



4119 White Bear Parkway, St. Paul, MN 55110 USA
 Phone (651) 429-1100, Fax (651) 429-1122
 Toll Free (800) 4-CORTEC, E-mail info@cortecvci.com
 Internet http://www.cortecvci.com

Evaluation of Blue Daubert Film

Purpose: To test the submitted Daubert film for physical and VCI properties.

Materials: Submitted Blue Daubert Bag- 53" X 44" X 96" X 4mil thick
 Razor Blade Test Kit
 VIA Test Kit
 SO₂ Test Kit
 Perkin Elmer FT-IR 1000 Spectrometer
 EM Quant Nitrite/Nitrate Test strips (Lot # OC555062, Exp 9/08)

Method: Razor Blade Test
 VIA Test
 SO₂ Test
 FT-IR Analysis
 Nitrite Test

Procedure: The above tests were performed according to the standard procedures for each

Results: Razor Blade Test (carbon steel)

Material	Panel #1	Panel #2	Panel #3
Daubert's 4mil VCI Blue Bag	Pass	Pass	Pass
VpCI-126 film (Lot # 23929)	Pass	Pass	Pass
Control	Fail	Fail	Fail

VIA Test

Material	Panel #1	Panel #2	Panel #3
Daubert's 4mil VCI Blue Bag	Grade 1	Grade 1	Grade 2
VpCI-126 film (Lot # 23929)	Grade 3	Grade 3	Grade 3
Control	Fail	Fail	Fail

SO₂ Test

Material	Panel #1	Panel #2	Panel #3
Daubert's 4mil VCI Blue Bag	Grade 2	Grade 2	Grade 2
VpCI-126 film (Lot # 23929)	Grade 4	Grade 4	Grade 4
Control	Fail	Fail	Fail



Physical Properties	Daubert Film	126 Film
Mil thickness	4	4
Breaking Factor Machine Direction (lbs/in)	8.82	13.09
Breaking Factor Cross Direction (lbs/in)	8.3	12.32
Machine Direction Tensile Strength at Break(psi)	2734.34	3521.17
Cross Direction Tensile Strength at Break(psi)	3033.91	3425.49
Machine Direction Elongation at Break (%)	153.6	435.3
Cross Direction Elongation at Break (%)	196.7	394.3
Machine Direction Tensile Strength at Peak(psi)	2989.02	3522.92
Cross Direction Tensile Strength at Peak(psi)	3114.38	3598.17
Machine Direction Tear Strength (Newtons)	2982.24	9469.92
Cross Direction Tear Strength (Newtons)	4290.24	17004
Puncture Strength (Joules)	1.44	1.14

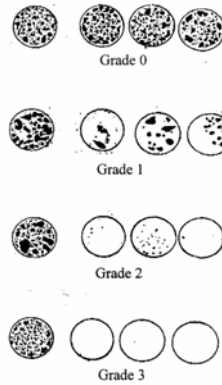
Nitrite Test: The submitted film contains nitrite on both sides of the film.

Conclusion: Since the submitted Daubert film failed to pass the VIA and SO₂ test, the VCI properties can be considered weak when compared to Cortec's VpCI-126 film.

Project #: 07-199-1125

VIA Test Grades (Grade 2 or 3 are passing)

- Grade 0: Blind test
No corrosion inhibiting effect
- Grade 1: Blind test
Minute corrosion inhibiting effect
- Grade 2: Blind test
Medium corrosion inhibiting effect
- Grade 3: Blind test
Good corrosion inhibiting effect



SO₂ Grades (Grade 3 and 4 are passing):

- Grade 0- Extensive corrosion covering 25% or more of panel surface
- Grade 1- Moderate corrosion covering 10-25% of panel surface
- Grade 2- Slight corrosion covering 5-10% of panel surface
- Grade 3- Very slight corrosion covering 0-5% of panel surface
- Grade 4- No visible corrosion on panel surface

FTIR Analysis

Daubert's blue VCI bag

