Anti moisture for the protection of metallic, electrical and electronical parts, devices, tooling and machinery.
Protection from humidity, corrosion and dissipation

About 80% of equipment and electronic system failures result from the negative effect of humidity. Humid environment generates corrosion of metal components. Poor insulation along with soiling of current conductors of power network facilities result in dissipation. Every year power producers have to spend millions on repairing these damages.

Efficient protection of equipment and conductors helps to reduce production costs for considerable period of time:

- Lost profit due to down time;
- Excess facility costs;
- Repair costs;
- Replacement costs.

Extended period of equipment operation significantly reduces capital asset expenditure.

NANO PROTECH

Production of metal components and current conductors of electronic equipment from humidity effect

Pioneer in protection from humidity and corrosion

Globally unique 100% humidity reduction

Developed by the leading European laboratories on the basis of state-of-the-art nano technologies.
NANO PROTECH has proven its unique advantage to protect electronic mechanisms and equipment from all forms of humidity: moist, vapor, air humidity, condensed moisture, splashes, fog, acid rain, chlorinate and salt water.

NANO PROTECH can be applied even in cases when electronic elements, circuits and equipment were damaged by humidity.

NANO PROTECH provides the best protection from humidity and corrosion. NANO PROTECH not only protects but also restores efficiency and conductivity of electric equipment, components and devices damaged by negative effect of humidity. Thus, NANO PROTECH is undisputed leader in anti moisture protection.

**Advantages:**

- 100% humidity reduction
- Convenient in industrial use
- Protects and restores efficiency and conductivity of electric equipment, components and devices damaged by negative effect of humidity
- Prevents deactivation of metal and steel based components and systems
- Considerably extends operation life of electric appliances
- Protects electronic equipment from all forms of humidity: moist, vapor, air humidity, condensed moisture, splashes, fog, acid rain, chlorinate and salt water.
- Can be applied on surfaces without pre-treatment
Action

Fills micro cavitations (in circuit boards, micro circuitry, electric coils etc.). Powerful capillary effect allows the product to penetrate inside the blocks without dismantling.

Excellent water repellent properties and low surface stress allow to form thin protective coating penetrating under the water layer

After spraying a protective coating forms on the surface. NANO PROTECH provides 100% water extrusion rate within 10 seconds.

Due to high adhesion and low internal friction NANO PROTECH consistently forms protective water repellent coating under water. Thus, NANO PROTECH excels any other product in any tests on protection from humidity and corrosion.

Protection will work even if the untreated components are already wet
Function

- Forms waterproof and water repelling coating
- Penetrates under rust, facilitates rust removal, forms protective coating
- Prevents corrosion
- Retains conductivity of elements
- Retains conductivity of elements in water
- Provides high electric precision of conductors
- Prevents dissipation
- Prevents indirect contact
- Retains elasticity, ideal protection for moving parts of mechanisms
- Restores operation of systems and facilities damaged due to exposure to humidity

Properties:

- Does not break down in water
- Does not form emulsion
- Great dielectric effect
- Does not contain rubber, silicone, acryle, teflon and aromatic components
- Can be easily removed with a cleanser for printed-circuit boards, cleanser of brakes or spirit
- Does not harm plastics, rubber, glass, varnish, insulating varnish, ceramics, copper, brass, steel, aluminium (normal, untreated and polished), extrafine steel, untreated ferrum, zinc, metal (normal and galvanized), tin solder, textile products and winding
- Weather and temperature resistant
- Non-toxic and environmentally friendly
NANO PROTECH ANTICORROSION

- Protects metal components and systems from all forms of humidity (vapor, humidity, condensed moisture, splashes, fog, acid rain, chlorinate water)
- Restores operation of systems and facilities damaged due to exposure to humidity
- Prevents deactivation of metal and steel based components and systems
- Considerably extends the life of systems and equipment
- Produces excellent anti-corrosion effect on movable components

Protection from corrosion should be included in all steps of equipment production and operation. Corrosion losses account for 12% of annual metal production. Metal corrosion leads to permanent losses along with premature failure of costly components and systems, breakdown in processes and equipment downtime. Direct contact between wet metal and oxygen leads to rust. Rust film forms within seconds and annually leads to multi-million losses.

NANO PROTECH ANTICORROSION PROPERTIES

- Prevents corrosion
- Can be applied on wet surfaces, does not require pre-treatment
- Fills micro cavitations
- Forms waterproof and water repelling coating
- Penetrates under rust, facilitates rust removal, forms protective coating
- Retains elasticity, efficiently eliminates squeaks and mechanic friction
- Considerably extends operation life of treated surfaces
- Does not provide harmful effect, does not damage metals, plastic, rubber, glass, varnish, paint, ceramics and electric motors
COMPOSITION

The product contains:
High purity mineral oil, fortified anticorrosion additives, deodorized paraffin and naphtene carbohydrates.

NANO PROTECH ANTICORROSION TESTS

Tests have proved NANO PROTECTION ANTICORROSION excellence in comparison to multi-purpose oils, lubricants, waxes, contact sprays.

Metal sheets were polished, cleaned, degreased and treated with various anti rust products. For 14 days the sheets were evenly bathed in salt water twice a day. Corrosion development demonstrates the protective properties of various products.

Chemical Tests of Threaded Components Working in Pressure Environment
Threaded components working in pressure environment were treated with various chemical products five times a day for three weeks.

**Result:**
Untreated components working in pressure environment demonstrated signs of corrosion. The components protected with NANO PROTECH ANTICORROSION had no signs of corrosion after treatment with chemical products.

Untreated components. Signs of extensive corrosion. Required efficiency cannot be guaranteed.

Components treated with NANO PROTECH ANTICORROSION. No signs of corrosion after difficult test.
NANO PROTECH ELECTRIC

Protects electric equipment, motors, transformers, power units and mechanisms from all forms of humidity: moist, vapor, air humidity, water condensate, splashes, fog, rain, acid rain, chlorate and salt water

Restores efficiency and electrical conductivity of components and devices affected by humidity

Prevents dissipation

Prevents indirect contact

Improves conductivity

Prevents short circuits, breakdowns and failure of electrical appliances

Cleans and protects electrical equipment from dust and soil

Good adherence (even in temperature variations)

Considerably increases the operation life of electrical appliances and equipment

Developed for care and technical maintenance of all electrical contacts: plug-in and clamp connections, lamps and protectors, switches, terminals, batteries, generators, starters etc.

NANO PROTECH ELECTRIC PROPERTIES

Forms waterproof and water repelling coating

Can be applied on wet surfaces

Fill micro cavitations

Retains conductivity of components in water

Provides high electric precision of conductors

Forms insulation coating, prevents surface current leaks

Retains elasticity

Does not provide harmful effect, does not destroy metals, plastic, rubber, glass, varnish, paint, ceramics and electric motors

Dielectrical strength of NANO PROTECH ELECTRIC

Immediately after application 163 KV/cm -1 hour after application 208 KV/cm

24 hours after application 256 KV/cm

For comparison:

Air: 33 KV/cm

Insulation oil: 120 KV/cm

Glass: 140 KV/cm

Porcelain: 200 KV/cm

Dielectrical strength is the capacity of material insulation to prevent voltage jumps and indirect contact. After NANO PROTECH application increases due to evaporation of volatile particles. NANO PROTECH volatile content is about 37%.
NANO PROTECH ELECTRIC TESTS

Electric drill test

For the first test the case of the drill was removed. The electric drill was treated with NANO PROTECH ELECTRIC protection, including all electrical and metal parts, motor, winding and connectors. The electric drill was immersed in water for 10 minutes. Then the drill was removed from water and connected to the mains. Result: Electric drill works.

For the second test the electric drill was fully immersed in water prior to treatment with NANO PROTECH ELECTRIC protection. 10 minutes later the electric drill was connected to the mains and turned on. Result: Electric drill works.

NANO PROTECH extrudes water: the treated bulb installed outside has been working for over 1 year without short circuit despite the fact that the electric contacts are immersed in water.
NANO PROTECH ELECTRONIC

- Protects electronic devices, microcircuitry, circuit boards from all forms of humidity: moist, vapor, air humidity, water condensate, splashes, fog, rain, acid rain, chlorate and salt water
- Restores efficiency and conductivity of electronic components, microcircuitry and equipment damaged by humidity
- Prevents short circuits, breakdowns and failures of sensitive electronics
- Has high dielectrical properties for protection of circuit boards, motor windings, transformers from corrosion processes and weather impact
- Good compatibility with various materials: copper, PVC, jointing, electrical and electronic components
- Increases the operation life of electronic devices, microcircuitry and equipment
- Does not provide harmful effect, does not damage metals, plastic, rubber, glass, varnish, paint, ceramics and electronic components.

NANO PROTECH ELECTRONIC PROPERTIES

- Forms water proof and water repelling coating
- Can be applied on wet surfaces
- Protects from static electricity, dust and durt
- Fill micro cavitations
- Retains conductivity of elements in water
- Provides high electrical strength of conductors
- Forms insulation coating, prevents surface current leaks
- Retains elasticity
- Does not provide harmful effect, does not damage metals, plastic, rubber, glass, varnish, paint, ceramics and electronic components

NANO PROTECH ELECTRONIC TESTS TEST No.1

Five circuit boards out of 10 were treated with NANO PROTECH ELECTRONIC protection. The boards were sprayed with salt water twice a day for ten days. After this the efficiency of the circuit boards was tested.
Result: Untreated circuit boards were defective.
The boards treated with NANO PROTECH ELECTRONIC retained efficiency.
Untreated circuit board. Sprayed with salt water for ten days, significant oxidation noted. Treated with NANO PROTECH. Joint areas are not corroded. Efficiency retained.

**TEST No.2**

**Test No1**

Circuit boards were immersed in water. Then they were suspended for 2 minutes to let the water drip off. Efficiency test result: 80% of circuit boards lost efficiency. After this the defective circuit boards were treated with NANO PROTECH ELECTRONIC protection.

Result: 60% of the defective circuit boards restored their efficiency.

**Test No.2**

New circuit boards were treated with NANO PROTECH ELECTRONIC protection prior to immersion in water. After immersion they were suspended for 2 minutes to let the water drip off, then their efficiency was tested. Result: Circuit boards retained 100% efficiency.
NANO PROTECH UNIVERSAL

- Protects metal, devices, tooling and machinery from all forms of humidity (vapor, humidity, condensed moisture, splashes, fog, acid rain, chlorinate water)
- Restores efficiency and electrical conductivity of components and devices affected by humidity
- Prevents short circuits, deactivation of metal and steel based components and systems
- Considerably extends the life of electric, metal devices, tools and equipment
- Protects movable components
- Considerably increases the operation life of electrical appliances and equipment

Specially designed for domestic application.

NANO PROTECH UNIVERSAL PROPERTIES

- Forms water proof and water repelling coating
- Can be applied on wet surfaces
- Fill micro cavitations
- Penetrates under rust, facilitates rust removal
- Prevents corrosion
- Retains conductivity of components in water
- Provides electric precision of conductors
- Retains elasticity, efficiently eliminates squeaks and mechanic friction
- Does not provide harmful effect, does not damage metals, plastic, rubber, glass, varnish, paint, ceramics and electric motors

Technical data

Preparation made of highly refined mineral oil, anticorrosive additives, dearomatized par-affinic and naphthenic hydrocarbons.

Handling and storage:

Keep away from heat, direct sun rays. Use only in well ventilated areas. Keep away from open flames and ignition sources. No smoke! Protect against electrostatic charges. Observe official regulations on storing packagings with pressurized containers.

Toxicological information

No irritant effect to skin. Solvent splash may have reversible irritant effect. No allergic reaction was found.

How to use
Properly shake before using. When spraying, hold the can upright 20-30 cm from the surface. After spraying wait ca 10 min before turn on the electrical appliance.

PHYSICAL AND CHEMICAL PROPERTIES

Form: spray.
Colour: light brown.
Burning point: >250 °C

Internal can pressure: (at 20 °C) - 3,5 bar. (at 50 °C) - 6,5 bar.
The product is not self-ignitable.
The product is not dangerously explosive, formation of explosive vapor/air mixes is possible.
Density at 20°C < 1 g/cm³
Water solubility: not soluble in water, does not mix with water
According to LGA conclusion, does not contain polynuclear carbohydrates, fluoric chloric carbohydrates.

NANO PROTECH dielectric strength:
✓ Immediately after application 163 KV/cm -1 hour after application 208 KV/cm
✓ 24 hours after application 256 KV/cm
✓ Air: 33 KV/cm
✓ Insulation oil: 120 KV/cm
✓ Glass: 140 KV/cm
✓ Porcelain: 200 KV/cm
✓ Dielectrical strength is the capacity of material insulation to prevent voltage jumps and indirect contact.
✓ After NANO PROTECH application increases due to evaporation of volatile particles. NANO PROTECH volatile content is about 37%.

Product information

Packaging: spray can Volume 210 ml Consumption: 20-35 ml/m² Shelf life: 5 years Developed in Germany.

Protection period from 1 to 3 years
Overview of NANO PROTECH appliance

Aerials
Pools
Boilers
Wagon repair
Shipyards
Forklift loaders
Rotational systems
Generators
Hydraulic pumps and presses
Mountain-skiing complexes
Trucks
Transducers
Engines
Railway transportation
Tools
Power supplies
Lighting and equipment cables
Cable drums
Boats
Ignition coils
Switching equipment
Forestry

Elevators
Mechanical engineering
Metal working
Pressure monitors
Motorcycles
Navigation buoys
Outdoor advertising (light, screens)
External lighting
Pumps
Windings
Ski-Lifts
Safety locks and converters of low frequency
Presses of all types
Under water illumination devices
Gate gears, rolling barriers, etc.
Projectors
Manufacturing facilities
Industrial lamps
Radio equipment
Splitter boxes
Circuit modules
Power stations
Demountable systems

Traffic lights
Ignition plugs
Low-voltage systems
Alarm system
Uninterruptible power systems
Starters
Construction machines
Construction sites
Ship repair
Ship-building
Time meters
Telecommunications
Control engineering
Vehicles
Transformers
Reading devices of printed-circuit boards
Electric and energy supply, installation
Electric motors
Electromechanical drives
Electronic equipment and devices
Escalators
Yachts