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## Evaluation of Branopack VCI Film

**To:** Customer

**From:** Cortec Corporation Laboratories  
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**Project #:** 14-095-1125.bis

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**Date:** May 21, 2014



**Background:** Customer is using Branopack VCI film, but might want to consider using VpCI-126 film instead.

**Samples Received:** Branopack VCI film, 4mils, received on 5-12-14 in good condition

**Method:** VIA Test, CC-027  
 Razor Blade Test, CC-004\*  
 Nitrite/Nitrate Test\*  
 FTIR analysis, CC-006  
 \*Cortec Laboratory is not accredited for the test marked

**Materials:** VIA test kit  
 Razor blade test kit,  
 Nitrite/Nitrate Test Strips  
 Paragon 1000 FTIR  
 VpCI-126 film, 4mil  
 Plain polyethylene film (control)

**Procedure:** The tests were conducted according to standard procedures for each test.

**Results:**

**Razor Blade Test- Carbon Steel Panels**

Film Sample	Panel #1	Panel #2	Panel #3	Pass / Fail
Branopack VCI film	Fail	Fail	Fail	Fail
VpCI-126 film	Pass	Pass	Pass	Pass
Control	Fail	-	-	-

**Razor Blade Test- Copper Panels**

Film Sample	Panel #1	Panel #2	Panel #3	Pass / Fail
Branopack VCI film	Fail	Fail	Fail	Fail
VpCI-126 film	Pass	Pass	Pass	Pass
Control	Fail	-	-	-

**VIA Test**

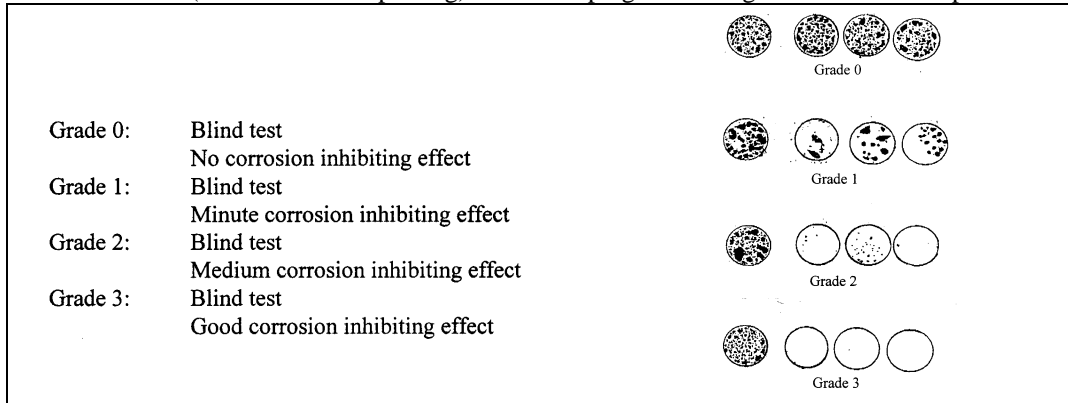
Film Sample	Plug #1	Plug #2	Plug #3	End Result
Branopack VCI film	Grade 1	Grade 0	Grade 0	Fail
VpCI-126 film	Grade 3	Grade 3	Grade 2	Pass
Control	Grade 0	-	-	-

**Interpretations:**

1. The Branopack film does not provide sufficient contact or vapor phase corrosion protection to pass the VIA and razor blade tests. In comparison, VpCI-126 film provides excellent contact and vapor phase corrosion protection.
2. According to FT-IR results, Branopack film contains salts of carboxylic acid, probably sodium benzoate. This salt doesn't provide protection in vapor phase, that's why this film didn't pass VIA test.

3. Branopack film doesn't pass contact tests (razor blade) which is very important for any packaging applications.

VIA Test Grades (Grade 2 or 3 are passing). All three plugs must be grade 2 or better to pass the test



## FTIR Analysis Branopack VCI film

