

Evaluating anticorrosion properties of film, part 2

Background: Itochu Plastics Inc. / Shishio Oka wanted to have the corrosion properties of competitor films to be evaluated and compared to VpCI-126.

Purpose: Evaluate anticorrosion properties of the following submitted films:

1. Boselon 103
2. Boselon 507
3. Fuji Ace Metal Guard M-Type (Daubert Cromwell)
4. Zerust MYF
5. Zerust ROF

Materials: Carbon Steel Panels
Copper Panels
Boselon 103, 4 mil
Boselon 507, 4 mil
Fuji Ace Metal Guard M-Type, 4 mil
Zerust MYF, 3 mil
Zerust ROF, 3 mil
Uncoated Polyethylene film, 4 mil, (control film)
Perkin Elmer FT-IR 1000 Spectrometer
Razor Blade test kit
VIA test kit
FT-IR test kit
VPCI-126

Method: Razor Blade test
VIA test
FT-IR test
Nitrite test

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



Results:**Razor Blade Test Performed on Carbon Steel Panels**

Film	Panel 1	Panel 2	Panel 3
Boselon 103	Fail	Fail	Fail
Boselon 507	Fail	Fail	Fail
Fuji Ace Metal Guard M-Type (Daubert Cromwell)	Pass	Pass	Pass
Zerust MYF	Pass	Pass	Pass
Zerust ROF	Fail	Fail	Fail
Control	Fail	Fail	Fail

Razor Blade Test Performed on Copper Panels

Film	Panel 1	Panel 2	Panel 3
Boselon 103	Fail	Fail	Fail
Boselon 507	Fail	Fail	Fail
Fuji Ace Metal Guard M-Type (Daubert Cromwell)	Pass	Pass	Pass
Zerust MYF	Fail	Fail	Fail
Zerust ROF	Fail	Fail	Fail
Control	Fail	Fail	Fail

VIA Test

Film	Plug #1	Plug #2	Plug #3
Boselon 103	0	1	1
Boselon 507	0	0	0
Fuji Ace Metal Guard M-Type	3	2	1
Zerust MYF	3	1	2
Zerust ROF	0	0	0
Control	0	0	0

Nitrite Test

Film	Present/Not Present
Boselon 103	Present
Boselon 507	Present
Fuji Ace Metal Guard M-Type (Daubert Cromwell)	Present
Zerust MYF	Present
Zerust ROF	Not Present
Control	-

FT-IR results are attached at the end of the report.

Conclusion:

1. The tests determined that Boselon 103 did not protect carbon steel or copper from corrosion since it failed all tests including razor blade and copper tests. Boselon 103 also contains nitrites.
2. The test results for Boselon 507 concluded that it did not inhibit corrosion because it also failed all corrosion tests.
3. Fuji Ace Metal Guard M-Type passed almost all tests; it is a combination of sodium benzoate and nitrite.
4. Zerust MYF passed the carbon steel razor blade and barely the VIA test but it failed to provide corrosion protection for copper because it failed the copper razor blade.
5. Zerust ROF did not inhibit corrosion because it failed all of the corrosion tests.

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VIA Test Grades (Grade 2 or 3 are passing)











