

VCI (Volatile Corrosion Inhibitor) Bags and Film



VCI

VCI Poly is a LLDPE (linear low-density polyethylene) product that is available in the form of flat bags, sheets, gusseted bags, single wound sheeting and tubing. Our VCI Poly is a multi-purpose formulation, which allows for protection of both ferrous and non-ferrous metals. Our products are available in .001 to .008 mil thicknesses. VCI Poly is an easy-to-use, convenient method of providing not only VCI protection against corrosion, but also added protection against moisture and the elements. Our VCI Poly can be used as simple bags to contain your parts, as bin liners, covers, coil wrap, etc. Often used in sea-faring shipments, VCI Poly provides excellent protection against the corroding effects of salt water.

Key Benefits

- Ease of use
- Variety of styles and sizes
- Added protection against moisture
- Custom made to your size specifications

How Does VCI Work?

Volatile Corrosion Inhibitors, also known as VpCI (vapor phase corrosion inhibitors), passivate the electrically charged metal by emitting a non-toxic chemical vapor, forming a molecular layer on the surface thereby inhibiting the flow of electrons from the anodes to the cathodes. This protective layer then halts the electrochemical process of corrosion.

How Should VCI Be Used?

Your metal parts should be protected with VCI from the production process through shipping and storage.

What Causes Corrosion?

Corrosion is an electrochemical process by which metals return back to their original state of ore. Metals have both high and low areas of energy. Some types of metal have more of these high and low energy areas. High energy areas are called anodes, while low energy areas are called cathodes. Corrosion forms when electrons flow from the anodes to the cathodes through an electrolyte such as water, rain, moisture or humidity. Even a relatively low humidity level, as low as 65%, can form an electrolyte. For metals that have a high number of anodes and cathodes, corrosion can result within a matter of minutes. For example, steel is a high energy metal. It also has a very porous surface, making it especially susceptible to corrosion. VCI products inhibit the electrochemical process, thereby protecting your costly parts.



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Film Specifications

Linear low-density polyethylene products including bags, sheeting and tubing. Products are extruded with VCI multi-purpose inhibitors for protection of ferrous and non-ferrous metals. Non-toxic.

Gauge: .001" - .008" (+/-10%)	Score	Units
Tensile Strength (PSI) at break Machine Direction Transverse Direction	3,300 - 4,100 3,300 - 4,100	lbs./sq. in./mil lbs./sq. in./mil
Elongation Machine Direction Transverse Direction	460 - 560 650 - 850	percent percent
Seal Strength Percent Sealing Temperature Dart - ASTM #1709	85% of film 340° - 380° F 65 - 80	grams/mil

Recommendations

This product is designed for long-term protection of ferrous and non-ferrous metals including steel, iron, zinc, galvanized (zinc plated steel and iron), copper and brass. Nickel, nickel alloys, cadmium and aluminum should be evaluated in the usual method of handling before using this product.

Storage

Store material in original wrapping or equivalent.
We recommend that you store no more than a six month supply of VCI Poly.

Helpful Information

VCI is a cost effective alternative to traditional methods of preventing corrosion, such as grease or chemical treatments. VCI is also 100% recyclable and repulpable. There is no need to coat, dip or spray parts with any other corrosion inhibitors. Just wrap the clean part with VCI poly or bags and it is ready for packing, shipping and/or storage.

Follow these simple guidelines to protect your parts with VCI:

- Gloves should be worn when coming in to contact with metals, as fingerprints can leave an oily deposit on the surface that can cause a chemical reaction on the part, promoting corrosion.
- Be sure your parts are free of fingerprints, machining oils and acid or alkali residue. Neutral oils or a light rust inhibitor may be left on the parts, but it is not necessary.
- Your parts should be cleaned with a petroleum solvent or solvent emulsion cleaner. If an alkali or chlorinated cleaner is used, please contact your distributor or our office for neutralizing instructions. Package your parts as soon as possible after cleaning. Parts should also be covered or wrapped during idle time, such as employee breaks, lunch, etc.
- Be sure to use VCI as a barrier between metal parts and acidic packaging materials such as corrugated boxes or liners and wooden pallets.
- Your parts should be completely enclosed by a carton, crate or other barrier material after wrapping with VCI. Package should be sealed airtight for maximum protection. Packages may be opened for inspection and resealed. Be sure not to touch metals during inspection.
- Store VCI in a cool, dry place, away from direct sunlight. We recommend that you only inventory a six month supply of VCI poly films.
- We recommend testing VCI with your parts for compatibility prior to use.



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