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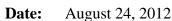
4119 White Bear Parkway, St. Paul, MN 55110 USA Phone: (651) 429-1100, Fax: (651) 429-1122 Toll Free: (800) 4-CORTEC, E-mail: info@cortecvci.com cortecvci.com • corteclaboratories.com **Evaluating VCI Properties of Film Sample from Customer** From: Cortec Corporation Laboratories 4119 White Bear Parkway St. Paul, MN 55110 **Boris Miksic** cc: Anna Vignetti Mike Morin **Project** #: 12-177-1125(bis) Ein Untala Test conducted by: Eric Uutala **Technical Service Engineer** Caleb Pheneger **Technical Service Engineer**



Approved by:

U. Rharshow -

Margarita Kharshan Laboratory Director



Background:	A blue film sample, used by customer, was sent to Cortec for evaluation. Customer has had corrosion issues recently, and they would like the corrosion inhibiting properties of their film to be tested.
Sample Received:	Blue polyethylene film (4-mil), made by Poly Films, Inc.
Method:	VIA Test (CC-027) Razor Blade Test (CC-004)* FTIR Test (CC-006) *Cortec Laboratory is not accredited for the test marked
Materials:	Blue film sample VIA Test kit 1010 carbon steel panels Copper panels Laboratory grade methanol Paragon 1000 FTIR
Procedure:	VIA, FTIR, and Razor Blade testing were performed according to their respective work instructions.
Results:	The following results were found:

VIA Test

Sample	Plug #1	Plug#2	Plug#3	Pass/Fail			
Poly Films Inc. blue film	Grade 0	Grade 0	Grade 0	Fail			
Control (plain polyethylene film)	Grade 0	N/A	N/A	Fail			
Note: Condex 0 and 1 are sensible at failing							

Note: Grades 0 and 1 are considered failing.

Razor Blade Test – Copper

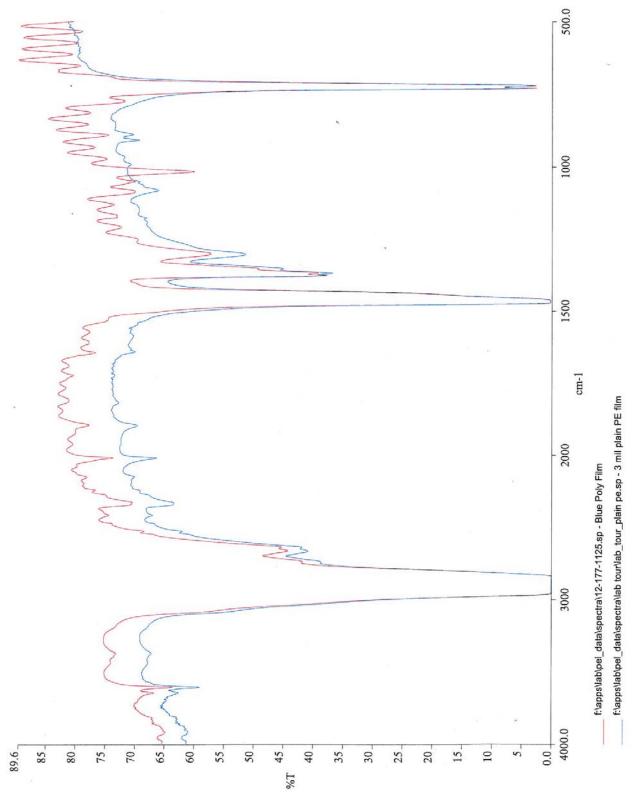
Sample	Panel 1	Panel 2	Panel 3
Poly Films Inc. blue film	Fail	Fail	Fail

Razor Blade Test – Steel

Sample	Panel 1	Panel 2	Panel 3
Poly Films Inc. blue film	Fail	Fail	Fail

Interpretations: The blue plastic film used by customer, made by Poly Films Inc, does not contain any corrosion inhibitors, according to the tests conducted. Tests were run on contact and vapor phase corrosion protection, and no protection was given in either test. Infrared spectroscopy was also run on the film, to determine the chemical content within the plastic. The results confirmed there is no presence of corrosion inhibitors in the film.

A single corroded part in Poly Films bag was also sent for evaluation. The visible corrosion on this part was consistent with that of fingerprint induced corrosion. If proper steps are not taken in handling, corrosion will continue to happen, even if Cortec packaging is implemented.



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