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MetPro Film Evaluation

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Project #: 18-086-1125

Results reported by:

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Approved by:

Robert T. Kean, Ph.D.
Laboratory Director



Background: A sample of MetPro film has been submitted to determine the corrosion protection. Customer uses this film for shrink wrapping parts.

Sample Received: Blue MetPro film, 7mil, received on 4-19-18 in poor (dirty) condition.

Method: VIA Test, CC-027
NACE Standard VIA Test, TM0208-2008, item No. 21253*
Razor Blade Test, CC-004*
Nitrite/Nitrate Test*
*The tests marked are not covered under Cortec Laboratories, Inc. ISO 17025 Scope of Accreditation

Materials: VIA test kit (testing jars and lids, steel plugs, 320grit and 400grit sandpaper)
Carbon Steel panels, SAE 1010 (for razor blade testing)
Glycerol (lot #Q10A018)
Methanol, ACS grade (lot #071417B)
Nitrite/Nitrate Test Strips (lot #HC719626)
Plain polyethylene film (control film)
40°C oven (oven #5)

Procedure: The testing was conducted according to standard procedures for each test.
Note- the VIA tests were conducted using two strips of sample per jar (1" X 6" per strip)

Results: The following results were found:

Razor Blade Test- Carbon Steel Panels

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

VIA Test, CC-027

Sample	Plug #1	Plug #2	Plug #3	End Result
MetPro Film	Grade 2	Grade 2	Grade 2	Pass
Control	Grade 1	-	-	Fail

NACE VIA Test

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

Nitrite/Nitrate Test Strips

Sample	Results
MetPro Film	Does not contain any nitrite or nitrate

Photo from the VIA test, CC-027:

MetPro Film



Control

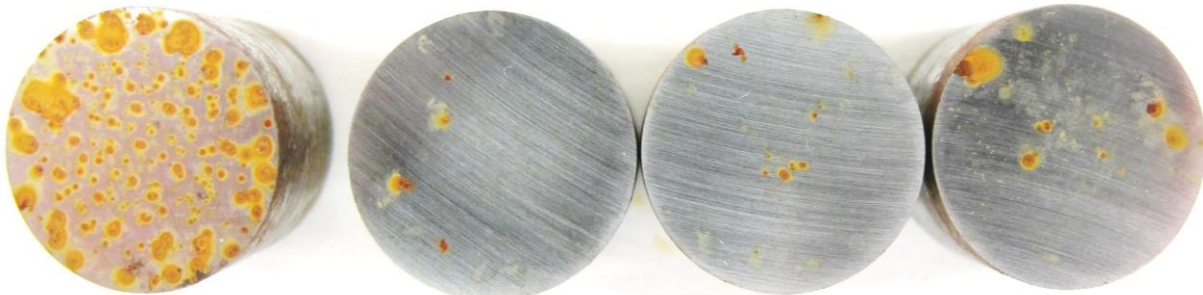
Plug#1

Plug #2

Plug #3

Photo from the NACE VIA test:

MetPro Film



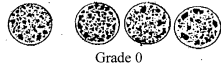
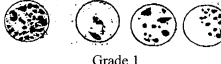
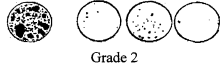
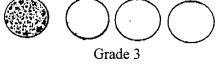
Control

Plug#1

Plug #2

Plug #3

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 MetPro film does not provide sufficient contact corrosion protection to pass the razor blade test. For vapor phase corrosion protection, the MetPro film passes Cortec's VIA test, but not the NACE VIA test.