



# Technical Bulletin

#113

## Armor & Cortec Products Comparison

Features	ARMOR Protective Packaging	Cortec Corporation
<b>VCI Papers</b>		
Coating on both sides of paper	YES	NO
Able to interleave using either side	YES	NO
Vapor & contact inhibition	YES	YES
Ferrous & non-ferrous protection	YES	YES
Standard sizes available	YES	YES
Custom sizes available	YES	Some upon request
Recyclable/Repulpable	YES	YES
Available in crepe, poly coated, wax	YES	YES
Military approved	YES	NO
Meets GM & Ford specifications	YES	NO
RoHS & Reach compliant	YES	YES
<b>VCI Films</b>		
Available in bags, sheeting, wickets, pre-opened bags, zipper & tubing	YES	YES
Available in heat shrink, stretch, bags-on-a-roll & heat sealable	YES	YES
Transparent film	YES	YES
Multiple metal corrosion protection	YES	YES
Recyclable/Biodegradable available	YES/YES	YES/YES
Standard films approved by U.S. Military for MIL-PRF-22019	NO	NO
Military versions available	NO	YES
Ability to track VCI content in film	YES Bright Idea Technology™	NO
<b>Company</b>		
Worldwide locations-service	YES	YES
Member NACE	YES	YES
Year founded	1979	1977
Location	Michigan, USA	Minnesota, USA
Lead times	Extensive in-stock list Short custom turnaround	Extensive in-stock list Long custom turnaround

Cortec® Corporation information verified by website [www.cortecvci.com](http://www.cortecvci.com) as of 7/23/10

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## Armor & Cortec Testing Comparison



Vapor Corrosion Area of Test Piece  
Contact Corrosion Area of Test Piece

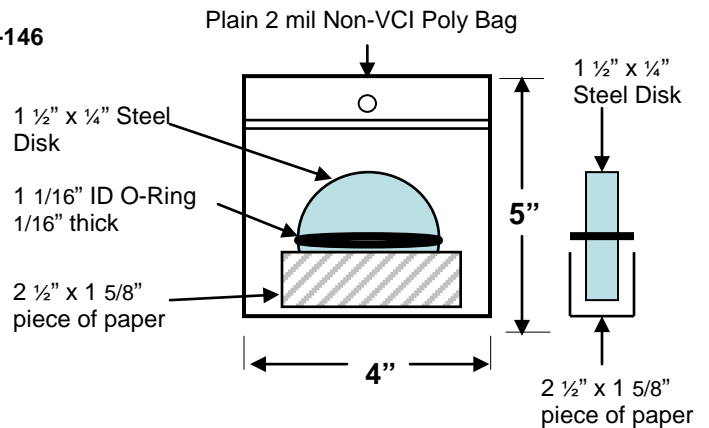
### TEST PROCEDURES

Test performed in a humidity cabinet which provides an environment that promotes / accelerates the corrosion process. Parts were exposed to this harsh environment for 6 days. The temperature inside the humidity chamber was 94°F - 100°F, while the tower water was at 120°F, maintaining a relative humidity of 95 - 98%.

### MATERIALS TESTED

Three samples were wrapped individually for each paper type for repeatability. Steel discs wrapped as shown in diagram below; O-Ring allows VCI vapors to rise to upper half of steel disk by holding poly bag away from sides of steel disk. Wrapping with this method allows testing of both contact corrosion inhibiting capabilities (bottom half of disc) and vapor corrosion inhibiting capabilities (top half of disc).

Non-VCI Control      ARMOR Wrap® 30R      Cortec VpCI™-146



### CONCLUSION:

Testing showed that the Cortec VpCI-146 VCI paper provided good contact corrosion resistance but failed to provide sufficient vapor phase corrosion protection.

The ARMOR Wrap® 30R provided excellent contact and vapor phase corrosion protection when compared to the Non-VCI sample.

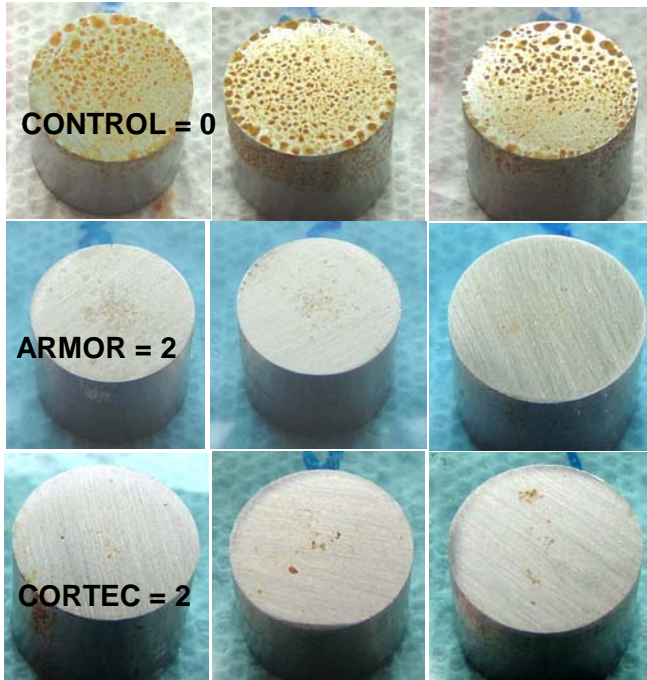
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## Armor & Cortec Testing Comparison



### NACE Standard TM0208-2008

#### TEST PROCEDURES

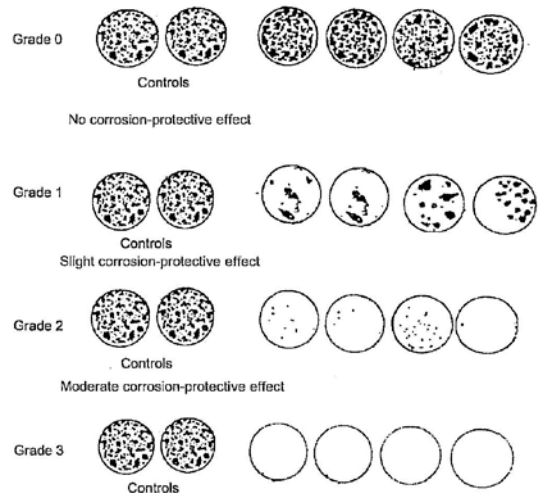
According to NACE Standard TM0208-2008 >> Item No. 21253

#### MATERIALS TESTED

- **Grade 3**=No corrosion on test piece - excellent corrosion protective effect
- **Grade 2**=No more than 3 corrosion spots the largest being less than 1 mm in diameter – moderate corrosion protective effect
- **Grade 1**=No more than 3 corrosion spots greater than 1mm in diameter covering 1-10% of surface – slight corrosion protective effect
- **Grade 0**=heavy corrosion – no corrosion protective effect

**ARMOR POLY® VCI Film**  
**CORTEC VpCI-126™ Film**

### Corrosion Criteria for Rating Steel Specimens



#### CONCLUSION:

Testing showed that the ARMOR POLY® VCI Film and Cortec VpCI-126™ film provided good moderate corrosion protection when compared to the Non-VCI sample, as tested per the harsh NACE testing methods referenced.

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