Institut für
Beratung • Forschung • Systemplanung •
Verpackungsentwicklung und –prüfung
an der Hochschule für Angewandte
Wissenschaften Hamburg

Test Report
No. 7897/12

Testing of a VCI film according to MIL-PRF-22019E

Client

VCI2000
3175 Commercial Ave, Northbrook IL 60062
USA

Content of the order

Samples of a VCI film were supplied to the BFSV by the client on February 15, 2012.

Description of the VCI film: **"VCI 2000"**

The following characteristics of the VCI film were tested according to MIL-PRF-22019E:

- Compatibility with copper
- Contact corrosivity
- Blocking resistance
- Vapor inhibitor ability (VIA)

Summarising result

The tested characteristics of the VCI film **„VCI 2000"** meets the requirements of MIL-PRF-22019E.

The tables in Appendix 1 compare the results of the individual tests with the requirements of MIL-PRF-22019E.

Date	:	15 March 2012
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Official in Charge	:	Dipl.-Ing. W. Reimers

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Deutscher Akkreditierungs Rat
DAP-PL-2369.00
DIN EN ISO/IEC 17025:2005
akkreditiertes Prüflaboratorium

Tests performed

The VCI film **"VCI 2000"** was tested in accordance with:

MIL-PRF-22019E
„PERFORMANCE SPECIFICATION;
BARRIER MATERIALS, TRANSPARENT, FLEXIBLE, SEALABLE, VOLATILE CORROSION INHITOR TREATED"
Edition: 23 June 2006

- Compatibility with copper
  (Test method according to MIL-PRF-22019E. 4.6.4)
- Contact corrosivity
  (Test method 3005 according to MIL-STD-3010A; test surfaces: steel and aluminium)
- Blocking resistance
  (Test method 3003 according to MIL-STD-3010A)
- Vapor inhibitor ability (VIA)
  (Test method 4031 according to MIL-STD-3010A)

Director of the Institute

INSTITUT für Beratung Forschung Systemplanung Verpackungsentwicklung und -prüfung BFSV Hamburg

Official in Charge

Prof. Dr.-Ing. B. Sadlowsky

Dipl.-Ing. W. Reimers

Test results according to MIL-PRF-22019E

VCI2000 film “VCI 2000“

Characteristics	Requirements	Test Results
Compatibility with copper	No pitting, etching, dark tarnish (classification 3), or corrosion (classification 4) of vapor exposed surface. Discount attacks within 1/16 inch of specimen.	As required
Vapor inhibitor ability (VIA)	No more than a total of 3 corrosion spots on 3 plugs. No corrosion spot greater than 300 microns in diameter.	As required (see below)
Contact corrosivity	No corrosion, etching, or pitting	As required
Blocking resistance	No blocking, delamination, or rupture	As required

Vapor inhibitor ability (VIA)

	Steel plugs			
	Control plug (without VCI)	Protected plugs with VCI film **„VCI 2000“**		
Evaluation				
Corrosion spots	Corrosion spots on the entire surface	2 spots	1 spot	0 spot