



## SURFACE SHIELD...

**infiltrates, lubricates, cleans, prevents corrosion, repels moisture**

- protects against all types of corrosion with a 2  $\mu$  thick film, seals surfaces.
- loosens dirt, eases rust and surface coating elimination, makes equipment operable again if it has been coated with water or has laid in water and is therefore unusable.
- applied before storing metal parts, tools and instruments, prevents rust and corrosion formation, as well as parts seizing and freezing.
- repels moisture and prevents moisture from forming again on batteries, regulators, controllers, cables, assemblies, switches, tern, FS, Ela, HF and NF systems. Cleans all types of contacts, all-purpose.
- retains the properties of precision instruments as the film is microscopically fine and does not change any tolerances.
- defrosts frozen parts, loosens seized screws and bolts and lubricates at the same time.
- enables wet assemblies to start, eliminates squeaks and creaks.
- particularly effective against salt water and atmospheric damage.
- cleans and protects all outdoor parts such as munitions, fishing tackle, diving, ski and golf equipment, gardening tools, etc.
- can be delivered in aerosol cans and unpressurised.

**... save yourself many costly hours of work**

## SURFACE SHIELD

SURFACE SHIELD is a state-of-the-art surface protection agent for all metals, as well as an automatic dehumidifier in mechanical, electrical and electronic areas.

Thanks to its capillary action, SURFACE SHIELD penetrates the smallest openings and pores, and therefore averts time-consuming installation tasks.

SURFACE SHIELD is therefore indispensable for inspection and maintenance services. SURFACE SHIELD has proven itself so well over the years in US missile production that it has now been released for use in the civilian sector.

SURFACE SHIELD is the only spray product that has so many positive technical properties and at the same time achieves a resin-free lubricating effect.

SURFACE SHIELD is marked with the appropriate approval numbers from the US military and aviation authorities.

The following is a specified list of SURFACE SHIELD properties, along with the various industrial branches and their particular operating conditions.

## Automotive industry

The properties of 5 individual products are combined into one: SURFACE SHIELD

### Loosens

snug parts such as exhaust boxes and exhaust pipe clips, screws, brake systems, brake cables, spring and steering rod bolts, hinges, speedometer cables and articulated joints. Prevents locks, windscreen wipers and wiper motors freezing, defrosts frozen parts.

### Cleans

motor parts, alternators, electric motors, collar studs, axle bolts, fittings, heat-resistant assembly components, steering linkage and wiper motors.

### Eliminates moisture

and leaves a protective film that prevents moisture penetrating again. Starter motors, alternators, battery and ignition cables, distributors, headlamp switches and bulb fittings are dehumidified.

Starting motors that have become damp: Spray SURFACE SHIELD evenly on the ignition cable, in the distributor and on the distributor cable. Then start the engine as normal.

### Protects

against corrosion on chrome bumpers, radiator grilles, anti-roll bars, battery cables and terminals, bulb sockets and fittings. Prevents oxidation on the battery poles of starter batteries.

### Lubricates

seat attachments, brake pedal pivot points, carburettor linkage, brake system linkage, rubber padding, spring seat, spring plates, throttle valve linkage, handbrakes and assembly parts. Eliminates squeaking, creaking and noises. Penetrates throttle cables.

Now, thanks to SURFACE SHIELD, you have only one product rather than all of the following individual additives:

- Graphite (to loosen)
- Rust preventer
- Silicone oils
- Cleaning solutions
- Protective film for ignition systems
- Penetrating oil
- Dehydrating agent
- Lubricant (light)

The metal parts protected with SURFACE SHIELD can be painted without having to remove SURFACE SHIELD beforehand. Do not pre-treat the undercoat with trichloroethylene before applying SURFACE SHIELD!

## Aerospace industry

Electronic devices on board aircraft are subject to large temperature fluctuations and therefore to formation of condensation. Spraying with SURFACE SHIELD protects even the smallest electrical components effectively against corrosion and formation of condensation so that they remain functional.

## Tool and machine building

By spraying the inner and outer parts of devices and systems that are subject to weather conditions, such as control boxes, vending machines, stamp dispensers, etc., they are effectively protected against rain from the outside and against condensation on the inside and still look as good as new after many years. Grease-free lubrication of all moving parts also significantly increases the service life of these devices and guarantees that they function faultlessly. Evaporators in drinks vending machines are freed of ice coatings and remain protected against new ice forming for some time.

## Metal working and industrial applications

SURFACE SHIELD does not just protect metals and machined parts against the effects of rust and moisture when they are stored and transported. Steel plates can be cut and drilled easier. There is no overheating, accumulation or damage to the tools. SURFACE SHIELD prevents chip formation when cutting aluminium plates; you can therefore obtain completely burr-free and smooth cutting edges. SURFACE SHIELD is easy to use, removes moisture, prevents rust and corrosion and stops existing damage spreading. It spreads over the entire surface and provides effective protection for all metals. In addition, it is a reliable, grease-free lubricant. Thanks to its excellent penetration capability, SURFACE SHIELD also reaches inaccessible locations and therefore saves difficult stripping and time-consuming dismantling.

### Important for posting overseas:

The surfaces of completed products made from all metals will remain shiny if they are treated with SURFACE SHIELD as soon as they are completed. SURFACE SHIELD exceeds the requirements of the US military authorities per US Mil. No. C 23411, VV-P-216a and NATO No.

### The tolerances remain unchanged.

SURFACE SHIELD does not have to be removed. Surfaces that are treated with SURFACE SHIELD can be welded and provided with a finishing coat; it therefore provides subsurface corrosion protection at the same time!

### Acts as a cleaning agent -

Can be used as a cleaning agent instead of ultrasonic cleaning; it is particularly suitable as means of guidance for the ultrasonic inspection. SURFACE SHIELD outclasses previous solvents and cleaning agents for ultrasonic cleaning and inspection systems.

Workpieces that were treated with SURFACE SHIELD are also protected against the effects of corrosion because you leave the SURFACE SHIELD that is used for the ultrasonic inspection on the workpiece. Workpieces can be sprayed with SURFACE SHIELD straight after grinding and therefore be protected against moisture and the effects of corrosion.

### Protects against hand perspiration -

Workpieces that are treated with SURFACE SHIELD are no longer susceptible to corrosion caused by hand perspiration.

**Wire ropes that are subject to weather conditions,** as well as to salt water damage, are effectively protected thanks to the extensive penetration of SURFACE SHIELD because it infiltrates the water and forms a permanent protective film that does not evaporate.

SURFACE SHIELD can be used at temperatures from minus 50° to plus 270° C and is therefore not affected by climate changes.

## Electrical industry

When you use SURFACE SHIELD, you are using only one product for manufacturing, repairs and servicing instead of a number of aerosols, which has the significant advantage that only one work step is required.

SURFACE SHIELD infiltrates, lubricates, cleans, prevents corrosion and repels moisture.

SURFACE SHIELD removes corrosion coatings, dirt, oil, grease and resin from older contacts such as push button units, FS channel switches, relay contacts etc., contact resistance and provides long-term protection against new corrosion at the same time.

When it is sprayed on new contacts, precision parts, electromechanical drives, Ela systems, contact sets, HF and NF parts, it cleans gently and leaves a protective coating behind at the same time.

SURFACE SHIELD infiltrates and repels moisture. The parts that are sprayed are protected against moisture re-entering for a long time. Thanks to its high penetration capability, SURFACE SHIELD also reaches the places where other products have become ineffective for a long time because SURFACE SHIELD also reaches hidden corners and undercuts.

SURFACE SHIELD is particularly suitable for use with precision parts because it does not just eliminate encrusted greases and oil films but also makes hardened greases malleable again and provides an additional lubrication effect. The protected parts can be painted without having to remove SURFACE SHIELD beforehand.

SURFACE SHIELD prevents freezing and defrosts frozen parts. It is fully effective at temperatures between - 50° and + 270° C.

## Plastic and rubber industry

### Tool making

Protects the tool steels during and after machining. Penetrates inaccessible areas when stored. Protects ejector guides and fittings.

### Injection moulding, blow mould and extrusion dies

Thanks to its penetrative effect, it protects tools that are dismantled and stored. When dismantling the tools, water drops remain on the metal surface when the cooling hoses are disconnected. Here, SURFACE SHIELD infiltrates the moisture and protects the steel. During the work process, SURFACE SHIELD can be sprayed on the ejector pins without affecting the injection-moulded part. Therefore, the ejector guides can be lubricated quickly. After the tools have been stored, they can be mounted immediately without having to remove SURFACE SHIELD first. This saves a great deal of time, especially as the injection-moulded parts can also be stained. For the first shot, SURFACE SHIELD works as a release agent thanks to its lubricating effect. During PVC processing, SURFACE SHIELD protects tools and machines from aggressive PVC deposits when the working temperatures exceed the critical threshold. Tools that are beginning to rust due to PVC deposits only have to be sprayed and the rust can then be wiped away with a cloth after a short time. This also applies to deposits that occur when processing polycarbonates etc. The high penetration capability is particularly noticeable here because internal valves etc. can finally be reached. Also see the information for the electrical industry.

### Switching station

When processing PVC powder, corrosion often begins to appear already on the electrical switching stations for the machines and their control elements. Here, SURFACE SHIELD eliminates the existing corrosion and protects against new corrosion attacks. The electrical values also remain unaffected by this.

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## Pneumatic tools

Many industrial branches that constantly use pneumatic tools save money and working time by using SURFACE SHIELD on a regular basis to care for their pneumatic tools. Frequent tool cleaning and breakdowns are prevented.

## Bolt-firing devices

More and more bolt-firing devices are being used every day. Experience shows that SURFACE SHIELD cleans and cares for these tools particularly well. Dirt and powder residues are loosened and can be removed with minimal effort; at the same time, the device is protected for extended storage by spraying with SURFACE SHIELD. Locks and rebound dampers can be defrosted using SURFACE SHIELD before use to prevent damage.

If you would like further information on a special SURFACE SHIELD application area that is of interest you, please contact us quickly by telephone or by post to the address listed below.

