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Evaluation of Cel-Span 720

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Background: Customer requested that the submitted clear film made from Cel-Span 720 masterbatch be tested to determine if it provides sufficient corrosion protection.

Sample Received:

1. Clear polyethylene film produced from Cel-Span 720 (VCI masterbatch).
Manufactured/Supplied by Phoenix Plastics Company. Sample was received 10-7-11, good condition

Method:

- 1) VIA Test CC-027
- 2) Razor Blade Test CC-004
- 3) FTIR Test CC-006

Materials:

- 1) VIA test kit
- 2) Razor Blade test kit
- 3) Perkin Elmer Paragon 1000 Spectrophotometer

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

Results:

Razor Blade Test-Carbon Steel Panels

Sample	Panel 1	Panel 2	Panel 3
Cel-Span 720	Pass	Pass	Pass
Control	Fail	-	-

Razor Blade Test -Copper Panels

Sample	Panel 1	Panel 2	Panel 3
Cel-Span 720	Fail	Fail	Fail
Control	Fail	-	-

VIA Test Results





Sample	Plug #1	Plug #2	Plug #3
Cel-Span 720	Grade 0	Grade 1	Grade 2
Control	Grade 0	-	-

Note: The VIA grading system is attached to the end of the report.

Interpretations:

1. Based on the razor blade test results, the Cel-Span 720 film provided sufficient contact-phase corrosion protection for carbon steel, but it can't be used on yellow metals.
2. The VIA test result determined that the Cel-Span 720 film did not provide adequate vapor-phase corrosion inhibition.
3. Analysis of the FTIR determined that the film contains characteristics of a carboxylate, which is most likely sodium benzoate.

VIA Test Grades (Grade 2 or 3 are passing)

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

