

## VCI Solutions against Corrosion

An Anticorrosive protection which comes from the packing!  
Volatile Corrosion Inhibitors



The development phase (sublimation, diffusion and adhesion) depends on the volume, the VCI-carrier, the metallic surface, the relative air humidity and the temperature!

## The Operation of the VCI Method

Volatile Corrosion Inhibitor means the active substances transported through the gaseous state which create an anticorrosive protection on the surface of the metal.

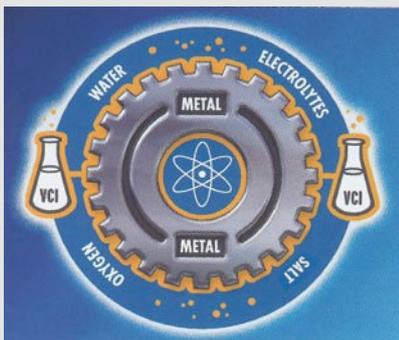
VCI describes an active system and it is not a registered trademark of a specific producer. The composition of the active substance and its anticorrosive protection effect correlated by various producers differ in a determining way!

The way of action to obtain the anticorrosive protection is carried out in three steps.

1. The active VCI substances sublime (evaporate) from the carrier material (p.e. sheet or paper) in the enclosed space of the packing.
2. The active VCI substances mix by means of diffusion in the enclosed space of the packing where they enrich themselves and start to adhere onto the surface of the metal.
3. Forming of a monomolecular VCI film on the surface of the metal.

The forming phase depends on the dimensions of the package, that is on the enclosed air volume. The larger the package volume is, the longer time is needed for the forming phase.

When a monomolecular film of active VCI substances is created, the metal is protected in an active way from the negative actions of the atmospheric oxygen and humidity. At this point the metal is ready to be shipped or to be stored.



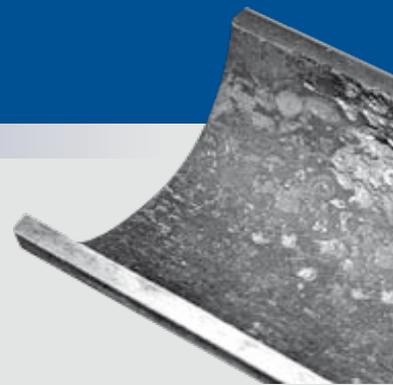
European partner of:



## PACKAGING PRODUCTS:

- |                   |                     |
|-------------------|---------------------|
| -VCI PAPER        | -VCI FOAM           |
| -VCI PLASTIC FILM | -VCI EMITTER        |
| -VCI STRETCH FILM | -VCI BAG            |
| -VCI POWDER       | -VCI BUBBLE         |
| -VCI TABLET       | -VCI WATER SOLUTION |

# ANTICORROSIVE package



## Requested Surface Conditions for Any Kind of Anticorrosive Protection

- **clean**
- **humidity-free**
- **non-corroded**

The active effect of the anticorrosive protection depends on the state of the metal surface. The production residues, like metal shaving, dirt, dust or salts can be only partially controlled by the active VCI substances.

In this connection the washing and cleaning processes assume a particular importance.

- Pack only dry materials!
- The best protective result is obtained by the best cleaning!
- Wear gloves! Protect your hands to avoid injuries and protect also the surface of the metal, in particular the passive oxidation layer from the risk of the chemical destruction caused by hands sweat!
- As for the transportation and the storage, direct water penetration must be avoided. The package has to be dimensioned correctly in order to reduce the external influences.

The temperature must be respected during the packing process!

If the relative difference of temperature between the surface of the metal and the air of the room is too elevated, some moistening can take place before the forming of the active VCI substance protection. If cold metals are packed in a warm room, some condensate is created on the cold surface of the metal. If warm metals are packed in a cold room, some condensate is formed on the cold surface of the packing.

All the points of contact with the organic material for packaging, like wood, paper, gray and corrugated cardboard can cause corrosion on the contact point with the surface of the metal. These points of contact must be covered with active VCI material for packaging.

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