

HAVER PLASTICS VCI FILM

CUSTOMER SUPPORT INFORMATION SHEETS

Including:

- (1) FREE TECHNICAL SUPPORT**
- (2) VCI FILM SPECIFICATION SHEETS**
- (3) PREPARATION & METAL PRESERVATION**
- (4) PACKING GUIDELINES**

As well as the Technical Support available on this pages we offer all our customers significant **LOGISTICAL SUPPORT:**

- ✓ Free stockholding in regularly used parts
- ✓ Over 500,000 VCI bags & sheets available from stock
- ✓ Free samples of bespoke or stock VCI bags
- ✓ Next day or same day delivery
- ✓ Short leadtimes

Contact us today for further details:
sales@haverplastics.co.uk
Tel. 01440 704945

(1) FREE TECHNICAL SUPPORT

Haver Plastics have unrivalled, FREE, UK support for Companies using or evaluating our VCI packing materials. The lab. testing that is available ensures that our sales staff offer you VCI packaging that (1) works and (2) is not over specified for the application. This ensures you pay only for the VCI packaging you need.

ON SITE SUPPORT

To manage any corrosion issues we have experienced Packaging Technologists available within 4 hours and PHD level Packaging Corrosion Scientists available within 48-72 hours' notice (European based). At the meeting our Technologists will be able to:

- Review and assess any corrosion issue on metal parts and recommend next steps to resolving the corrosion
- Evaluate the current preparation and packing processes and manage any packaging issues.
- Recommend new packaging & production of trial packs for trial shipments.

Additionally, our sales staff can assist in the assessment of all the relevant stages of the manufacturing process including shipment and storage, in order to ensure that all aspects of the process have been adequately addressed before the parts/components are packaged.

WORLDWIDE SUPPORT

We have the largest network of Packaging Technologists available to any VCI packaging Company worldwide. We are able to inspect deliveries of your parts in almost any country worldwide to ensure that the parts are free from corrosion. This can be done at the docks or on site in your receiving warehouses.

LABORATORY TESTING

We provide FREE, specifically tailored laboratory testing of any metal parts to determine whether the specified packaging will be effective in combating corrosion over a particular journey length & time. This testing is specific for each issue, validated, rigorous, and unique amongst VCI suppliers. In addition we are able to supply data loggers to test the packaging humidity and conditions during shipment of trial shipment packs.

TRAINING AND EDUCATION

We provide FREE on-site training in what VCI packaging is, how it works, how to specify the correct packaging.

(2) VCI FILM SPECIFICATION SHEET

VCI's

The critical formulations impregnated or extruded into these materials are known as VCI's, Volatile Corrosion Inhibitors. VCI's combat corrosion by preventing acids and high humidity from accelerating energy loss in metallic substances. This is achieved by both contact and volatile inhibitors, which form a thin protective layer on the surface of the metal. This molecular layer is self replenishing to give long term protection, but does not need to be wiped away before the metal item is put to its intended use.

Corrosion Inhibitor Films

The test specification below covers film thickness from 25 micron to 200 micron.

Life-time of Protection

Providing the metals are clean, dry and free from corrosion when packed in VCI film, long term protection can be expected over a number of years if our usage recommendations are followed.

Corrosion tests:

VCI Efficacy Test – testing for effective anti-corrosion protection:			
Film:	VCI film	Test method:	Jar test
Test period:	2 weeks	Temperature Cycle:	1 cycle consists of 6 hours at 40 °C and 6 hours at 10 °C.
Testing of:	Anti-corrosion properties	Duration:	24 hours equilibration & 10 days on test (2 cycles /day)
Test Metals:	50mm x 70mm x1mm Mild Steel; 50mm x 70mm x 3mm Copper; 50mm x 70mm x 3mm Aluminium; 50mm x 70mm x 3mm Galvanised Steel		
Capability test for VCI:	Tests the capability of VCI packaging to protect a piece of metal from rust when the VCI packaging is placed in close proximity to the metal in an enclosed space		
Capability test for contact:	Tests the capability of VCI packaging to protect a piece of metal from rust when the VCI packaging is placed in contact with the metal in an enclosed space		

Test Results:

Where: *Excellent* (0-2%) *Very Good* (2-10%), *Good* (10-20%), *Poor* (20-50%) and *Very Poor* (50-100%)

	Nitrite	Mild steel		Copper		Aluminium		Galvanised steel	
		VCI	Contact	VCI	Contact	VCI	Contact	VCI	Contact
<i>Capability test:</i>									
Rustgard	Negative	Excellent	Excellent	Excellent	Excellent	Good	Excellent	Excellent	Excellent
Control	n/a	Very Poor	Very Poor	Very Poor	Very Poor	Very Poor	Very Poor	Very Poor	Very Poor

(3) PREPARATION & METAL PRESERVATION

VCI films and VCI paper will protect metal parts from corrosion however there other factors to consider when reviewing the most suitable packaging for your metal parts.

The Manufacturing Process

What the part is made of? - Where it is coming from? - What processes it has been through?
Some metals are more susceptible to corrosion than others, for example cast Iron may require treatment with a light VCI coating in addition to the VCI packaging to be assured of adequate corrosion protection. The rate of corrosion of metals may be considered in the following order; cast iron, mild steel, galvanized steel, copper, brass, aluminium and stainless steel.

Cleaning Metal Parts

Does the cleaning fluid protect the parts? - Does it leave a residue?
Before packing, most parts are washed with cleaners that offer some short-term corrosion protection. Some cleaners can leave a residue that may be hygroscopic and can attract water at a later stage causing spotting corrosion. In addition there is the potential for water to run off the part and form invisible spots. These spots or 'blooms' are due to dried salts, such as calcium chloride and magnesium sulphate, which form as the water evaporates. These dried salts can later absorb moisture and initiate corrosion that VCI's will find difficult to combat. Good quality cleaners that prevent these blooms from forming are advisable.

Coating Metal Parts

Has the part been coated with an oil or waterbased coating before packing?
Coatings on metal surfaces can prevent moisture from evaporating and undercoating corrosion can occur.

Shipment & Storage

Where is the part going? - How long will the shipping time take? - Transit & storage time?
Shipment and storage Issues that need to be considered include whether parts are being sent locally or internationally; whether the part will be at sea (in the hull of a ship) for more than a week; the likely climatic conditions and temperature variations during shipment and subsequent storage of parts; and the length of time for which the component will require protection.

Overall packaging requirements are determined based on the destination, mode of transport and duration of storage.

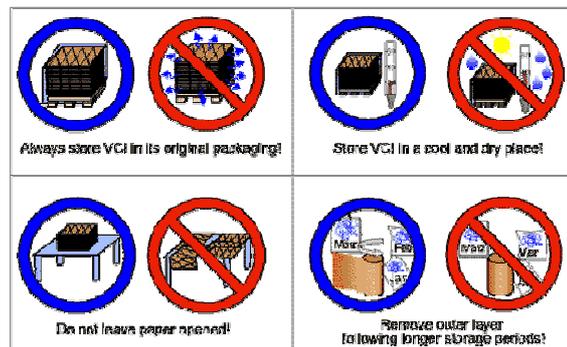
(4) PACKING GUIDLINES

Working with VCI Materials

Special storage restrictions or personal protective equipment are not necessary for VCI material products. Nevertheless, general protection and hygiene measures should be implemented: ensure the area is well ventilated; do not eat or drink while working with VCIs; do not store food in the work area; wash hands and face after work; all operators should wear gloves to prevent fingerprint corrosion.

Storing VCI products

In order to prevent active-agent loss, products should be stored in a cool, dry place and in their original packaging. Packaging already opened should be sealed wherever possible following work. The top sheet or outer bag on a roll should be disposed of following extended storage periods.



Preparing Metals for Packing - VCI Film Packs

It is advisable that all parts should be clean, free from dust, contamination, and clear of deposits from previous processes, and should be dry before packing. If wet or damp parts are packed in sealed VCI bags the moisture sealed into the packs will cause corrosion. Metal parts should be packed free from corrosion. The packaging should be sealed as tightly as possible (avoid drafts); the more securely sealed the outer packaging, the longer and more secure the corrosion protection.



Unpacking VCI Packs

If items are unpacked during customs controls, they should be tightly re-sealed as quickly as possible. Because corrosion protection is based on a dry process, items are ready for use immediately.

Disposing of VCI Materials

Paper, films and chips can be recycled. Our wax-covered papers are an exception and can be incinerated. The calorific value of all materials is in excess of 11.000 kJ/kg. Therefore, products can be utilized energetically in a corresponding plant process.