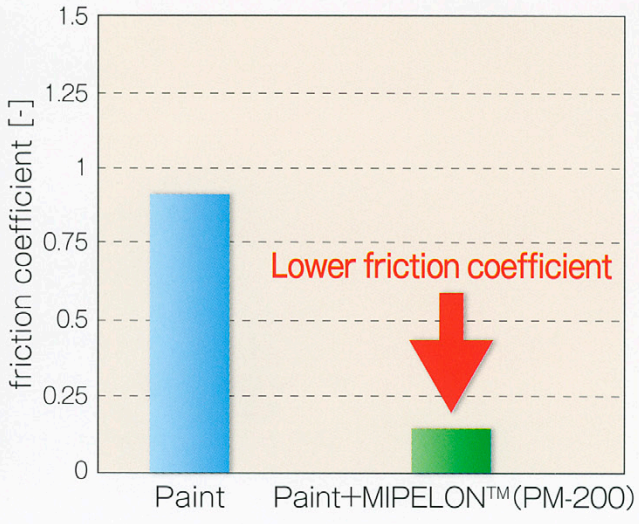
Adding MIPELON™ makes it possible to improve wear property.



Coating

MIPELON™ can be used as a additive for coating to reduce friction coefficient of surface.





MIPELON™

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