RUST PREVENTION

CORROSION MANAGEMENT SOLUTIONS

ARMOR SHIELD®

VCI Chipboard

FEATURES AND BENEFITS

ARMOR SHIELD® VCI Chipboard is chipboard impregnated with ARMOR's vapor corrosion inhibiting formulation.

The **ARMOR SHIELD VCI Chipboard** in 1"x1" chip form is ideal for small parts sealed in small plastic bags and/or the protection of small parts that vary where pre-printed VCI bags are not an option. Just drop a chip or two into a small poly bag and seal for storage or shipment. A 1"x1" chip covers approximately 40-60 cubic inches of space

ARMOR SHIELD VCI Chipboard is also great for interleaving between layers in a container and is available in sizes 36"x36" and under. Since the chipboard is impregnated on BOTH sides, it saves time and money compared to traditional wrapping methods or other RPs.

WHY ARMOR?

Armor Protective Packaging® offers rust prevention and rust removal products that are clean, safe, easy, and that protect metals while in-process, in transport, or in storage. ARMOR combines its VCI (vapor corrosion inhibitor) Nanotechnology® with packaging materials such as paper and poly film to create products that displace moisture on metal and guard against rust. ARMOR also offers desiccants, emitters, foam pads and its Metal Rescue® Rust Remover Bath and Dry Coat™ Rust Preventative. For more than 40 years, ARMOR has worked with customers from around the globe to provide rust prevention and rust removal solutions and to Take the Work Out of Your Workday!

The proprietary ARMOR VCI Nanotechnology® comes with more than 40 years of industry experience. With service on four continents and in more than 25 countries, ARMOR is positioned to Eradicate Rust wherever and whenever you need them.

Approved By/Conforms:

- **FDA for use in equipment packaging**
- **Global OEM companies**
- **RoHS – REACH Compliant**
- **NACE Std TM0208-2008**
- **MIL-PRF-3420H and JIS Z 1535 Class 2**

ARMOR SHIELD® VCI Chipboard

Product Overview

All Armor Protective Packaging® products utilize our proprietary and time-proven ARMOR vapor corrosion inhibitor (VCI) Nanotechnology®. Oxidation occurs when an electrolyte (water, oxygen, etc.) is present on the surface of a metal. The corrosion process begins when electrons flow through the electrolyte from high energy areas (anode) to low energy areas (cathode) of the metal. ARMOR VCI blocks this reaction by passivating the surface and inhibiting the electrochemical current flow from anode to cathode. ARMOR VCI's protective vapors adhere to a metal surface to form an invisible film only a few molecules thick to protect metal from attack.

ARMOR SHIELD® VCI Chipboard is a 30 point fiberboard impregnated with ARMOR vapor and contact corrosion inhibitors for ferrous and non-ferrous metals. ARMOR SHIELD® VCI Chipboard is designed for the long-term storage or shipping of ferrous and non-ferrous metals and is nitrite-free.

Compatibility of ARMOR SHIELD VCI Chipboard with Metals

Metal to be Protected	ARMOR SHIELD® VCI Chipboard
Aluminum	★★
Aluminum Bronze	★★
Aluminum Magnesium alloy	○
Brass	★★
Bronze	★★
Cadmium	★★
Cast Iron	★★★
Chromium	★★
Constantan	★★★
Copper	★★
Galvanized	★★
Lead	○
Molybdenum	○○
Nickel	★★★
Nickel Silver (CU, Ni, Zn)	★★
Silver	○○
Solder (Pb, Sn)	○
Steel	★★★
Tin (Pure)	★★★
Tinned Steel	★★★
Zinc	★★

Compatibility Key

★★★ **Complete Protection**

★★ **Good Protection**

★ **This product will protect this metal from corrosion; however a more suitable formula may be available.**

○ **Testing is recommended**

○○ **Not Compatible**

Shelf Life & Storage of ARMOR VCI Products

When ARMOR SHIELD® VCI Chipboard is stored properly (nested together and wrapped or in some sort of closed container), the shelf life is two years from the date of manufacture. VCI Chipboard is hygroscopic (absorbs moisture from the environment) so it is important to store in original packaging or enclosed inside a container.

For best results, do not leave ARMOR VCI packaging out in an open environment, either indoors or outdoors. Keeping it in its original packaging or enclosed inside a container ensures that the vapors remain in the packaging. As temperature and humidity levels increase, the rate of the volatilization of the chemicals contained in the packaging also increases, reducing the effectiveness and longevity of the product. Product should be stored in a dry environment with temperatures between 40° – 110° F (5° – 43°C).

Note: While Shelf Life and Length of Protection are two separate characteristics of VCI packaging materials, they are somewhat interrelated. Shelf Life refers to how long the unused VCI packaging material can be stored prior to being put in use. Length of Protection refers to how long the VCI packaging materials provide protection once in use. In both cases the duration depends on the product's storage conditions.

Reusability

ARMOR SHIELD® VCI Chipboard is not recommended for re-use for three primary reasons:

1. The rate at which VCI chemical volatilizes out of the product into the surrounding environment when in use
2. The inability to properly track and monitor the amount of time the materials have been exposed to the environment
3. Potential contaminants on the packaging that can be transferred

Length of Protection

ARMOR VCI products are used to cover or wrap metal parts and surfaces. The continuous vaporization of this chemically treated packaging creates a safe, protective environment that effectively blocks out rust, corrosion and oxidation. Typically, ARMOR VCI packaging will protect parts for approximately three years of corrosion-free storage when used properly in normal warehouse conditions.

ARMOR cannot control variable conditions such as temperature and humidity extremes, airflow, production and process methods, surface conditions of metal to be protected, customer employee training and other factors beyond our control, therefore it is impossible to guarantee a specific length of protection. Additionally, if warehouse conditions are expected to be severe (i.e. over 90° F and 75% RH) for any length of time, other methods of rust preventatives such as ARMOR WRAP®, ARMOR POLY®, Dry Coat™ RP or desiccants, may be needed, in conjunction with VCI packaging.

Wash hands thoroughly after handling this product and before eating.

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