

## Corrugated Cardboard Considerations

### Corrugated Cardboard could be causing corrosion



When using corrugated cardboard in packaging, it is important that the cardboard is specially treated or the acidity that is often present in the fibres can transfer to the metal part(s) causing corrosion. Cardboard sheets are often used to separate one row of parts from another in a package. If the cardboard is not treated, the cardboard will absorb moisture in storage and transit and will induce corrosion on the surface of the parts that is in contact with the cardboard.

In the manufacturing process of corrugated cardboard, the pulp is dissolved by nitric acid. This acid has to be neutralised using several rinsing steps. To save money, some manufacturers shorten these rinsing steps and consequently there is acidic residue that remains in the pulp used to make the cardboard. Additionally, some of the glues used can add to the corrosion hazard. During transportation, especially during night hours when the temperature goes down and relative humidity goes up, porous packaging like corrugated cardboard absorbs moisture and it activates any acidic residue left behind. If the cardboard is in direct contact with the metal parts, it can easily lead to corrosion by providing an acidic electrolyte as demonstrated in the photo to the right.

As a solution, the surface of metal parts should never be allowed to touch corrugated cardboard. A sheet of VCI film or paper, such as TechCorro™[F] VCI Film or TechCorro™[P] VCI Paper, should be placed between the cardboard surface and the metal part (as shown in the photo left). A sheet of VCI film should also be placed on the top row of parts to prevent the cardboard from touching the row of parts immediately below it. Another approach would be to insert the cardboard sheet into a flat bag made of VCI film thereby covering both sides of the cardboard sheet.



Assessing the shipping and packaging conditions and other variables that can influence corrosion formation allows for the design and use of protective packaging solutions that will preserve and protect. While moisture cannot be completely removed from the packaging, porous packaging materials reduce relative humidity and condensation (as long as they are not acidic porous packaging which can actually increase corrosion as described above).

TechCorro™ VCI Nanotechnology, found in Technology Packaging's product line, responds and adjusts to temperature and humidity fluctuations, increasing and decreasing as needed.

### Corrosion preventive packaging from Technology Packaging

Technology Packaging provide VCI in films, including mono, co-ex, stretchfilms & shrinkfilms, papers including a large number of special-purpose laminates, plastics, powders & liquids. In addition there is a full range of Barrier Foil Laminates (BFL), Liquid Corrosion Inhibitors (LCI), Desiccants and PlastCorro Corrugated Plastic packaging.

Skilled technicians are constantly reviewing & developing new products that are often customer led.

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## The global partnership in corrosion prevention

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Sheets

All these products are supplied with or without VCI

**TechCorro™ [B]  
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VCI Foams  
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**TechCorro™ [EQ]  
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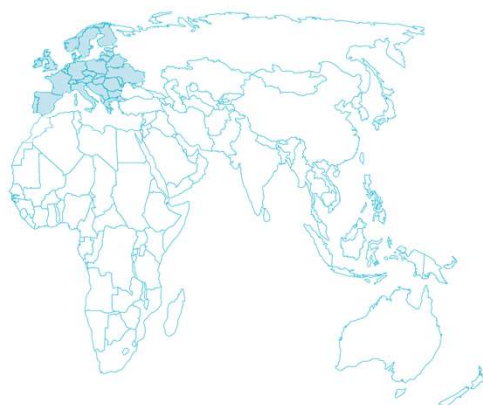
Flat papers  
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PE Coated papers  
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All these products are supplied with or without VCI

**TechCorro™ [PL]  
plastics**

Plastic items with or without VCI such as:- netting, corrugated sheets, wire and more...

**Distributors throughout Europe**



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