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## KTA-TATOR, INC.

115 Technology Drive, Pittsburgh, PA 15275

November 16, 2010  
Via Email: [tony@epox-z.com](mailto:tony@epox-z.com)

Mr. Tony Camarota  
Epox-Z Corporation  
82 Bowker Street  
Norwell, MA 02061-1246

**SUBJECT: Accelerated Weathering Exposure of Epox-Z Industrial Coating;  
KTA-Tator, Inc. Project 300381-Addendum**

Dear Mr. Camarota:

In accordance with KTA-Tator, Inc. (KTA) Proposal Number PN100543R1 and subsequent signed Authorization to Proceed, KTA has tested the resistance to accelerated weathering exposure of a coating material. This report describes the testing procedures employed and contains the results of the weathering exposure testing. Previous testing performed on this material is contained in a KTA report dated September 1, 2010.

### **SAMPLES**

One (1) quart kit of Epox-Z Industrial Coating, Part A- Batch # 03091001; Part B- Batch #04011002 was received on June 7, 2010, from Epox-Z Corporation. The properly mixed coating was applied to steel panels with a blast profile of 2.4 – 3.3 mils using a draw-down applicator to apply approximately 15 mils of coating. It should be noted that at no time did KTA personnel witness the manufacturing or sampling of the materials sent to KTA.

### **LABORATORY INVESTIGATION**

The laboratory investigation consisted of determining the accelerated weathering exposure of the epoxy coating. The test methods used and the results are described below.

#### **Cyclic Weathering Resistance**

Four (4) coated were subjected to 1500 hours of cyclic exposure in accordance with ASTM D 5894, “Standard Practice for Cyclic Salt Fog/UV Exposure of Painted Metal (Alternating Exposures in a Fog/Dry Cabinet and a UV/Condensation Cabinet).”

Once the laboratory applied coating had dried for seven (7) days, the test surface was scribed with a single line four (4) inches long on the bottom third of the panel. The scribing tool used was a tungsten carbide thread cutting lathe tool bit with a cutting tip having a 60° included angle (as described in ASTM D 1654, “Standard test Method for Evaluation of Painted or Coated Specimens Subjected to Corrosive Environments”). The scribe was oriented vertically on the panels.

The panels were placed into a QUV Accelerated Weathering Tester manufactured by Q-Panel for a period of seven (7) days (168 hours) in accordance with ASTM D 4587, “Standard Practices for Fluorescent UV-Condensation Exposures of Paint and Related Coating.” The specimens were exposed to alternating periods consisting of four (4) hours ultraviolet light provided by UVA-340 bulbs in the cabinet at 60° C and four (4) hours water condensation at 50° C. The panels were then transferred to a Q-Fog Cyclic Corrosion Tester, Model CCT 600 for a period of seven (7) days in accordance with ASTM G 85, Annex A5, “Dilute Electrolytic Cyclic Fog/Dry Test” (Prohesion). The exposure consisted of alternating periods of one (1) hour of fog at ambient temperature (approx. 23° C) followed by a one (1) hour dry-off period at 35° C. The fog solution consisted of 0.05% sodium chloride and 0.35% ammonium sulfate. After approximately 500 hours, the panels were rinsed with potable water and evaluated for blistering and rusting in accordance with ASTM D 610 and visual undercutting distance from scribe line. The blistering was evaluated in accordance with ASTM D 714, “Standard Test Method for Evaluating Degree of Blistering of Paints.” This method rates the blistering by both size (0 – 10, with 10 representing no blistering) and frequency (as wither few, medium, medium dense or dense). The rusting was evaluated in accordance with ASTM D 610, “Standard Test Method for Evaluating Degree of Rusting on Painted Steel Surfaces.” This method rates the rust as a percentage of the exposed area (10 represents less than 0.01%, while 0 represents greater than 50%) and the distribution as spot rusting, general rusting, pinpoint rusting or hybrid rusting.

Once the 1500 hours was completed, the panels were removed from exposure. The results can be found in Table 1, “Cyclic Exposure Data” and the pos-exposure photographs, below.

**Table 1 – Cyclic Exposure Data**

Exposure Time	Rust Staining	Rusting	Blistering	Comments
500 hours	None	None (10)	None (10)	Off-white
1000 hours	$\frac{1}{16}$ " from scribe	Occasional pinpoint (10)	None (10)	Loss of gloss
1500 hours	$\frac{1}{16}$ " – $\frac{1}{4}$ " from scribe	Occasional pinpoint (10)	Face, 10*	No gloss on surface

\* Some blistering at scribe. May be due to corrosion undercutting of  $\sim \frac{1}{4}$ " from scribe line.



**KTA-1 and KTA-2 Following 1500 Hours Exposure to Cyclic Weathering**

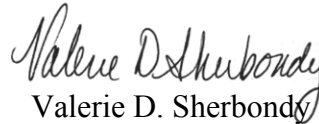


**KTA-3 and KTA-4 Following 1500 Hours Exposure to Cyclic Weathering**

If you have questions regarding this report, please contact me at (412) 788-1300, extension 183, or by e-mail at vsherbondy@kta.com.

Very truly yours,

**KTA-TATOR, INC.**

  
Valerie D. Sherbondy  
*Senior Chemist*

VDS/CMM:kdw  
JN300381-A1

**Addendum** – Previous report was issued before cyclic exposure was complete.

*(300381A1 Epox-Z coating weathering.doc)*

**NOTICE:** This report represents the opinion of KTA-TATOR, INC. This report is issued in conformance with generally accepted industry practices. While customary precautions were taken to verify the information gathered and presented is accurate, complete and technically correct, this report is based on the information, data, time, materials, and/or samples afforded. This report should not be reproduced except in full.