

## *Evaluating Excor and Brangs and Heinrich films, for Corrosion Inhibition*

**Background:** Gerhard Stottmeister /Corpac Deutschland GmbH submitted current corrosion inhibiting films from Excor and Brangs and Heinrich. The Brangs and Heinrich film has numerous “fish eyes” throughout the film. The Excor film is yellow in color, with no distinguishing characteristics in appearance.

**Purpose:** Evaluate the corrosion inhibition offered by the submitted films.

**Method:** Razor Blade Test  
 VIA Test  
 SO<sub>2</sub> Test  
 Nitrite Test

**Materials:** Razor Blade Test Kit  
 VIA Test Kit  
 SO<sub>2</sub> Test Kit  
 EM Quant Nitrite/Nitrate Test kit (Lot # OC398325, Exp Nov 05)

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

**Results:**

Razor Blade Test

Material	Panel #1	Panel #2	Panel #3
Excor Film (6 mil)	Pass	Pass	Pass
Brangs and Heinrich Film (6 mil)	Fail	Fail	Fail
Cortec VpCI-126 Film (4 mil)	Pass	Pass	Pass
Control (4 mil)	Fail	Fail	Fail

VIA Test

Material	Panel #1	Panel #2	Panel #3
Excor Film (6 mil)	Grade 1	Grade 1	Grade 1
Brangs and Heinrich Film (6 mil)	Grade 0	Grade 0	Grade 0
Cortec VpCI-126 Film (4 mil)	Grade 3	Grade 3	Grade 3
Control (4 mil)	Fail	Fail	Fail

Nitrite Test: Excor is a heavily nitrite based film. Brangs and Heinrich is a non nitrite based film.



**Conclusion:** Excor and Brangs and Heinrich films, do not offer adequate vapor phase corrosion inhibition. Brangs and Heinrich film does not offer any contact phase corrosion inhibition. From FT-IR analysis, the Brangs and Heinrich film probably contains a desiccant, such as silicon and sodium benzoate and the Excor film probably contains only sodium nitrite as an inhibitor.

**Project #:** 04-089-1125

**Estimated Cost of Project:** 3 hours


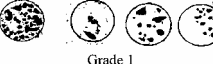

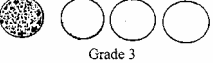
**To:** Gerhard Stottmeister/Corpac Deutschland GmbH

**From:** Bob Berg

**Date:** 06/23/04

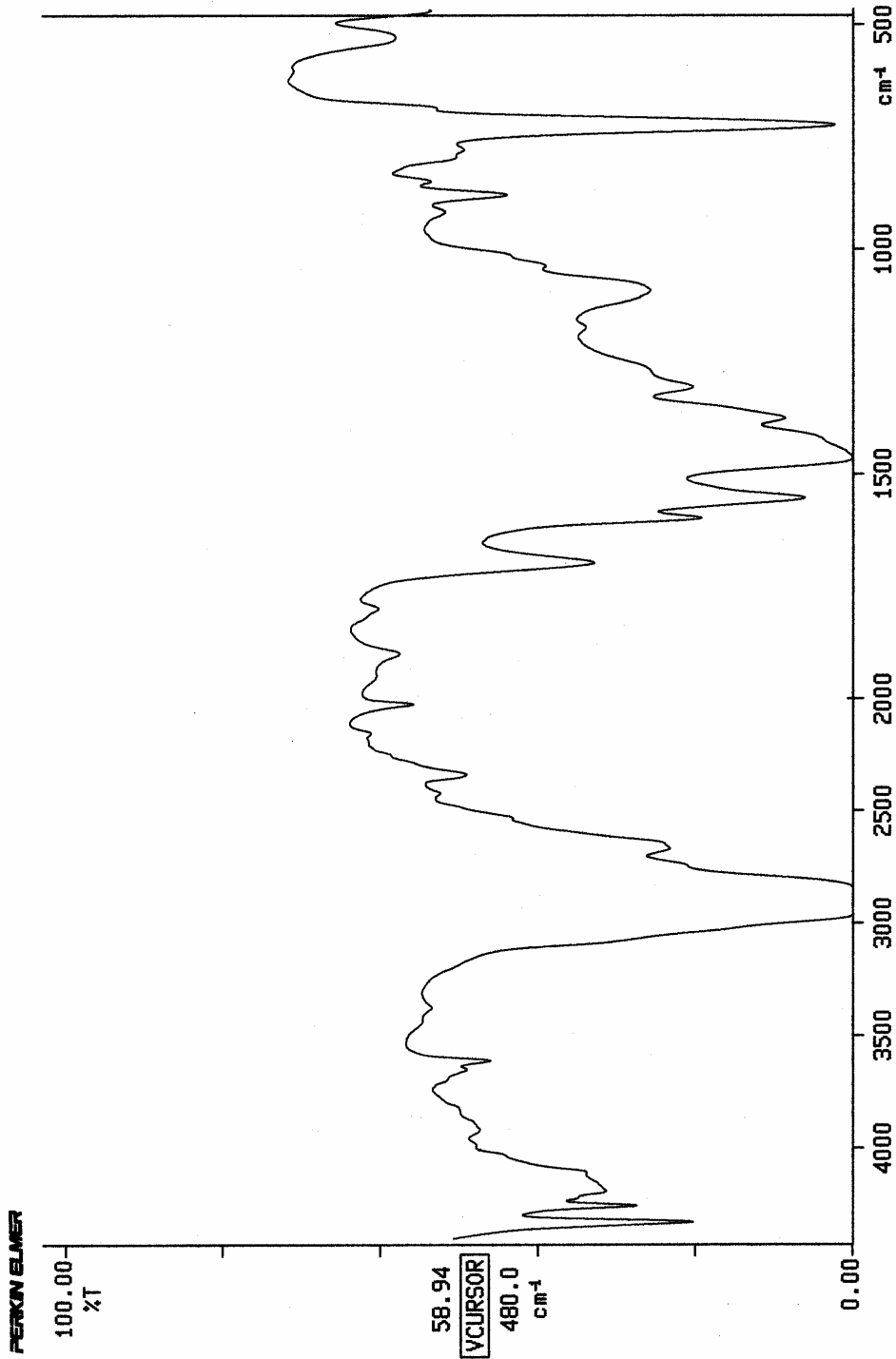
**cc:** Boris Miksic  
 Anna Vignetti  
 Art Ahlbrecht  
 Rita Kharshan  
 Cliff Cracauer  
 Vanessa Schultz  
 Dario Dell'Orto

**VIA Test Grades (Grade 2 or 3 are passing)**

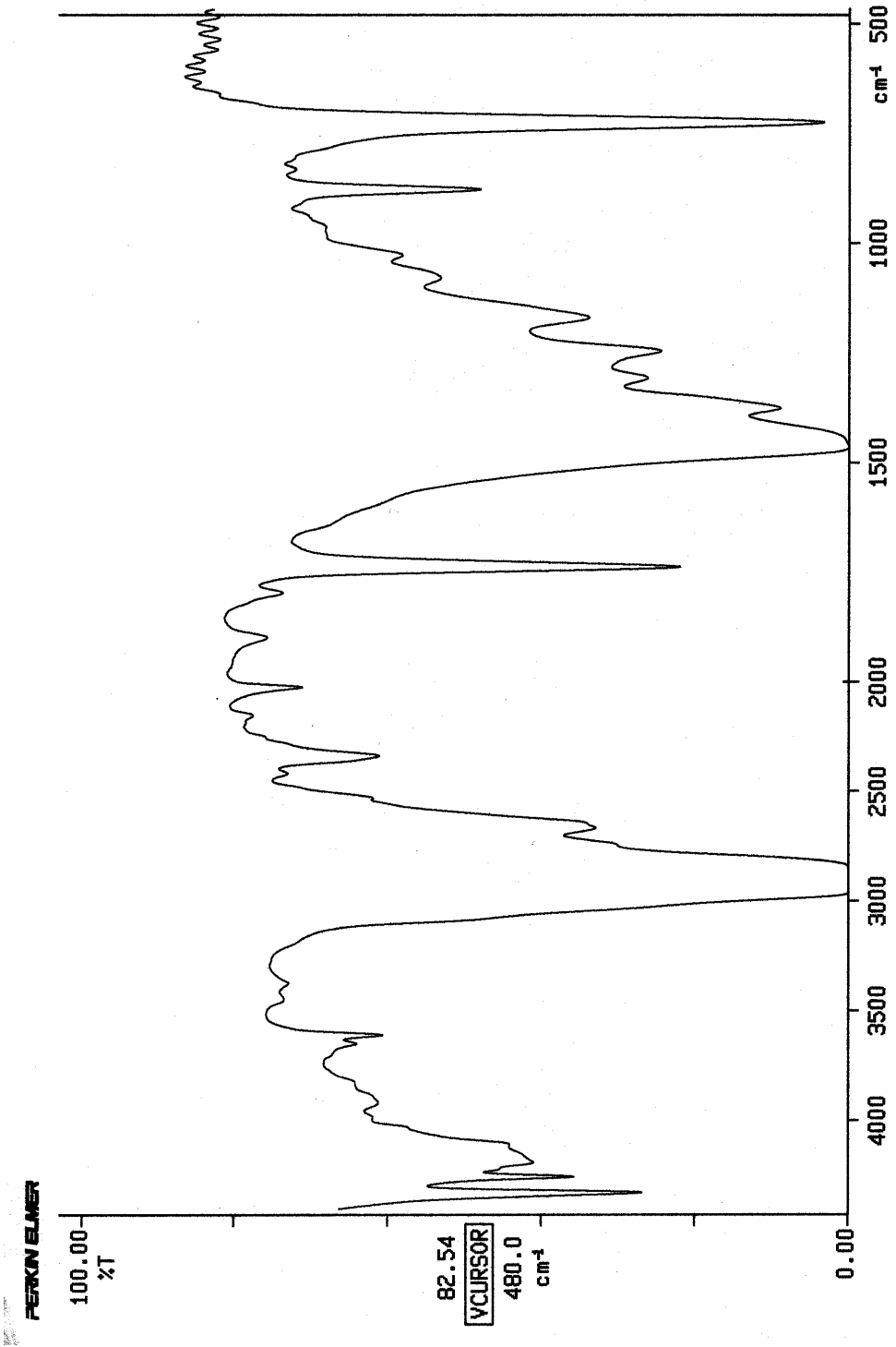
		
Grade 0:	Blind test No corrosion inhibiting effect	
Grade 1:	Blind test Minute corrosion inhibiting effect	
Grade 2:	Blind test Medium corrosion inhibiting effect	
Grade 3:	Blind test Good corrosion inhibiting effect	

*SO<sub>2</sub> Grades (Grade 3 and 4 are passing):*

- Grade 0- Extensive corrosion covering 25% or more of panel surface
- Grade 1- Moderate corrosion covering 10-25% of panel surface
- Grade 2- Slight corrosion covering 5-10% of panel surface
- Grade 3- Very slight corrosion covering 0-5% of panel surface
- Grade 4- No visible corrosion on panel surface



04/06/17 09:02 QA  
X: 8 scans, 16.0cm-1  
04-089-1125, brangs u. heinrich



04/06/17 08:56 QA  
X: 8 scans, 16.0cm⁻¹  
04-089-1125, excor film