

# Corrosion protection with immediate effect

The multipurpose VCI protective cover Nor<sup>®</sup>Shield AC



# VCI instant protection – quality meets speed

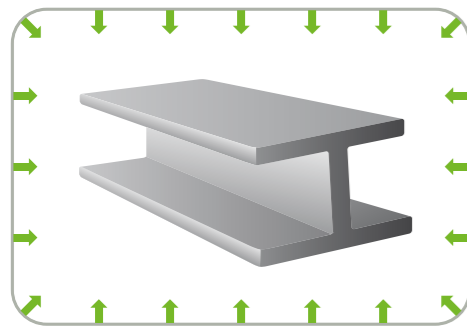
## The principle

With Nor®Shield AC, we have developed an innovative laminate which, compared to traditional anti-corrosion products such as oil, wax, VCI paper or foil, is characterized by extremely effective corrosion protection.

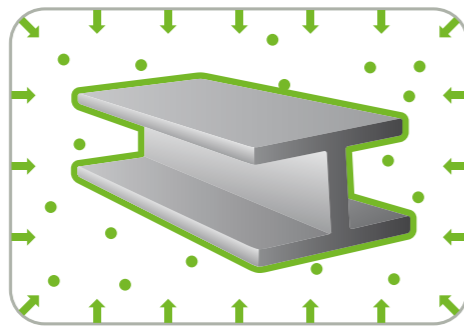
Due to the high concentration of the active ingredient and its rapid emission, sensitive goods are protected immediately. The packed goods do not require additional corrosion protection emitter.

## VCI is ...

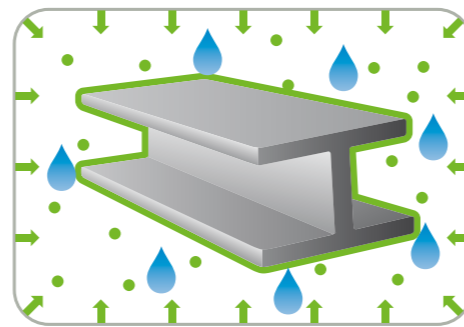
- the abbreviation for Volatile Corrosion Inhibitor.
- temporary corrosion protection within a closed package.
- a highly volatile substance which forms a mono-molecular protective layer on metallic surfaces, and therefore prevents corrosion caused by water and oxygen.



Evaporation of the VCI molecules from the package



Enrichment & saturation of the atmosphere in the package with the VCI molecules

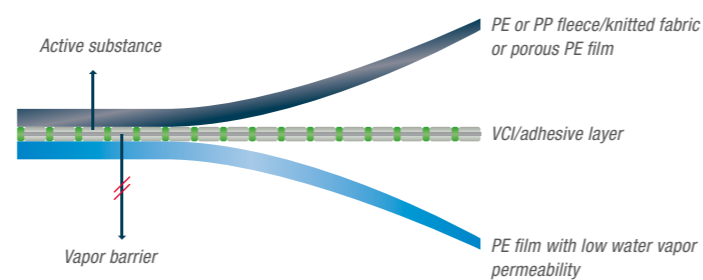


Depositing of the VCI molecules on the metal surface. If condensation water occurs on the metal surface, the VCI dissolves and combines with the water.



## The structure

- The active ingredient is emitted through a fleece or a porous foil.
- The adhesive with VCI is distributed three-dimensionally in the fleece. The larger outer surface emits the active ingredient perfectly.



## The manufacturing process

Considerable quantities of VCI are already lost during the production of traditional VCI foils. This is caused by the extruder and nozzle temperature (160–240 °C) and the extrusion retention time. In addition the ambient temperature and the blow-up ratio of the foil also have a negative effect on the VCI concentration.

These undesirable properties do not occur in the manufacturing process of Nor®Shield AC. During the gentle manufacturing process, the concentration of active ingredient in the VCI laminate can always be controlled and the loss of active ingredient can be almost prevented during the laminating process.



PERFORMANCE CHARACTERISTICS OF DIFFERENT MATERIALS:	VCI papier	Nor®Shield AC	VCI film
Maximum concentration of active VCI substance in corrosion protection product		✓	
Fast emission of active substance, fast establishment of protection	✓	✓	
Long-lasting emission of active substance/long-term protective effect		✓	✓
Does not become soaked (no moisture reservoir/source)		✓	✓
Suitable as outer packaging		✓	✓

## The advantages

Nor®Shield AC is the superior corrosion protection laminate which works according to the gas phase principle. And there's not just one reason for this, but 13:

- Nitrite und amine-free
- Extremely fast development of corrosion protection atmosphere
- Enables warm packaging of parts
- Large active ingredient reservoir and long-term protection thanks to depot effect
- Excellent contact corrosion protection
- Corrosion protection effect even in the presence of wet conditions
- One packing material for many different applications
- Avoids material or process combinations
- Corrosion protection even in gaps
- Extremely low water vapor permeability of the outer foil
- Shelf life of up to 2 years in the original package
- High-strength laminate
- Scratch protection and cushion effect

SUITABILITY FOR DIFFERENT PRODUCTS:	Flat package		Fabricated package	
	Basic	Specials	Bags	Hoods
<b>Small and spare parts</b> (camshafts, gearwheels, ball bearings, screws, bolts, brake disks, etc.)	✓	✓	✓	✓
<b>Machine and equipment</b> (motors, small machines, body parts, pumps, cylinder blocks, etc.)	✓	✓		✓
<b>Large parts</b> (entire vehicles, coils, bundles, systems, etc.)	✓	✓		✓

All components, film, fleece and active corrosion protection substance can be adapted to individual needs on request

# Highest quality standards

## Quality control and certifications

Quality is a central pillar of the corporate philosophy at Nordpack and a decisive factor for guaranteeing the customer an absolutely safe, environmentally compatible packaging.

We have installed quality, environmental and hygiene standards, which are checked regularly.

- **Quality:** DIN EN ISO 9001 and World Class Production (WCP)
- **Environment:** DIN EN ISO 14001
- **Hygiene:** DIN EN 15593
- **Automotive:** ISO/TS 16949
- **Occupational and health protection:** BS OHSAS 18001

## Analytic system

Testing laboratories are an integral part of the ultramodern research and development facilities of our production management. As a pioneer, we develop new, customer-oriented products, processes and services. In addition we are focused on quality assurance.

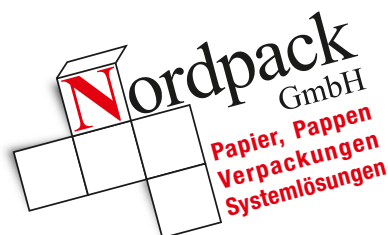


Whether it's corrosion on components or other problems, we can analyze the entire range of characteristic physical and chemical properties for you as well.

## Consulting and service

For every product there is an ideal packaging, and to develop it, the experts of Nordpack work together closely and trustingly with the customer – from the analysis phase to the specific realization. Whether it's bags, hoods, roll goods or special orders – every requirement is taken into account.

Individual consulting and service from the project start to the specific implementation is our daily work. Nordpack is part of the Nordpack network which offers flexible packaging, technical films and product components.



Nordpack GmbH  
Gerberstraße 5  
30916 Isernhagen  
Germany

Tel.: +49 (0)5136 8004 111  
Fax: +49 (0)5136 8004 800  
Email: [vci@nordpack.de](mailto:vci@nordpack.de)

[www.nordpack.de](http://www.nordpack.de)

