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Evaluation of LamiFlex Stretch Film

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Project #: 15-108-1125

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Background: A sample of LamiFlex stretch film has been submitted for corrosion testing to determine the amount of active chemistry, and to confirm if it was made using Cortec masterbatch.

Sample Received: LamiFlex Stretch Film (received on 5-15-15 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, 2mils (control)

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	End Result
LamiFlex Stretch Film	Fail	Fail	Fail	Fail
Control	Fail	-	-	Fail

Razor Blade Test- Copper Panels

Sample	Panel #1	Panel #2	Panel #3	End Result
LamiFlex Stretch Film	Fail	Fail	Fail	Fail
Control	Fail	-	-	Fail

VIA Test

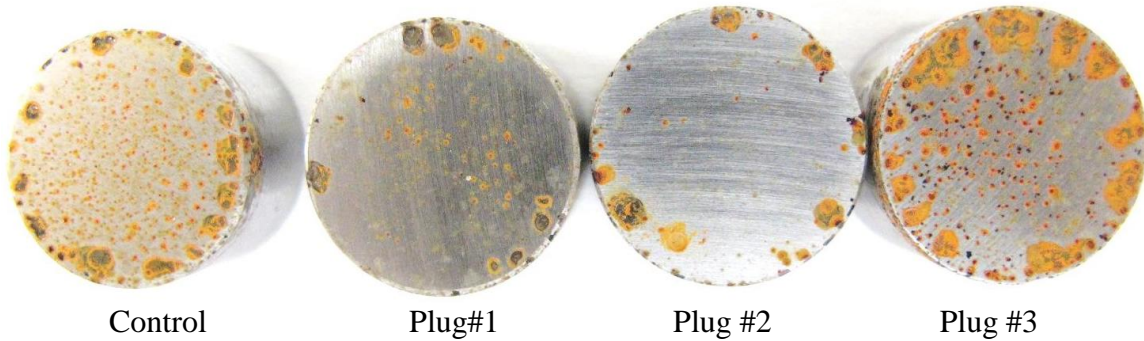
Sample	Plug #1	Plug #2	Plug #3	End Result
LamiFlex Stretch Film	Grade 1	Grade 1	Grade 0	Fail
Control	Grade 0	-	-	Fail

Nitrite/Nitrate Test Strip Results



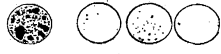

Sample	Results
LamiFlex Stretch Film	Does not contain any nitrite or nitrate

Photos from VIA Testing:

LamiFlex Stretch Film



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

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	

Interpretations:

The LamiFlex stretch film was not made using Cortec's masterbatch. The FTIR analysis shows a peak of carboxylates similar to VpCI-126 film, however, the LamiFlex stretch film does not contain any nitrite. Furthermore, the VIA and razor blade test results were failing, which means the LamiFlex stretch film does not offer very good corrosion protection in the contact phase or the vapor phase.

FTIR Analysis

LamiFlex stretch film compared to VpCI-126 film
(note- Lamiflex shows the mysterious peak at 874.64)

