



PRODUCTDATA

CORROSION MANAGEMENT SOLUTIONS

ARMOR POLY® VCI FILM THE CRUSADER™

FEATURES AND BENEFITS

ARMOR sets the industry standard for high performance, innovation and long-term storage with the **ARMOR CRUSADER™**, a multi-layer VCI film that delivers premium rust prevention for the most demanding corrosion inhibition applications.

The **ARMOR CRUSADER** is made up of multiple layers of film combined into one through co-extrusion. This multi-layer construction creates a barrier that blocks three times more water vapor than a 4 mil mono-extruded VCI film, providing enhanced protection.

Ideal for export shipments or for metal parts/equipment in long-term storage or repeated use within a closed-loop shipping cycle, **ARMOR CRUSADER VCI Film** offer superior corrosion inhibition and excellent barrier properties. It is non-hazardous, environmentally friendly, and recyclable. Plus, ARMOR's proprietary Bright Idea™ Technology provides visible proof under black light that VCI is present in the **CRUSADER** and all ARMOR POLY® products.

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.

ABOUT 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 45 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!



You won't find a customer service team on this earth more excited to talk about rust, so give our corrosion needs a call with your questions and make their day.

800.365.1117



ARMOR CRUSADER™ VCI FILM

Compatibility of ARMOR POLY with Metals

Metal to be Protected	ARMOR POLY® Films
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

SHELF LIFE & STORAGE OF ARMOR VCI PRODUCTS

ARMOR VCI Poly individual sheets or bags have a shelf life of two years from the date of manufacture when stored in original packaging. ARMOR VCI Poly rolled goods have a longer shelf life of three years from the date of manufacture when stored in original packaging.

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. Store product 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.

ARMOR CRUSADER™ VCI FILM

PROPERTIES

Gauge available: 0.006" +/- 10%.

For complete details, see ARMOR Technical Bulletin #143 & #144.

Products are nitrite-free; contain no secondary amines.

ARMOR POLY® products comply with directive 2002/95/EC (RoHS and RoHS2 2011/65/EU) of the European Parliament and do not contain Sulfur or halide compounds (fluorides, chlorides, bromides, or iodides).

Wash hands thoroughly after handling this product and before eating.

All products manufactured Armor Protective Packaging® are warranted to be first class products and free from defects in material and workmanship. Liability under this warranty is limited to the net purchase price of any of such products proven defective or at our option to repair or replacement of said products upon their return to us transportation prepaid. All claims on defective products must be made in writing 30 days after the receipt of such products in your plant and prior to further processing or combining with other materials and products. We make no warranty, express or implied, as to the suitability of any of our product for any particular use, and we shall not be subject to liability from any damages resulting from their use in operations not under our direct control. This warranty is exclusive of all other warranties, express or implied, and no representative of ours or any other person is authorized to assume for us any other liability in connection with the sale of our products.

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