Technical Bulletin

#114

Armor & Daubert-Cromwell Products Comparison

Features	ARMOR Protective Packaging	Daubert-Cromwell
VCI Papers		
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	YES
Recyclable/Repulpable	YES	YES
Available in crepe, poly coated, wax	YES	YES
Military approved	YES	YES
Silver protection available	YES	YES
RoHS & Reach compliant	YES	YES
VCI Films		
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/NO
Standard films approved by U.S. Military for MIL-PRF-22019	NO	NO
Military versions available	NO	YES-Outside Source
Ability to track VCI content in film	YES Bright Idea Technology™	NO
Company		
Worldwide locations-service	YES	YES
Distribution Method	Distributors	Distributors/Direct
Rust Remover Liquids	Metal Rescue™	Distributor for Evaporust™
Location	Michigan, USA	Chicago, USA
Lead times	Extensive in-stock list Short custom turnaround	Limited in-stock list Long custom turnaround

Daubert Cromwell information verified by website www.daubertvci.com as of 8/12/10

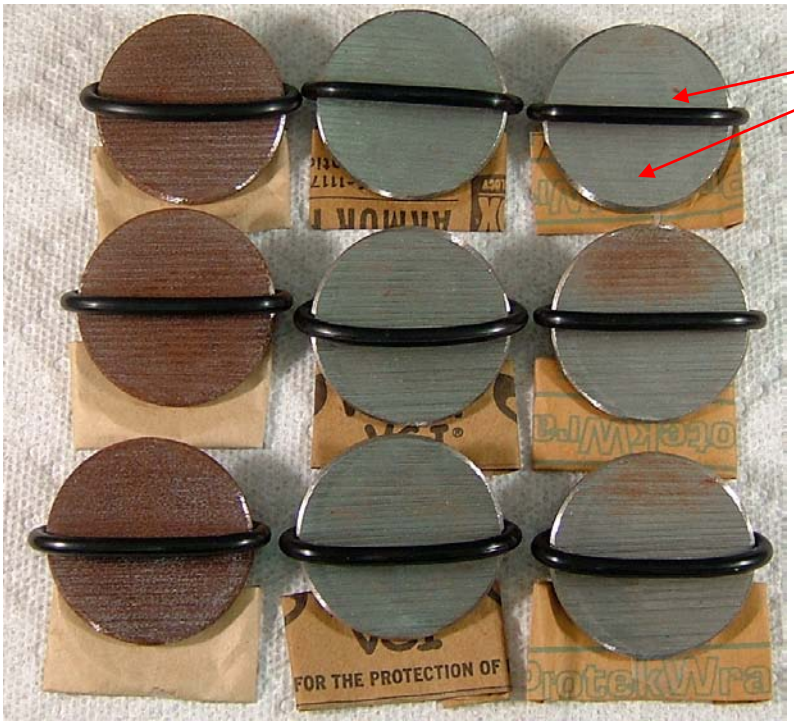
Published by: ARMOR Protective Packaging Technical Services, August 16, 2010
F:Product Standards/Technical Bulletins

International HQ 951 Jones Street · Howell, MI 48843 USA
PH 800.365.1117 517.546.1117 info@armorvci.com **FX** 517.546.6434 armorvci.com

Technical Bulletin

#114

Armor & Daubert Cromwell Testing Comparison

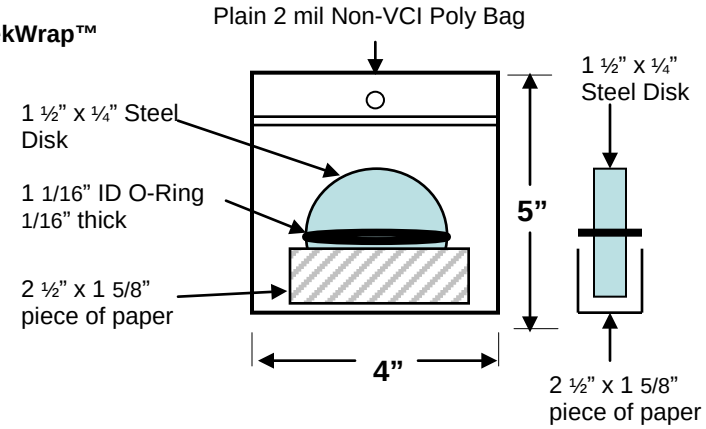


Vapor Corrosion Area of Test Piece
Contact Corrosion Area of Test Piece

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** **Daubert ProtekWrap™**



CONCLUSION:
Testing showed that the Daubert Cromwell ProtekWrap™ 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.

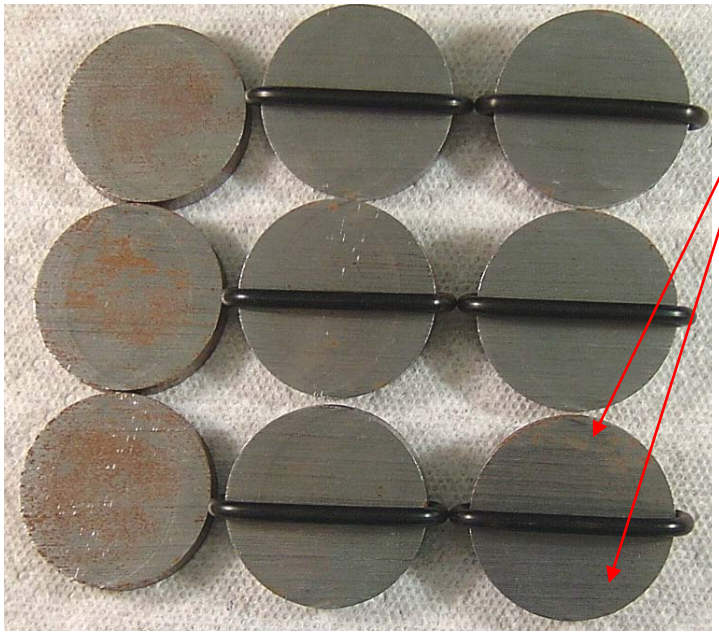
Published by: ARMOR Protective Packaging Technical Services, August 16, 2010 based on testing completed 4-14-10
F: Product Standards/Technical Bulletins

International HQ 951 Jones Street · Howell, MI 48843 USA
PH 800.365.1117 517.546.1117 info@armorvci.com **FX** 517.546.6434 armorvci.com

Technical Bulletin

#114

Armor & Daubert Cromwell Testing Comparison

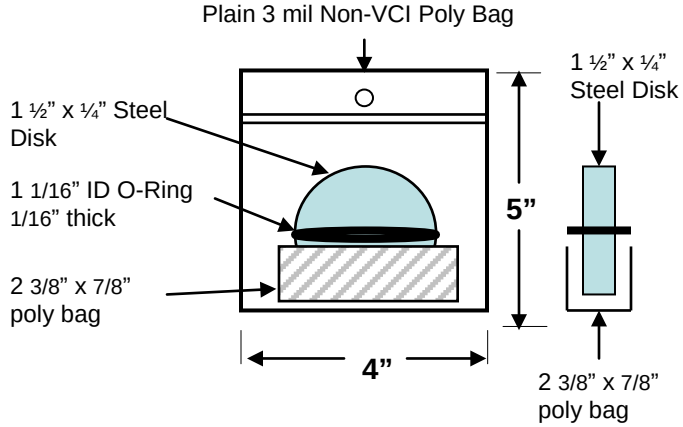


Vapor Corrosion Area of Test Piece
Contact Corrosion Area of Test Piece

CONTROL **ARMOR POLY® 4 mil** **Daubert 4 mil**

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 5 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 poly 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).



CONCLUSION:
Testing showed that the ARMOR POLY® VCI Film and Daubert film provided good contact corrosion protection when compared to the Non-VCI sample. The ARMOR POLY® VCI film performed slightly better in vapor phase corrosion protection.

Published by: ARMOR Protective Packaging Technical Services, August 16, 2010 based on testing completed 6-11-10
F: Product Standards/Technical Bulletins

International HQ 951 Jones Street · Howell, MI 48843 USA
PH 800.365.1117 517.546.1117 info@armorvci.com **FX** 517.546.6434 armorvci.com