



No 1 Moisture Protector - Worldwide!

Moisture is a frequently unrecognized and underestimated problem, which no-one is immune against. But the elimination of moisture damages causes cost of hundreds of billions of dollars every year.

The Fraunhofer Institute for Manufacturing Technology and Applied Materials Research (IFAM), Bremen/ Germany, estimates annual economic damages in EU- countries and the USA of 4% of Gross National Product (GNP) due to corrosion (= alone in Germany over 80 billion Euros). In the East European Countries, this percentage might be even higher –provoked by lower industrial, production caused by moisture problems.

With the invention of ZF1 a product is finally available 4,500 years after discovery of metal and about 250 years after the invention of electricity-that has been proven to effectively and economically protect metal, mechanical, electrical and electronic parts, devices, machines and installations against all types of moisture. What more, this protection is even possible if the object to be protected is already wet.

This way ZF1 meets three important needs that justify its cutting-edge innovation and top position in this new vacant market.

- It protects mechanical, electrical and electronic components, assemblies, devices, machines and installations against all forms of moisture, without impeding their electrical conductivity.
- It ensures electrical conductivity, even under water, thus eliminating the usual short- circuiting the same applies for the functionality of electronic parts and appliances or systems.
- It protects all kind of metals from corrosion.

ZF1 can be used wherever

- Moisture, dampness, humidity, condensation and flooding can cause or has already caused Malfunctions and/or damage
Metal, electronic and electronic components and systems are to be protected from humidity and the damage it causes,
 - Electric wires, contacts, electric motors, ignition-systems, windings, fuses, swich-appliances and switches, junction boxes and signal-installations need moisture protection or insulation,
 - Ignition problems are to be eliminated, current leaks suppressed, electrical contacts restored and/or malfunctions corrected.

The Most Important effect

- ZF1 has been proven to effectively protect metal, mechanical, electrical and electronic parts, devices, machines and equipment from all forms of water (vapor, humidity, condensation water, splashes, fog, rain/acid rain, chlorinated water, flooding, burst water pipes, water used for firefighting, saltwater, etc.)
- ZF1 Can restore the operation of electrical devices, installations and machines that are already wet and/or flooded, thus reducing failures and downtimes.
- ZF1 can be used for prevention, repairs and emergencies.
- ZF1 extends the life of electrical and electronic devices in damp environments (for example, in areas with high humidity)
- ZF1 effectively inhibits/prevents corrosion and damages.
- According to test, ZF1 removes dust and dirt. Through this cleaning effect, current leaks resulting in ignition failures can be prevented.
- As a result of its excellent lubrication properties ZF1 is also very effective at eliminating squeaking and mechanical friction.
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The most important properties

- ZF1 has no adverse effect on standard plastic, rubber, glass, varnishes (also insulating varnishes), ceramics, metal (general and galvanized) steel, stainless steel, iron, aluminum (general, raw or grinded), copper, zinc, tin brass, tin-solder, textiles and electric coils.
- ZF1 contains no resins, silicone, acrylic, Teflon or aromatic compounds.
- ZF1 is not affected by surfactants, but can be easily removed with circuit board cleaners, break cleaners or alcohol.
- ZF1 is not water soluble and does not emulsify.
- ZF1 is insensitive to extreme weather and temperatures. It remains absolutely effective at temperatures between -20 and 130 C.
- Thanks to its oily consistency ZF1 always maintains its elasticity, making it the ideal water repellent for flexible parts.

Product- Information

- Once a surface is sprayed ZF1 effects lasts for up to a one year and longer, depending on the mechanical stress exerted.
- ZF1 is easy to used: Shake before use, simply spray the area and 5-10 minutes for it to take effect.

Technical Data:

Composition:

Formulate from highly refined mineral oil, inhibitors, complex formers and auxiliaries, anticorrosive additives, antioxidants, metal deactivators and hydrocarbons.

Physical and Chemical Properties:

Form: Spray

Color: greenish

ignition temperature :> 250 C

Lower explosion limits: 0.6 Vol.-%

Upper explosion limits: 10.9 Vol.-%

Solubility in/miscibility with water: not miscible

density at 20 C : 0.6 g/ml

extremely high creeping capabilities and excellent penetrability

contains neither polycyclic hydrocarbons, fluorocarbons nor chlorinated Hydrocarbons

Dielectric Strength*:

Immediately; after spraying 163 KV/cm

1 hour after spraying 208 KV/cm

100 hours after spraying 256 KV/cm

Comparison Values :

Air: 33 KV/cm

Insulating oil: 120 KV/cm

Glass: 140 KV/cm

Porcelain: 200 KV/cm

Identifies insulation properties of a substance, which prevents the voltage from striking or jumping.

**The dielectric strength after spraying moisture seal universal increases is due to the evaporation of the



volatile components. The proportion of volatile components in ZF1 is 37%

Surface Resistance:

28,46 Terra Ohm (28.460.000.000.000 Ohm)

Leakage Current Stability:

Leakage current is an undesired electrical current which occurs in cases of inadequate insulation and flows along the surface. Leakage current originates through moisture or contamination of the surface area. Leakage current can be avoided by high surface area resistance. ZF1 creates an extremely high surface area Resistance.

Water displacement:

100% in 10 sec. The international testing organization DEKRA has confirmed that ZF1 has clearly Superior water splay and pearling properties in comparison to all other products (multi-function oils and contact sprays).

Corrosion Protection:

A DIN 5002/EN DIN 1020-3.1 Conducted salt-water spraying test (5 cycles in 24 hours) with untreated and treated test plates resulted in no corrosion traces on the treated plates.

Toxicological Information:

Inhalation: Vapor concentrations above recommended exposure levels are irritating to the eyes and the respiratory tract and may cause headache dizziness. Are anesthetic and may have other central nervous systems effects.

On the Skin: Low odor toxicity. Frequent or prolonged contact may dry skin, leading to discomfort and dermatitis.

On the Eyes: Irritating but does not injure eye tissue

Ingestion: Smalls amounts of liquid aspirated into the respiratory system during ingestion or from vomiting may cause bronchopneumonia or pulmonary edema.