

zøem

Water repellent spray for electronic devices



“zøem spray; saving devices one spray at the time”

zøem
inside

INTRODUCTION

zøem water repellent spray is a food grade water repellent coating which is designed to solve the universal short-circuiting and corrosion problems of electrical and electronic devices. It is a mixture of four main ingredients, with one confidential ingredient being the result of 5 years research for a coating protecting against ultra violet impact on buildings and structures, which was also discovered with a water repellency. With added fragrances, zøem is a healthy and environmentally safe method for solving the problems associated with electrical and electronics devices being exposed to water without the use of silicone, acrylic, rubber, Teflon, aromatic components, titanium oxide or other nanoparticles.

The base thought with the development of this coating was to assure a substrate should be hydrophobic and hydrophilic at the same time, which is antithetical applied on mineral and most metal surfaces (amphiphilic). In contrast to the most used protection systems the development of the coating was aiming for a non-film forming 1-C solution with 100 % reversible abilities.

PRODUCT DESCRIPTION

zøem is a protective coating for electrical and electronics applications, based on the latest technology. It expels all moisture and forms a flexible and water-repellent layer against the ingress of moisture and corrosion. It has a particularly penetrating force, for an excellent lubricating effect, short circuit and prevents rust on all metal parts and is resistant to extreme temperatures. This product is ideal for distributor caps, electric motors, equipment, switches, wiring amongst other electrical and electronic applications.



INSTRUCTIONS FOR USE

Before treatment switch of mains voltage of the equipment which will be treated and assure there are no live connections. Apply zøem water repellent spray on the surfaces which require treatment in two layers (wet-in-wet) in such a manner that complete surface is moisturized. Then leave for 15 minutes to dry.

zøem water repellent spray can be applied safely on all metals and almost all plastics. On surfaces containing plastics zøem water repellent spray should be tested first.

ADVICE ON APPLICATION CIRCUMSTANCES

Incidental water exposure. No moving parts:

When electrical substrates are treated with the zøem® coating through spraying onto its surface they will be protected from short circuiting when exposed to incidental water exposure. If the electrical surfaces are inside protective casings the coating will last for years (5-7 years¹)

Incidental water exposure. Moving parts:

When electrical substrates are treated with the zøem® coating through spraying onto its surface they will be protected from short circuiting when exposed to incidental water exposure. If the electrical parts have moving components there is the potential for rubbing of coating of the protected surfaces and or through wear and tear. The level of this deterioration varies on the level and frequency of friction exposure. Depending on this form of application the coating could last as long as 0.5 year² during which it is advised to perform maintenance spraying and a full re-application after the 0.5-year period.

Submerged or prolonged water exposure. No moving parts:

When electrical substrates are treated with the zøem® coating through a dipping process its electrical substrates will be protected from short circuiting when exposed to submerged or prolonged water exposure. If the electrical surfaces are inside protective casings the coating will last for years (5-7 years³)

Submerged or prolonged water exposure. Moving parts:

When electrical substrates are treated with the zøem® coating through dipping the surfaces into the raw material coating its electrical surfaces will be protected from short circuiting when exposed to submerged or prolonged water exposure. If the electrical parts have moving components there is the potential for rubbing of coating of the protected surfaces and or through wear and tear. The level of this deterioration varies on the level and frequency of friction exposure together with it being submerged under water or with a prolonged exposure to water. Depending on this form of application the coating could last as long as 0.5 year⁴ during which it is advised to perform maintenance spraying (when possible) and a full re-application after the 0.5-year period.

SPECIAL ADVANTAGES

zøem water repellent spray immediately dissipates moisture and creates a viscous water repellent protection layer which remains flexible. zøem water repellent spray continues to keep its excellent working properties under the most extreme circumstances, as it is withstanding extreme temperature fluctuations.

¹ Based on tests done in such static environments with similar coating blends applied through R&D projects of the coating manufacturer.

² Based on tests done in such dynamic/friction environments with similar coating blends applied through R&D projects of the coating manufacturer.

³ Based on tests done in such static environments with similar coating blends applied through R&D projects of the coating manufacturer.

⁴ Based on tests done in such dynamic/friction environments with similar coating blends applied through R&D projects of the coating manufacturer.

CONCENTRATION IN CONSUMER CANNISTERS

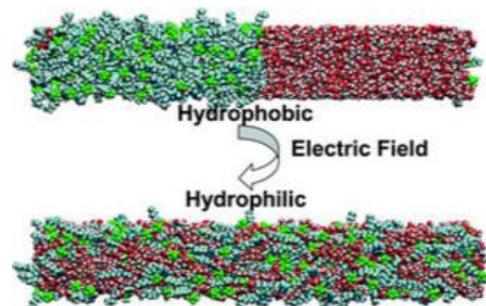
Liquids	Gas	Color	Container sizes
40 vol% water repellent coating	60 vol% LPG	Light brown	10 / 100 / 250 ml

TYPICAL PHYSICAL PROPERTIES

Property	Coating solution
Appearance	Light brown liquid
Liquids	White mineral oil (petroleum), 2,6-di-tert-butyl-p-cresol, naphtha (petroleum), heavy alkylate, lemon oil
Density	0.78 – 0.82 g/cm ³
Boiling point	136°C
Flash point	61°C
Environmental	non-toxic, does not contain nanoparticles
Shelf Life	3 years

FEATURES

- Applicable on all electrical connection points
- Oil base
- Non – film forming
- Lubricating effect
- Applicable on moving parts
- Highly reversible
- Amphiphilic property
- Even distribution on mineral and metallic surfaces
- Fills micro-cracks
- Does not affect electrical conductivity
- Absolute effectiveness at temperatures between -50°C and 140°C
- Able to resist some peak temperatures during spot soldering
- Easily cleaned by household detergents in case of spillage
- Non-irritating to skin
- Remains functional for up to 0.5 year in environments depending on friction/moving parts due to wear and tear
- Remains functional for 5-7 years in non-frictional enclosed environments



APPLICATIONS

Electrical and electronic devices, including but not limited to the following, can remain functioning with incidental exposure to water after being treated with zøem:

- Mobile phones
- PCB based devices e.g. tablets, computers, laptops, cameras, exposed process control units
- E&E wide applications e.g. wearable watches, microphones, process controlling devices, fireworks launching devices
- Lighting and wiring e.g. lamps, light boxes, advertising, projectors
- Engines
- DIY equipment e.g. power drills, milling machines, electric saws
- Toys and bobbies e.g. drones, electric scooters, skateboards, smart toys
- Protection and security systems e.g. observation devices, security alarms, sensors monitoring, video surveillance systems, timers
- Construction and farming machinery e.g. welding equipment, motors, lawnmowers, dispensers
- High voltage systems and parts e.g. cables, battery clamps, generators, jacks, power transformers
- Electric switchboards
- Industrial and railway equipment

APPLICATION TECHNIQUES (INCIDENTAL WATER EXPOSURE)

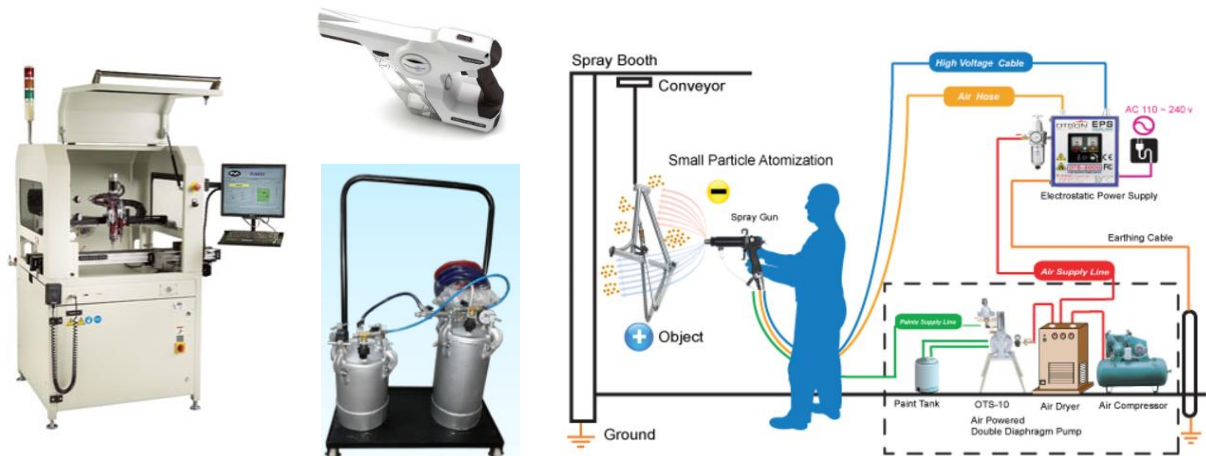
- Consumer canister, small scale industrial applications:

When applying, the coating is sprayed from 10cm from the corresponding surfaces. Do not apply on screens or lenses. Masking is not required. Drying occurs at room temperature in 15 minutes. A thin layer remaining on conductive surfaces gives the best protection.

- Industrial applications:

When applying, coating needs to be pressurized to spray mist on the surface to create an enveloping effect and optimize full and consistent coverage of the surface. Masking is not required. Drying occurs at room temperature in 15 minutes. A thin layer remaining on conductive surfaces gives the best protection.

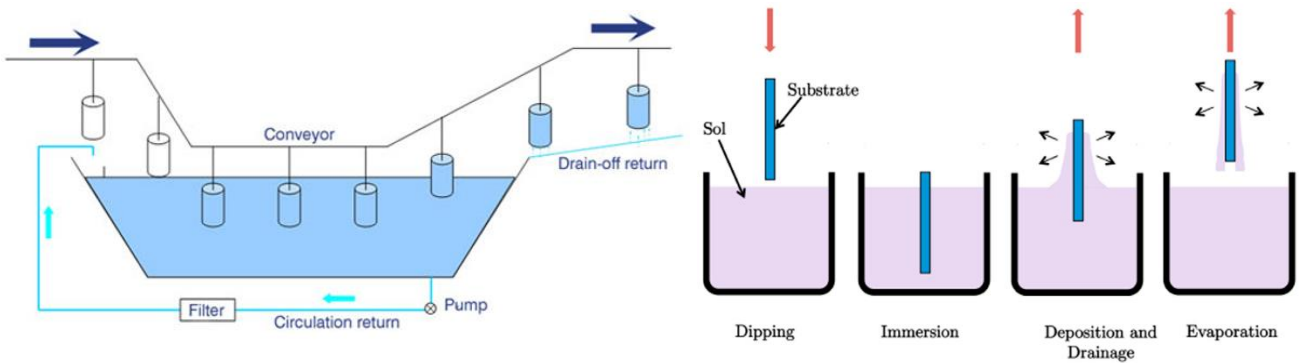
To create an optimal covering effect applying through ultra-sound chamber on the manufacturing line, or using an electrostatic spray gun.



APPLICATION TECHNIQUES (SUBMERGED OR PROLONGED WATER EXPOSURE)

- Industrial applications, based on raw coating material dipping

When applying, through dipping the substrates into the raw material coating, the coating will cover the substrate during immersion. After drainage, a coating layer will form on the substrate during the 15 minutes drying process where the coating will form its netting structure. Masking is not required. Drying occurs at room temperature in 15 minutes. The created coating layer will provide protection to water exposure over a prolonged time or when substrate is submerged in water.



SURFACE TREATMENT VOLUMES REQUIRED (INCIDENTAL WATER EXPOSURE)

- 1ml of coating spray treats ~ 60cm² of surface area
- 167 ml of coating spray treats ~ 1m² of surface area

Volumes based on the 40%/60% concentration of spray coating used from the pressurized canisters

SURFACE TREATMENT VOLUMES REQUIRED (SUBMERGED OR PROLONGED WATER EXPOSURE)

- 1ml raw material coating treats ~ 1 cm² of surface area
- 0,867 litre raw material coating treats ~ 1m² of surface area

Volumes based on dipping the to be treated surfaces in the raw material coating.

ZØEM WATER REPELLENT SPRAY USP'S

- 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.

ZØEM WATER REPELLENT SPRAY CAN BE USED EVERYWHERE

- 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, switch-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.

ZØEM WATER REPELLENT SPRAY MOST IMPORTANT EFFECTS

- ZØEM WATER REPELLENT SPRAY 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.)
- ZØEM WATER REPELLENT SPRAY can restore the operation of electrical devices, installations and machines that are already wet and/or flooded, thus reducing failures and downtimes.
- ZØEM WATER REPELLENT SPRAY can be used for prevention, repairs and emergencies.
- ZØEM WATER REPELLENT SPRAY extends the life of electrical and electronic devices in damp environments (for example, in areas with high humidity). ZØEM WATER REPELLENT SPRAY effectively inhibits/prevents corrosion and damages.
- According to tests, ZØEM WATER REPELLENT SPRAY 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 ZØEM WATER REPELLENT SPRAY is also very effective at eliminating squeaking and mechanical friction.

ZØEM WATER REPELLENT SPRAY MOST IMPORTANT PROPERTIES

- ZØEM WATER REPELLENT SPRAY has no adverse effect on standard plastic, rubber, glass, varnishes (also insulating varnishes), ceramics, metal (general and galvanized) steel, stainless steel, iron, aluminium (general, raw or grinded), copper, zinc, tin brass, tin-solder, textiles and electric coils.
- ZØEM WATER REPELLENT SPRAY contains no resins, silicone, acrylic, Teflon or aromatic compounds.
- ZØEM WATER REPELLENT SPRAY is not affected by surfactants, but can be easily removed with circuit board cleaners, break cleaners or alcohol. ZØEM WATER REPELLENT SPRAY is not water soluble and does not emulsify.
- ZØEM WATER REPELLENT SPRAY is insensitive to extreme weather and temperatures. It remains effective at temperatures between -50°C and 140°C.
- Thanks to its oily consistency ZØEM WATER REPELLENT SPRAY always maintains its elasticity, making it the ideal water repellent for flexible parts.

SAFETY, HANDLING, STORAGE, SHELF LIFE

zøem is classified as Dangerous Goods Class 3 and must be kept away from flames and heat sources. When stored in room temperature and in original un-opened container, the shelf life is certified for 3 years from the date of manufacture. Before using this product, please read the instruction in the package and refer to guidelines on www.zoemspray.com. Follow all applicable precautions and directions.

DISCLAIMERS

- Since circumstances, application preparation and application method have a significant influence on the characteristics and effectiveness of the applied Coating, the Company cannot be held responsible for the sticking capacity, chemical resistance and durability of the coating layer that is formed. The Company is therefore not liable for the effects of the Coating during and after application.
- The Company cannot be held responsible and is not liable, for the way this product is applied or used and the direct and/or indirect effects it has on the surface or material it is applied on, as well as the direct or indirect effects it may have on the user. For safety instructions, we refer to the information on the user label and material safety data sheet. For information on warranty and liability, we refer to our terms of business [<http://www.zoemspray.com/en#faqs>].

CONTACT

Supplier :

MyPhone (HK) Limited
Unit 205C, IC Development Centre (6W)
No. 6 Science Park West Avenue
Hong Kong Science Park, Shatin
Hong Kong SAR

Office +852.2776.0122
Fax: +852.2640.8780
Sales HK: +852.6811.5003
Sales CN: +86.131.475.69003

2016 approved trademarks for zøem® and word mark. 5th January 2016 application no. 303727486AA, 303727486AB and 303727486AC. Trade Marks Registry Intellectual Property Department.

2016 approved trademarks for zøem® and word mark. 5th January 2016 application no. 18899712 & 18899882. Trademark Office of the State Administration of Industry and Commerce of the People's Republic of China.

“zøem®; your spray to confidence”

