

Industrial Grade Products Range from *Reinste Nano Ventures Pvt. Ltd.*

Nano Precipitated Calcium Carbonate (NPCC)



Advanced Coating Materials



Additives to Motor Oils



Nano Silver Products



Antibacterial & Antimicrobial Solutions for Various Industries

Liquid Nanosilver & Nanosilver Intermediaries



Liquid Nano Silver (Aqueous dispersion of colloidal silver)

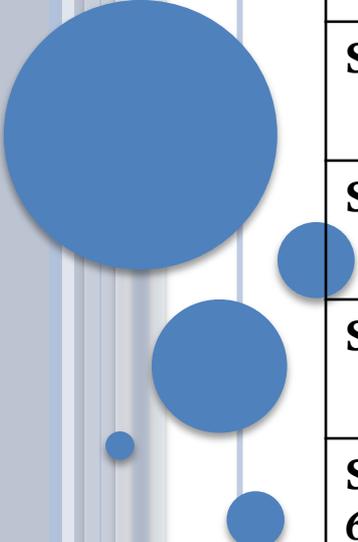
Si Li W10	1 Kg	available	available	liquid, water based Nano-Silver, content 100.000 ppm = 10 %
Si Li W x	250g	available	available	liquid, water based Nano-Silver, content depending on customers request, up to approx. 45 %



Nano Silver PET & PP Master Batches

Nano Silver Polyamide 6 (PA 6) Master Batch





Si MB PET/ 6.5	25 kg	available	PET Nano-Silver master batch, content 6.500 ppm = 0,65 %
Si MB PA/ 6.5	25 kg	available	PA Nano-Silver master batch, content 6.500 ppm = 0,65 %
Si MB PA6/ 6.5	25 kg	available	PA6 Nano-Silver master batch, content 6.500 ppm = 0,65 %
Si MB PP 6.5	25 kg	available	PP Nano-Silver master batch, content 6.500 ppm = 0,65 %
Si MB PTT 6.5	25 kg	available	PTT Nano-Silver master batch, content 6.500 ppm = 0,65 %
Si MB ABS 6.5	25 kg	available	ABS Nano-Silver master batch, content 6.500 ppm = 0,65 %
Si MB PBT/ 6.5	25 kg	available	PBT Nano-Silver master batch, content 6.500 ppm = 0,65 %

Fibres & yarns

Staple fibers			
Si PET stapel fiber C 400	1 bale (approx. 270 kg)	available	PET Staple fiber, 1,5 Dtex, 38 mm, 400 ppm for common blendings, e.g. cotton
Si PET HCS staple fiber M 200	1 ton	available	PET Staple fiber, 1,15 Dtex, 38 mm, 200 ppm, for various applications
Si PET HCS staple fiber 7/si 200	1 ton	available	PET Staple fiber, 7 Dtex, 32 mm, 200 ppm, siliconized for fillings



Fibers and Yarns : **Filament fibers and yarn**

Si PET fil. fiber 200	1 ton	available	PET multi filament fibers, various Dtex e.g 80D/100F, (POY, DTY, FOY) 200 ppm, for fabrics and knitware
Si PET/PA fil. Fiber 200	1 ton	available	PET/PA compund 70/30 multi filament fibers, various Dtex, 200 ppm for fabrics and knitware
Si PET/COT Yarn 200	1 ton	available	PET/COT blended Yarn Nm 50/2 (=200(2)Dtex), 200 ppm for fabrics and knitware
Si PA mon fil. fiber 200	1 ton	available	PA mono filament fiber, various Dtex, 200 ppm

Advanced Materials & Coatings

- *Unique Fire Protective & Heat Insulating Coatings*
- *Corrosion Protection & various other Protective Coatings*
- *Nanofluids to Increase Heat Transfer Capacity*

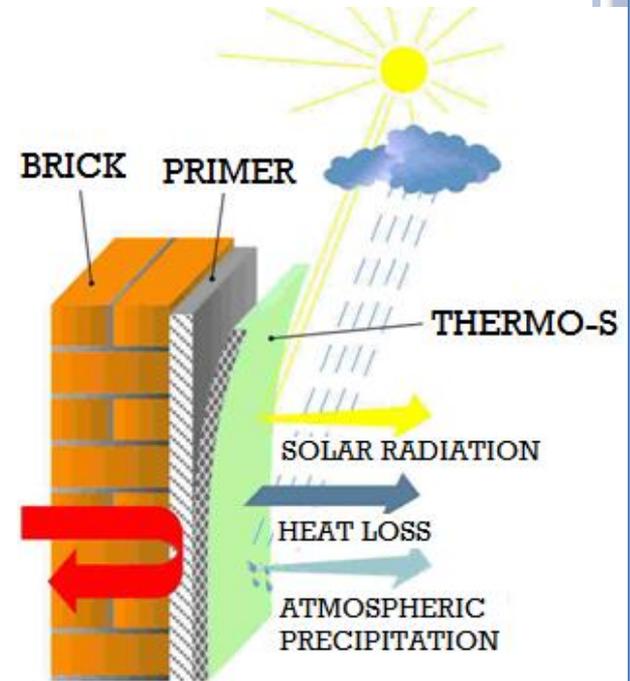


1. Fire Protective & Heat Insulating Coatings

“Thermo-S” is a real alternative to all Heat-insulating Technologies

Advantages:

- The coating can be applied on metals, plastics, concrete, brick, wood and any other brick building material in any dry weather.
- Provides excellent protection against frost penetration.
- Protects the surface against condensate appearing.
- Features excellent repair capability.
- Does not sustain the burning and stops spreading the flame.
- Reduces financial and energy expenditures.
- Greatly enlarge the operation life of pipelines.
- Is ecologically safe.



Thermo-s: *Product Description*

- **THERMO-S** is an atmospheric-resistant energy-efficient paint-coating consisting of microscopical ceramic balls which are in a suspension state in a liquid composition of synthetic rubber, polymers and inorganic pigments.
- This can provide the ultimate economical effect while solving any heat, noise damp, proof problem as well as corrosion and fire resistance.
- The Product can be manufactured on the fabric in a flexible roll or deposited onto plates of required thickness & quality.



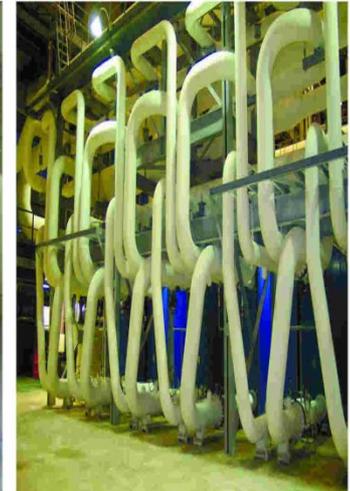
Technical Indicators

Name	Value
Appearance of composition	White Suspension
Appearance of coating	Uniform, White
Performance Temp Range	From -60 to +260
Adhesion to Steel, MPa	1.0
Tensile Strength, Mpa	2.0

Blister-DM: Heat insulating atmosphere-resistant coating

Advantages:

- The coating can be applied on metal, plastic, concrete, brick, wood.
- Can isolate the working surface from water and air.
- Increases Anticorrosive protection.
- Withstands fuels and lubricants, dissolvents, alkaline and acid solutions.
- Is ecologically safe.
- *Blister-DM* provides Group 4 fire protection efficiency on metals & Group 1 fire protection efficiency of wood.



Blister-DM: *Product Description*

- It is designed for inner & outer applications of surfaces from metal, wood, brick and other surfaces in the living, public and production facilities as well as supply pipelines, tanks, storage buildings.
- The coating is liquid compounding on the basis of organic solvents and consisting of polymers, inorganic pigments and modified functional additives improving rheological and adhesive characteristics of the coating.

Technical Indicators

Name	Value
Appearance of composition	White Suspension
Appearance of coating	Uniform, White
Paint-coating flow-rate, l/sq. m (without allowing losses)	Group 4 fire protection on metals Group 1 fire protection on wood

2. Protective Coatings *Nanocomposite coatings designed to enhance wear and abrasion resistance, UV-protection, and other functional properties.*

➤ **Self-healing Coatings**

- **“Mend-M”** self-healing clearcoat technology provides a durable, long lasting finish for metal substrates.
- **“Mend-MW”** self-healing polyurethane dispersion is made from polyurethane matrix. Coatings made from this dispersion exhibit self-healing properties. An added advantage of this waterborne dispersion is that it is solvent free with zero VOC.
- **“Mend-W”** self healing coating provides a long lasting, low maintenance finish for wood. Self-healing functionality allows for a high degree of scratch repair and gloss recovery, even in repeatedly damaged areas.



➤ Abrasion Resistance Coatings

- **“*Hardcoat SR-100*”** fulfills the need for abrasion or scratch resistant coatings on plastic substrates.
- It is a liquid and can be applied on surfaces using standard coating processes, including dip-coating, spray coating and spin-coating.
- Another type of abrasion resistance coating i.e. **“*Hardcoat UV-100*”** provides both scratch resistance and UV protection to plastic substrates.
- UV radiation at wavelengths below 350nm is cut to almost 100% with the coating, leading to improved weatherability and suppression of discoloration of the substrate.



➤ Anticorrosion Coatings

- **“PT-15”** makes an excellent paint base for corrosion protection of Mg-Al magnesium alloys, such as the most common AZ91 alloys.
- Pretreatment of magnesium alloys with **PT-15** results in a chemical conversion coating that is nano-structured and is crack-free.
- **“PT-30”** is a chromate-free, environmentally benign chemical pretreatment bath for developing conversion coatings for copper alloys.
- The coating provides corrosion protection of copper alloys in recycled water.



➤ **Coating Additives**

- **“PC-10”** is easily incorporated into commercial coating formulations.
- Wear resistance is dramatically improved with only a small additive loading.
- Improve the abrasion resistance and scratch resistance of the coatings.
- Used in a number of different coating applications, including automobiles, aircraft, cosmetics, floors, septic tanks, structural steels, and buildings.
- **“PC-20”** can be used in a wide range of applications including specialty fabrics, medical devices, and a wide range of metal coatings.
- Silicone-based coatings for thermal and barrier applications, as well as silicone-based adhesives.

➤ **Thermal Spray Coating**

- **“TS-10”** is "multimodal" thermal spray coating powders for wear and erosion resistance.

3. Heat Transfer Fluids

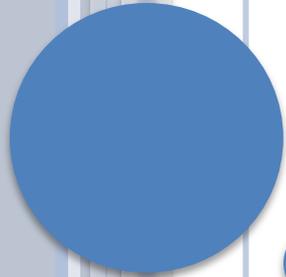
Heat transfer fluids, engineered with nanoscale particles for demanding cooling applications.

➤ ThermoDon-1

ThermoDon-1 is an efficient heat transfer fluid for applications where water is used as coolant.

➤ ThermoDon-2

ThermoDon-2 is an efficient heat transfer fluid for applications where oil is used as coolant.



ADDO: Additives to Motor Oils



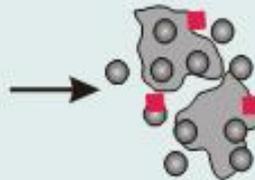
Nano Diamond: Genesis

ADDO is based on a mixture of NanoDiamond and NanoGraphite. The original soot is produced via detonation synthesis of the explosives mixture. The average particle size is 4 nm (0,000004 mm).

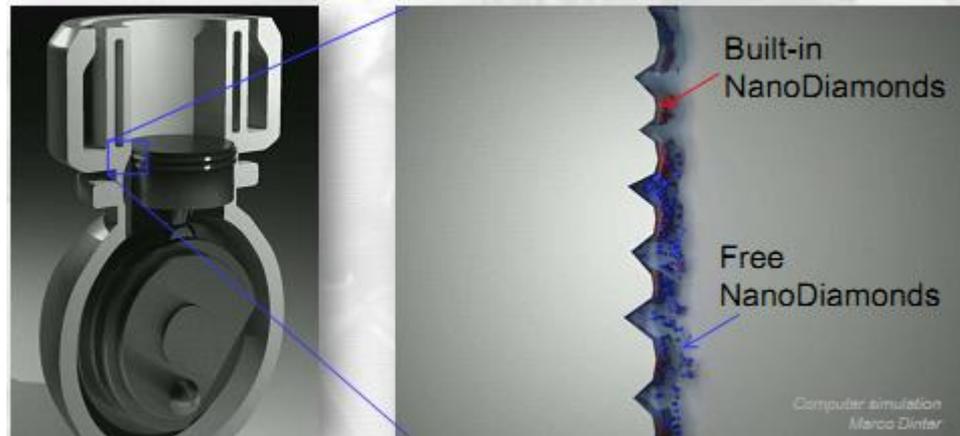
Detonation of explosives mixture at a specific gas atmosphere in a detonation chamber.
Special preparation of explosives.

Fractioning
Purification
Functionalization

Dispergation
Stabilization



ADDO: Principle of Function



➤ Improves the Engine:

- Cures micro and nano-defects of the moving parts and leads to the atomic roughness.
- Impregnates metallic surfaces, increases their hardness and wear resistance.
- Improves the motor, decreases dry friction by keeping a thin oil layer on the motor surfaces also at higher loads.

➤ Improves Oil:

- Nanographite particles work as eco friendly dry lubricant and reduce friction and wear.

Addo: Nanodiamonds Effectiveness

- Reduces Friction & Wear
- Increases the life time of engine by up to 5 times
- Effectiveness of ADDO raises with the temperature increase.



Effectiveness for private cars (till 350 Tkm)		
	Oil	Oil with ADDO
Friction coefficient	0,08	0,01
Wear, kg/cm ²	60,0	11,2
Fuel consumption, L/100 km	6,9	6,3
Power, HP (see also next foil)	99,2	115,6

Engine Wear & Oil Test

Wear Elements after 25000km, mg/L

	Oil	Oil with ADDO®
Iron	61	16
Chromium	4	1
Copper	8	2
Other	58	20
Wear elements, total	131	39



Motor oil with ADDO (left) and without ADDO (right) after 25000 km run.

- **Wear in oil with ADDO is upto 73% lower than in pure oil.**
- **Dispersancy of ADDO containing oil is higher than that of pure oil.**
- **Viscosity of oil with ADDO at -15°C and -20°C is 13-17% lower than viscosity of pure oil.**
- **No negative influence of ADDO on engine or filter was detected.**

ADDO Addition: **Conclusion**

- The use of ADDO is safe- No negative influence.
- ADDO addition leads to fuel economy.
- Effectiveness of ADDO increases with the rise of outer temperature. The reason is the increased fuel consumption of fuel due to the parallel heating.
- The content of wear elements in oil without ADDO was 4 times more than in oil with ADDO.
- Four-fold increase of oil life-time can be achieved by the use of ADDO.

Nano Precipitated Calcium Carbonate (NPCC)

Used as Nano Filler in Polymeric Materials in Plastic, Textiles, Shoe, Sealants, Adhesives & Detergents Industry



Product Details:

1. Reinste-620: Used as Functional Filler for Rubber

- Reinste-620 is an ultrafine coated white powder with narrow particle size distribution.
- Used as cost reducing filler to replace more expensive resins and make the finished products more affordable for the consumer.

2. Reinste-501A: Used as a Functional Filler for Plastics

- It improves stiffness, heat resistance, impact strength and tensile strength of products.
- It can also promote wear resistance and dimensional stability of plastics.



3. Reinste-259: Used in Adhesives & Sealants

- Provides high performance in adhesives and sealants.
- Used in Hot melt adhesives such as EVA, Polyolefin, diolefin systems.

4. Reinste-206M: Used as Functional Filler in Silicon Sealants

- Used in Industrial sectors where high quality seals are required.
- Preferred in controlling of rheological and tensile properties.

5. Reinste107G: Used as Functional Filler for Inks

- Reduce product cost.
- Outstanding stability.
- Improve rheological properties of offset printing ink system.
- Excellent compatibility with polymer matrix resins with high gloss and transparency.

6. Reinste-206S: Used as Functional filler for various Adhesives & Sealants

- **Affordable for various adhesives and sealants.**
- **Good at controlling of rheological and tensile properties.**

7. Reinste-260S: Used as Reinforcing agent in Rubber compounds

- **Increase elongation, tensile strength, H- extrusion and reduce permanent distortion.**
- **Reduce material cost without impacting reinforcing features.**
- **Improve aging, tear and abrasion resistance.**

Thank you

Reinste Nano Ventures

Designed to deliver the purest...

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