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Comparing corrosive inhibition of Zerust film and Safepack foam with VpCI-126 Blue and VpCI-130

Background: First Flight/ Mico Foam wanted to compare the corrosive inhibition of the

submitted Zerust films and Safepack foam with VpCI-126 Blue and VpCI-

130.

Purpose: Evaluate the corrosive inhibition of the submitted films and foams and

compare it to VpCI-126 Blue and VpCI-130.

Method: FT-IR

Razor Blade SO_2 Test VIA

Materials: FT-IR Test Kit

Razor Blade Test Kit

VIA Test Kit SO₂ Test Kit

VpCI-126 Blue, lot # 600230

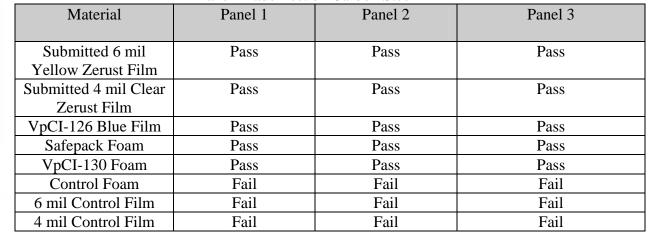
Yellow Zerust film Clear Zerust film Safepack foam VpCI-130 foam

Procedure: The above tests were performed according to standard procedures

for each.

Results:

Razor Blade Test on Carbon Steel







VIA Test for foam (modified)

Material	Panel 1	Panel 2	Panel 3
Submitted Safepack Foam	Pass	Pass	Pass
VpCI-130 Foam	Pass	Pass	Pass
Control Foam	Fail	Fail	Fail

VIA Test

Material	Plug #1	Plug #2	Plug #3
Submitted 6 mil	Grade 0	Grade 0	Grade 1
Yellow Zerust Film			
Submitted 4 mil	Grade 2	Grade 1	Grade 2
Clear Zerust Film			
VpCI-126	Grade 3	Grade 3	Grade 3
Control	Grade 0	Grade 0	Grade 0

SO₂ Test

Material	Panel #1	Panel #2	Panel #3
Submitted 6 mil	Grade 3	Grade 2	Grade 0
Yellow Zerust Film			
Submitted 4 mil	Grade 3	Grade 3	Grade 3
Clear Zerust Film			
VpCI-126 5 mil	Grade 4	Grade 4	Grade 4
6 mil Control Film	Grade 0	Grade 0	Grade 0
4 mil Control Film	Grade 0	Grade 0	Grade 0

FT-IR results are attached.

Both films are nitrite-based.

Conclusion: 1. Submitted yellow film doesn't provide any vapor phase protection and doesn't have acceptable barrier properties.

- 2. Clear Zerust film provides better than yellow film protection in vapor phase, but not with the same grade as VpCI-126 film. It doesn't have the same barrier properties as VpCI-126.
- 3. The Safepack foam provides sufficient protection.

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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















 SO_2 *Grades* (*Grade 3 and 4 are passing*):

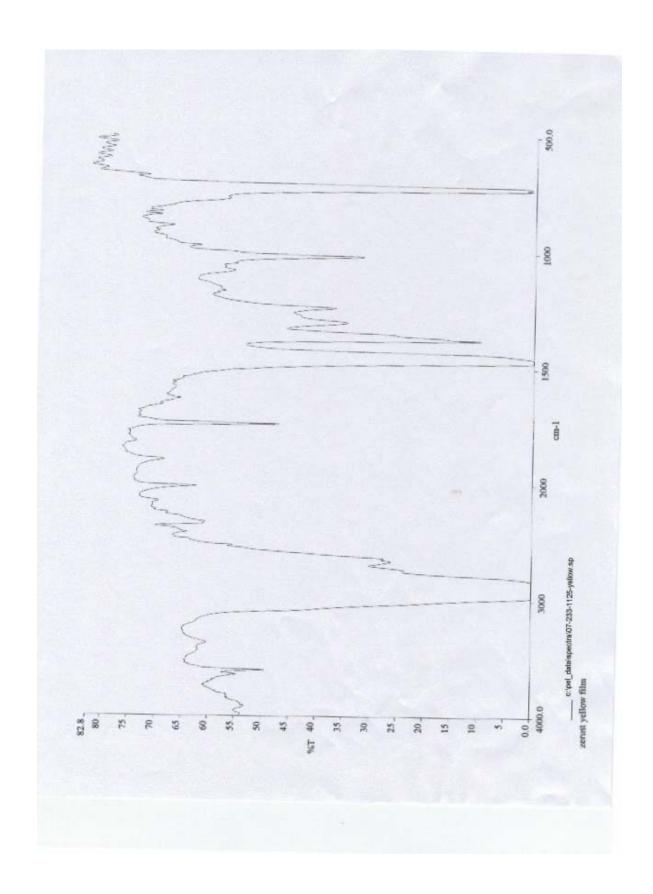
Grade 0- Extensive corrosion covering 25% or more of panel surface

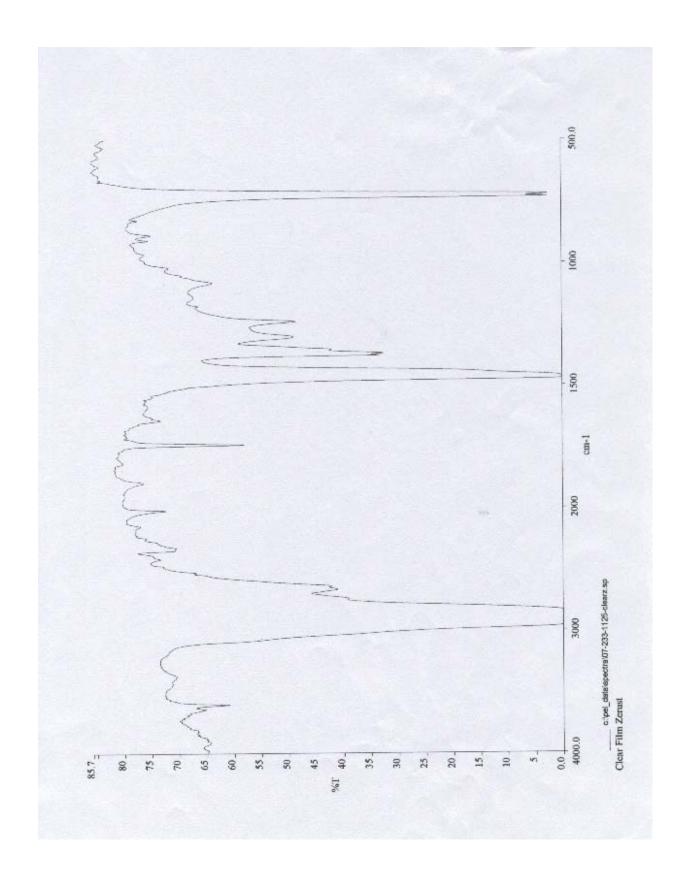
Grade 1- Moderate corrosion covering 10-25% of panel surface

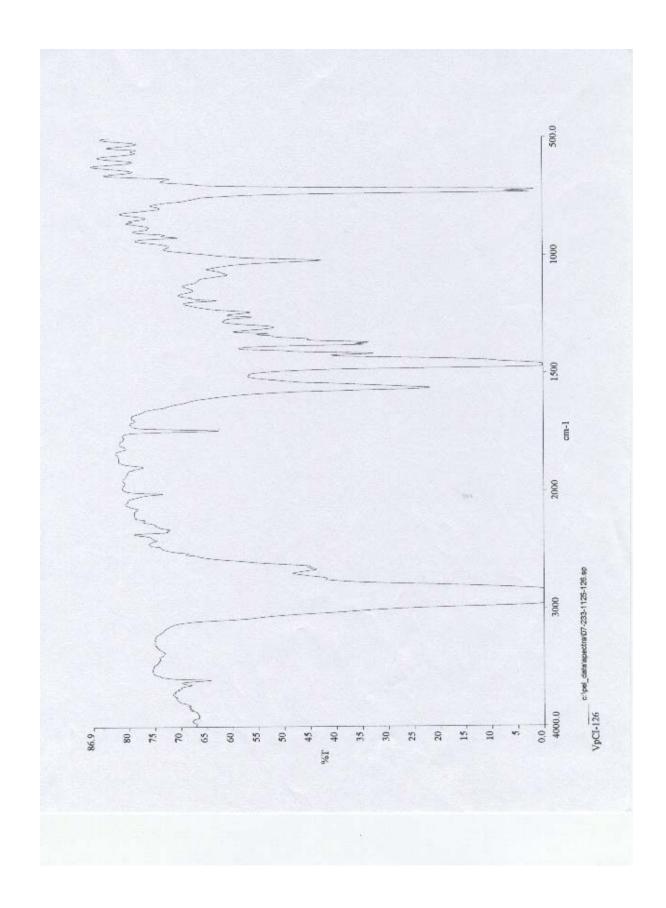
Grade 2- Slight corrosion covering 5-10% of panel surface

Grade 3- Very slight corrosion covering 0-5% of panel surface

Grade 4- No visible corrosion on panel surface







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