



NanJing Tianshi New Material Technologies Co.,Ltd



- *Micronized Waxes*
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- *PE Waxes*
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Tianshi Group Introduction

Since its founding in 2002, Tianshi Group has been focusing on the development and application of wax additives, creating a set of industrial chain from the refinement, oxidation, grafting, esterification and saponification of raw wax upstream to the emulsification and micronization of polymer wax downstream. Tianshi Group has established Nanjing Tianshi Experimental Micropowder Co., Ltd., Nanjing Tianshi New Material Technologies Co., Ltd. and Yangzhou Tianshi New Material Technologies Co., Ltd. with a total area of more than 100,000 square meters.

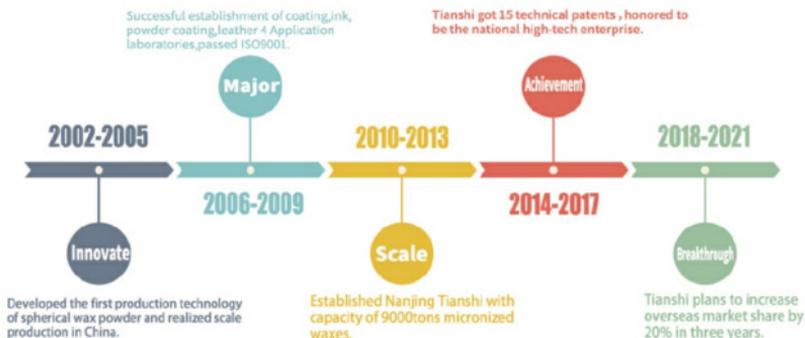
Tianshi group produces 9000 tons of micronized waxes and micronized PTFE, 6000 tons of wax emulsions and wax dispersion, 12000 tons of oxidized waxes and refined waxes, 3000 tons of micronized waxes, such as texture wax, nylon, PE, etc., serving nearly 7000 customers in seventeen industries, such as coatings, inks, leather, textiles, engineering plastics, cosmetics and release agents.

Tianshi Group take the pioneered supercritical CO₂ spraying as the technical core, produce spherical micronized waxes and then developed the nanoscale surface coating technology and waterborne technology. Tianshi group has focused on wax additives for 16 years, always promoting wax additives for precise applications to meet customer's customized requirement, keep improving on raw material selection and process monitoring, to create value for customers and win the recognition from them. Tianshi aim to be the expert of wax additives.



Mission and Vision

Tianshi Group adhering to the mission of "To promote wax additives for precise application infinitely", gathering the wisdom of all staff, to meet customer needs as the core, to create a sustained large-scale industrial base, and strive to become the wax additives industry leader.





R&D and Labs

Tianshi's R&D team is composed of R&D engineers, application engineers and process engineers from different fields. More than 50 kinds of special wax additives have been customized and developed for customers. The quick response of Tianshi has won time and opportunity for the development of customer products.

Tianshi has four application laboratories and analysis centers, including coatings, inks, engineering plastics and leathers. The company has been appraised as a high-tech enterprise, Jiangsu Polymer Wax Superfine Powder Engineering Research Center, Jiangsu Key Laboratory, Jiangsu Province Graduate Student Workstation, and undertakes key research projects of the Ministry of Science and Technology. owns 15 patents.





Quality Control

Tianshi products are known for their high quality and stability. Quality control starts from the source and ensures the traceability of the whole process from raw materials to finished products.

Tianshi strictly implements the ISO9001 quality management system, implements standardized testing methods and quality control management methods, ensures the whole process of bar code management from raw materials to finished products, implements two years of batch testing of raw materials and finished products, and forms a unified archive of testing records.

Tianshi core technology has seven patents, advanced manufacturing technology, the implementation of lean production and 5S and other modern management system, got REACH certificate and passed ISO14001 environmental management system standards and ISO18001 occupational health and safety management system standards, to provide customers with stable quality products.



Micronized PE Waxes

Grade	Dv50(μm)	Dropping Point($^{\circ}\text{C}$)	Feature & Effect	Application
PEW-0200	5	110	Anti scratch & Abrasion resistance	Solvent-based,inks,coatings, Coil coating
PEW-0204X	10-15	110	Abrasion resistance, Smoothness	Screen printing ink
PEW-0205B	7	110	Anti scratch & Abrasion resistance	Gravure printing , Powder coating
PEW-0215	4-6	110	Anti scratch & Abrasion resistance	Inks, Rolled steel, Powder coating
PEW-0207	5	115	Anti scratch & Abrasion resistance	Offset printing ink, Solvent based ink, Industrial lacquer
PEW-0208	5	110	Anti scratch & Abrasion resistance	Offset printing ink, Solvent based ink, Industrial lacquer
PEW-0209	5	105	Anti scratch & Abrasion resistance	Offset printing ink, Solvent based ink, Industrial lacquer
PEW-0220	5	110	Anti scratch,Smoothness,Transparent	Solvent based ink, coatings
PEW-0221	8	110	Smoothness, Abrasion resistance	Inks,coatings
PEW-0225	6	132	Smoothness, transparent	Wood lacquer
PEW-0235	6	135	Smooth feeling, Good transparency, Scratch resistance	Coil coating, wood coating, Powder coating
PEW-0251	6	115	Abrasion resistance,Slip,Good transparency	Solvent-based inks, wood coating
PEW-0252	8	116	Abrasion resistance,Slip,Good transparency	Solvent-based inks, wood coating,Industrial paint
PEW-0255	8	110	Good transparency, Abrasion resistance	Coatings, Offset ink
PEW-0256	6-8	115	Abrasion resistance	UV-inks, Wood lacquer, Industrial lacquer
PEW-0274	5	115	Scratch&abrasion resistance, Good transparency	Offset ink, Gravure ink, Coil coating, Wood coating
PEW-0278A	6-8	128	Scratch&abrasion resistance	Flexo ink, Gravure ink, Coil coating, Wood coating, Powder coating
PEW-0282	6	138	Smooth feeling, Good transparency, Scratch resistance	Wood coating,Industrial, paint,Printing ink
PEW-0301	25	110	Abrasion resistance, Anti sticky	Powder coating

- PE waxes from our company include straight chain and linear polyethylene waxes and modified products. PE waxes can be used in wood lacquers, coatings, inks, powder coatings and etc. With the addition level at 0.5%-1.0%, can provide excellent scratch and abrasion resistance, mar resistance, and smooth feeling.

Micronized PP Waxes

Grade	Dv50(μm)	Dropping Point($^{\circ}\text{C}$)	Feature & Effect	Application
PPW-0901	7~8	145	Scratch resistance	Inks&coatings
PPW-0903	8	160	Scratch resistance	Floor coating,Powder coating
PPW-0931	5~6	145	Scratch resistance,Smooth touch	Wood&Floor coating
PPW-0936	6~7	142	Scratch resistance,Degassing	Powder coating,Floor coating

- PP waxes have good anti-blocking and matting effects when used in coating and ink systems, due to the higher melting point and hardness, PP waxes can provide very good performances in the application of coatings and inks and can enhance the surface hardness when added into powder coating.

Micronized PTFE

Grade	Dv50(μm)	Dropping Point(°C)	Feature & Effect	Application
PTFE-0101B	3	320	Slip,Scratch & Abrasion resistance	Paints,Inks
PTFE-0103	5	320	Scratch & Abrasion resistance	Paints,Inks, Engineering plastics
PTFE-0104	5	320	Scratch & Abrasion resistance	Coatings,Leather finishing
PTFE-0105	2.5-4.5	320	Scratch & Abrasion resistance	Coatings, Inks, Powder coating
PTFE-0107	5-7	320	Scratch&Abrasion resistance	Paints,Inks
PTFE-0108	1-2	320	Abrasion resistance,Anti-setting	Coatings, Inks, Powder coating
PTFE-0121	5	320	Thickening	Grease
PTFE-0143	8-12	320	Scratch&Abrasion resistance	Industrial lacquer,Plastic cement
PTFE-0148	11-15	320	Scratch&Abrasion resistance	Industrial lacquer,Plastic cement
PEW-0602F	5	110	Scratch&Abrasion resistance	Inks,Coatings, Coil coating, Powder coating
PEW-0615F	4-6	110	Abrasion resistance,Good luster	Powder coating, Floor Paint, Plastic cement
PEW-0617F	5	105	Abrasion resistance ,Good feel	powder coating,Wood lacquer, Canister, Rolled steel
PEW-0620F	5	110	Abrasion resistance,Smoothness	powder coating, Canister, Wood lacquer, LV
PEW-0651F	6	115	Abrasion resistance,Good gloss	Wood lacquer, Rolled steel, Wood lacquer, Floor Paint
PEW-0655F	8	110	Abrasion resistance,High gloss	Wood coating, coatings, Powder coating
PEW-0674F	5	116	Scratch&Abrasion resistance	Coil coating, coatings, Wood coating
PEW-0678AF	6-8	126	Scratch&Abrasion resistance Smoothness	Inks,Wood coating, industrial paint
PEW-0691F	5	116	Scratch&Abrasion resistance	Plastic cement, Rolled steel, powder coating

• Micronized PTFE have very low friction coefficient when they are added into coatings and inks. The products have excellent abrasion resistance, scratch resistance and sliding characteristics, and have outstanding slippery degree when added into coating and ink, can improve the mar resistance when used in wood coating, Micronized PTFE would not be dissolved by the solvent and they are heat resistant, corrosion resistant and chemical resistant. Used with polyethylene waxes can achieve excellent effect.

Micronized Special Waxes

Grade	Material	Dv50(μm)	Dropping Point(°C)	Feature & Effect	Application
Twax-0506	Polishing wax	5~6	80	Good transparency, Anti-blocking, Polishing	coatings
Twax-0507	Polishing wax	6~7	80~86	Easy to polish, Good gloss	coatings
Twax-1411	Slippery wax	5~6	82~86	Good feeling, Anti-blocking	coatings
Twax-1601	Carnauba wax	< 6	86	Good transparency, Anti-blocking Polishing,Scratch resistance	coatings
Twax-1502	Montan wax	7~9	95~100	Good transparency,Scratch resistance, Lubricating	coatings
Twax-988	Special wax	2	145	Bonding	Powder coating

• We can produce special micronized waxes with melting point at 52-325°C, and hardness at 0. 5-15dmm, can supply waxes to leather finishing industrial with diferent effects.The waxes are customized, like formula research and development for special waxes, wax mixing, prilling and other business.

Micronized Amide Waxes

Grade	Dv50(μm)	Dropping Point(°C)	Feature & Effect	Application
NEW-0401	4~5	140	Sand ability, Degassing	Coatings, Power coating, Leather
NEW-0402	5	135	Abrasion resistance, Degassing	Powder coating
NEW-0405	5	70	low temperature, Degassing	Powder coating
NEW-0421	5	70	Degassing, Anti-blocking	Powder coating, HAA system
NEW-0451	<8	136	Thickening, Anti-setting, Anti-sagging	Solvent-based coatings

* Micronized amide waxes can improve the fluidity, charging, breathability, efficiency, anti-blocking, anti-stiff and can get smooth surface, scratch resistance, matting effects when used in powder coatings. Their particle sizes are uniform and can achieve the same effects with less addition level.



Micronized Water-based Waxes

Grade	Dv50(μm)	Dropping Point(°C)	Feature & Effect	Application
PEW-0511	5~6	104	Scratch&abrasion resistance, Matting	water-based inks&coatings, UV coating
PEW-0851	7	137	Abrasion resistance Anti-blocking, Temperature resistance	water-based inks&coatings
PEW-0853	8	137	High gloss, smoothness, Scratch & abrasion resistance	water-based inks&coatings
PEW-0951	6~7	160	Scratch&abrasion resistance	water-based inks&coatings

* Micronized waxes can be used in water-based inks and coatings with the help of wetting agents they have the performance of anti-blocking, abrasion resistance and scratch resistance. When they are used in solvent-based systems, the transparency of end product will be better.

Wax Emulsions

Grade	Material	Solids Content(%)	Dropping Point(°C)	PH-value	Ionic character
OE-6101	PE wax	35	110	7~9	Nonionic
OE-6108	PE wax	50	120	7~9	Nonionic
OE-6102	PE wax	36	115	7~9	Nonionic
OE-6103	PE wax	50	115	7~9	Nonionic
OE-6301	PE wax	35	127	7~9	Nonionic
OE-6501	PE wax	35	137	7~9	Nonionic
OE-6802	Paraffin wax	45	60	7~9	Nonionic
OE-6016	PE wax	30	85-90	9-10	Cation
LW-101C	PE wax	30	52	3-5	Cation
LW-102	PE wax	45	52	7~9	Nonionic
LW-102A	PE wax	45	52	9~11	Anion
LW-102C	PE wax	45	52	3-5	Cation

* Wax emulsions can provide good gloss and abrasion resistance when used in water-based coatings and inks, the products can also be used in textile finishing, leather finishing, mold releasing agent and other fields.

Wax Dispersions

Grade	Material	Solids Content(%)	Dropping Point(°C)	PH-value	Ionic character
PEW-2001	PE wax	45	110	7~9	Nonionic
PEW-2002	PE wax	52±2	115	7~9	Nonionic
PEW-2003	PE wax	36	137	7~9	Nonionic
PEW-2011	PE wax	60	115	7~9	Nonionic
PTFE-1003	PTFE	32	320	7~9	Nonionic
PTFE-1005	PTFE	55	320	7~9	Anionic
PTFE-1007	PTFE	50	320	7~9	Nonionic
Twax-2101	PA wax	30	140	6~8	Nonionic

* Wax dispersions are produced from micronized waxes, wetting agent and water. The products have excellent performance in abrasion resistance and anti-blocking.

PE & FT Waxes

Grade	Dropping Point(°C)	Viscosity mPa.s@140°C	Penetration dmm@25°C	Physical Form
PEW-0324	95±3	≤20	≤7	Granule/Power
PEW-0350	100±3	≤20	≤5	Granule/Power
PEW-0352W	110±3	≤20	≤2	Powder
PEW-0360	105±5	400±50	≤4	Granule
PEW-0387	115±3	≤20	≤1	Granule

* In rigid PVC processing, PE waxes can reduce the plasticizing torque of processing effectively, extend plasticizing and thermal stability time, suitable for making PVC pipe and profile, and composite stabilizer. They can enhance the productivity when used in the soft PVC product like cable.

Oxidized PE Waxes

Grade	Dropping Point(°C)	Acid value (mg KOH/g)	Viscosity(mPa·s)
PEW-0570	95	25-35	<20
PEW-0595A	140	20-25	>20000
PEW-0500-25B	104	20-25	<120

* More than 10 years of production experience on Oxidized PE Waxes, can produce OPE waxes with the acid value at 4-40mgKOH/g, because of the polar group, the OPE waxes have very good wettability with pigments and fillers in rubber and PVC applications, the OPE waxes which with high acid value can make wax emulsions, and be used in the fields like textile finishing, leather, car care, releasing agent, shoe polish.

Texture Waxes

Grade	Dv50(μm)	Temperature Resistance(°C)	Grade	Dv50(μm)	Temperature Resistance(°C)	
Twax-4010	10	160	Twax-4090	90	160	
Twax-4015B	15		Twax-4120	120		
Twax-4020B	20		Twax-4140	140		
Twax-4025B	25		Twax-4180	180		
Twax-4040	40		Twax-4220	220		
Twax-4050	50		Twax-4280	280		
Twax-4060	60		PTFE-0127	25		>320
Twax-4070	70		PTFE-0128	25		>325
Twax-4080	80		PTFE-0129	Cotton-shaped		>320

* Texture waxes are also called texture powder, sand flour, and vertical grain flour which are commonly used in baking paint, and can also be used for self-dry coatings and inks. Provide special decoration effects in printing inks and coatings, exquisite and elegant appearance, smooth and soft feeling; has good compatibility with various resin systems; not easy to precipitate and float, and has the performance of decoration, scratch resistance, and abrasion resistance.

Texture waxes with uniform particle size distribution and good visual effect. It has good temperature resistance, can withstand the baking temperature above 180 °C. Mainly used in computer cases, communication equipment, electronic products, hardware, furniture, and other industrial paints. It can also be used in some industries like matte inks and shoe.





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