DuPont OEM/Fleet Finishes

Coating Technology Center
October 1, 2010

Project Data Report

Sutphen Corporation

Final Report

PURPOSE:

Perform salt spray (fog) testing on pre-painted panels in order to compare current paint system with TC35000 Clearcoat versus the new 8430S Imron Productive Clearcoat.

SUBSTRATE:

- Aluminum

SURFACE PREP:

- DA 80 Grit

PRETREATMENT:

- 250-S Metalok®-CVP

PRIMER:

- 373P26339 Sandable Buff Urethane Primer

BASECOAT:

- Imron 5.0 660X Red
- Imron 5.0 817U White

CLEARCOATS:

- 8430S Imron Productive Clearcoat
- TC35000 High Solids Clearcoat

TEST:

Salt Spray Resistance	ASTM B117
Blister Rating	ASTM D714

RESULTS: **WR-34-REP-2010**

Panel	Basecoat Color	Clearcoat	General Appearance	* Corrosion Rating	Blister Rating
A	660X	TC35000	VG	9	None
B	660X	8430S	VG	9	None
C	817U	TC35000	VG	9	None
D	817U	8430S	VG	9	None

* refer to Table A2

Comments: Results were excellent. All panels looked good visually with little to no corrosion present, no evidence of blistering and excellent gloss and D.O.I after 1000 hours exposure.

Table A2: Corrosion Rating Scale

Rating	Description
10	No visible corrosion
9	Trace of corrosion
8	Slight corrosion
7	Light corrosion
6	Moderate corrosion
5	Medium corrosion
4	Mostly corroded
3	Totally corroded
2	Severe corrosion[Note 1]
1	Perforation

DuPont Coatings Technology Center
Robert E. Pennock **Principal Investigator**

Report Of: **ASTM B117 Salt spray testing of three different panels with fasteners**

Report To: Gateway Fasteners, LLC
4824 Hendron RD.
Groveport OH 43125

June 29, 2010

Reference: Purchase Order Number 3800608

Attention: Pam Turner
Phone: (614) 836 1996

Two (2) Panels were submitted for salt spray testing per ASTM B117 for 500 hours, on behalf Gateway Fasteners. The samples are described as follows:

- Panel 1: Gray Polymer coated rectangle shaped panel with (36) fasteners.
- Panel 2: Gray Polymer coated rectangle shaped panel with (24) fasteners.

The parts were positioned in the salt spray cabinet at an angle of approximately 20-30° from vertical, with the back faces angled backward and the long sides in the vertical position. Salt spray conditions were maintained at 5% NaCl solution, pH 6.5-7.2, temperature 95 +2/-3 °F, collection rate 1-2 mL/80cm^2/hour per ASTM B117, over 500 hours of total exposure. After the completion of the 500-hour cycle, the samples were rinsed in deionized water and gently scrubbed per the specification to remove loose corrosion product and salt debris.

Photographs of each sample in the as-received condition "front and back views "as well as after 500-hour exposure, with the front and back views of each sample shown below. Additional observations after exposure are as follows:

1. Panel 1: With (36) fasteners after the 24 hours of salt spray exposure showed no signs of red rust or white corrosion.

2. Panel 2: With (24) fasteners after the 24 hours of salt spray exposure showed no signs of red rust or white corrosion.

3. Panel 1: With (36) fasteners after the 500 hours of salt spray exposure showed several large blisters in the gray polymer coating and white corrosion spots with run off streaks on all fasteners.

4. Panel 2: With (24) fasteners after the 500 hours of salt spray exposure showed several large blisters in the gray polymer coating and white corrosion spots with run off streaks on all fasteners.

Prepared By:

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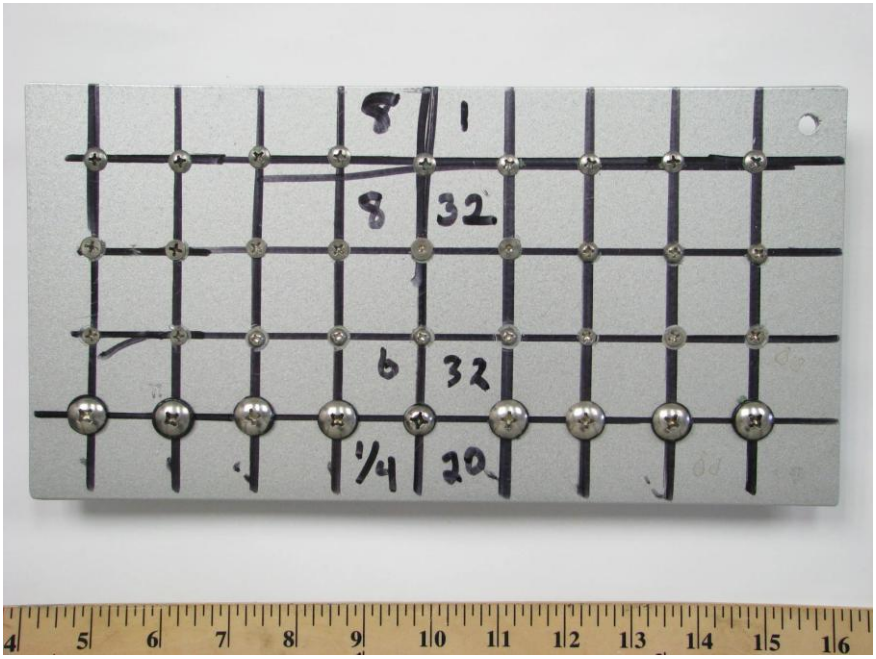
Metallographic & Elastomer Specialist

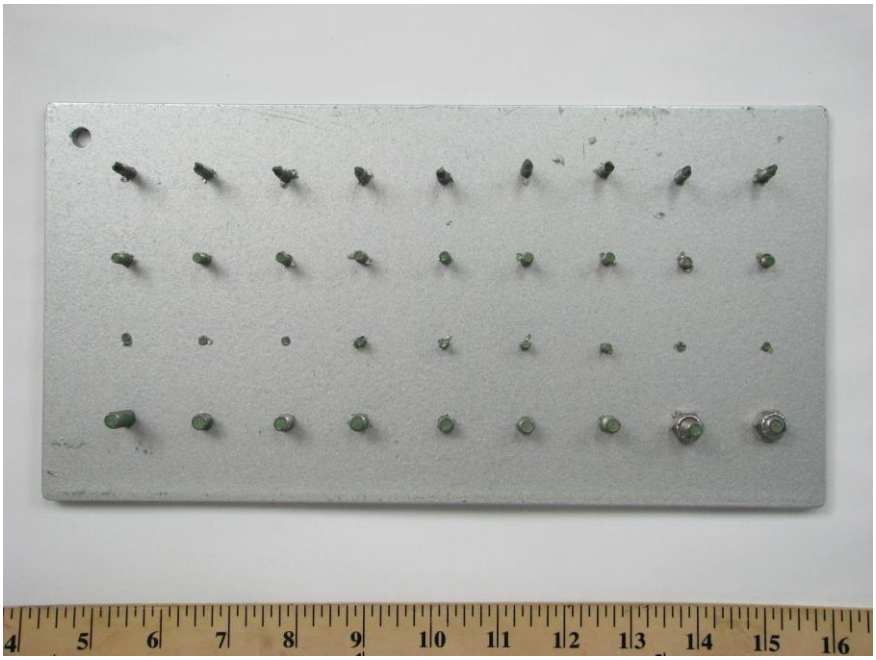
Reviewed by:

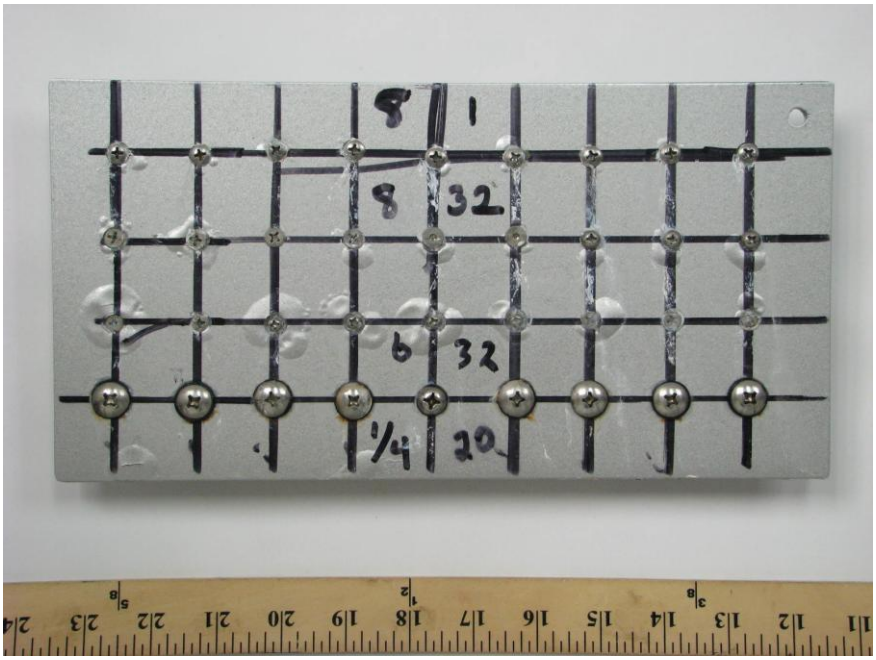
M. Zamanzadeh, Ph.D., FASM
NACE Certified Corrosion/
Coatings/Materials Selection/

**IMPORTANT NOTICE: It is the policy of MATCO Associates that samples submitted as part of contracted investigations are the responsibility of MATCO for only one month after final reports on those samples have been issued. They may then be discarded or otherwise disposed of. If you would like samples returned or safeguarded for longer than one month, please make such arrangements with this office in writing (include shipping provider and account number). If the submitted samples are part of a claim or potential lawsuit it is the client's responsibility to make arrangements to have the samples returned. Any testing not performed in MATCO's facility has been performed by established laboratories used by MATCO Associates.*

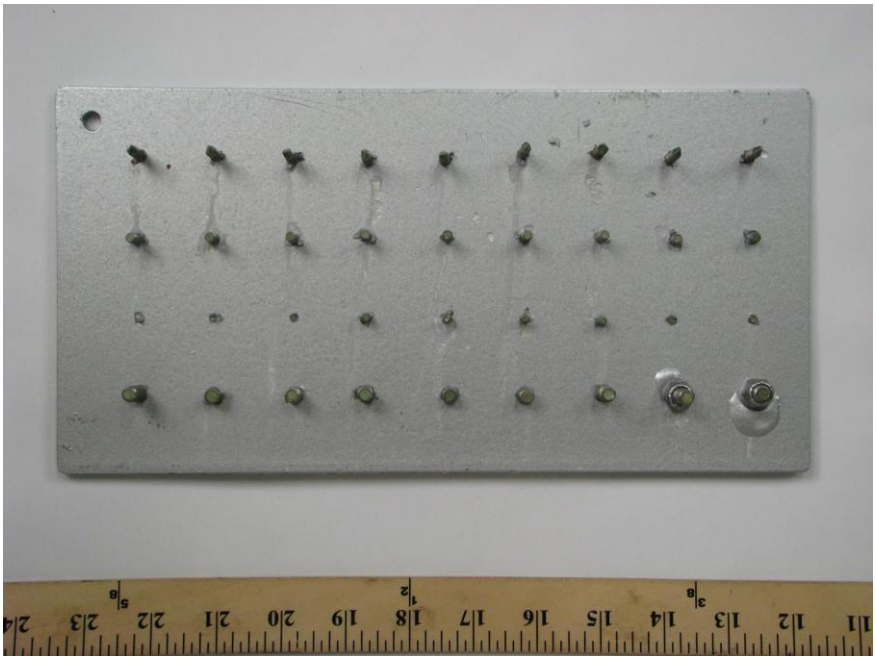


Panel 1 Front view – as-received

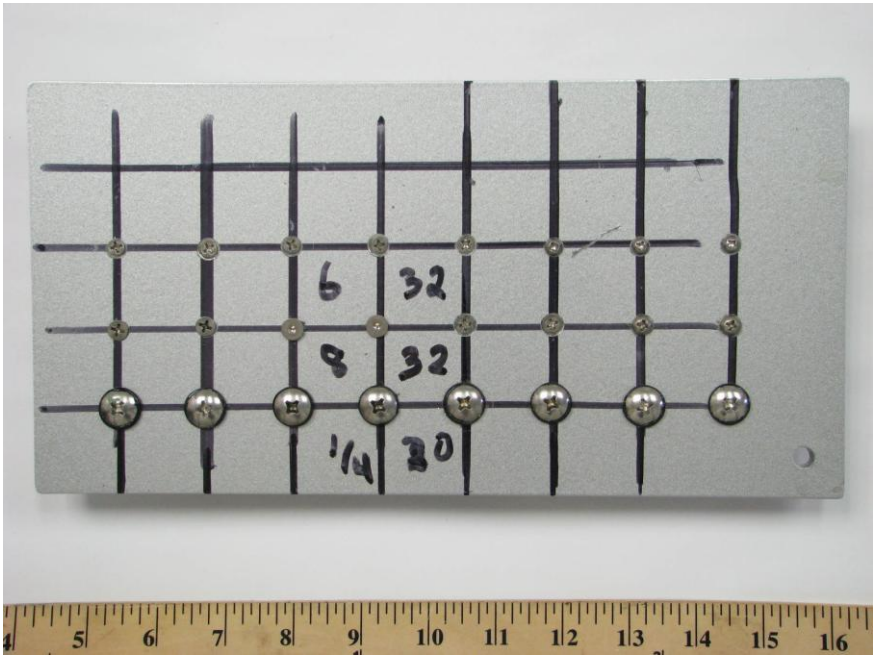

Panel 1 Back view – as-received



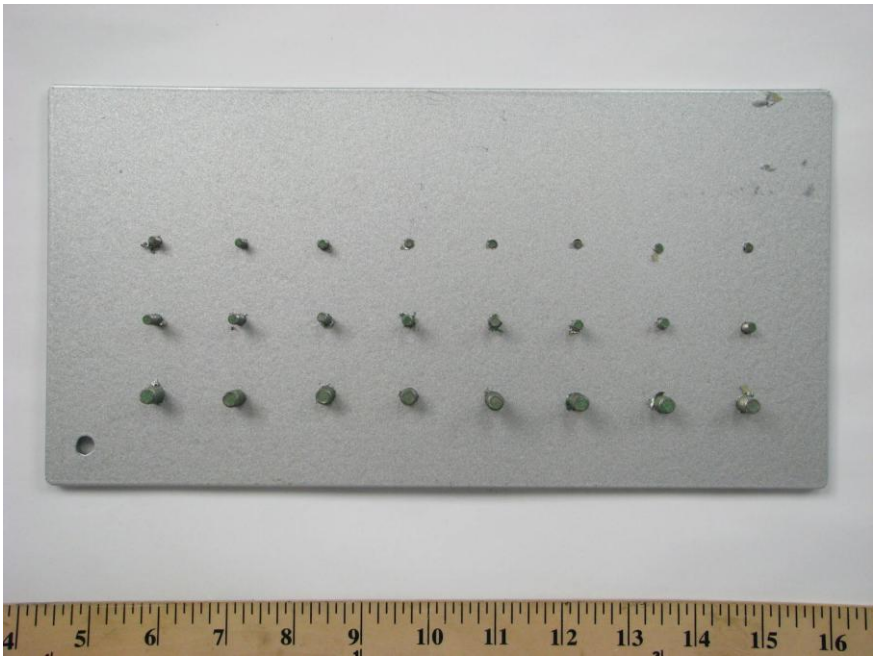
Panel1 Front view – 500 hour salt spray exposure



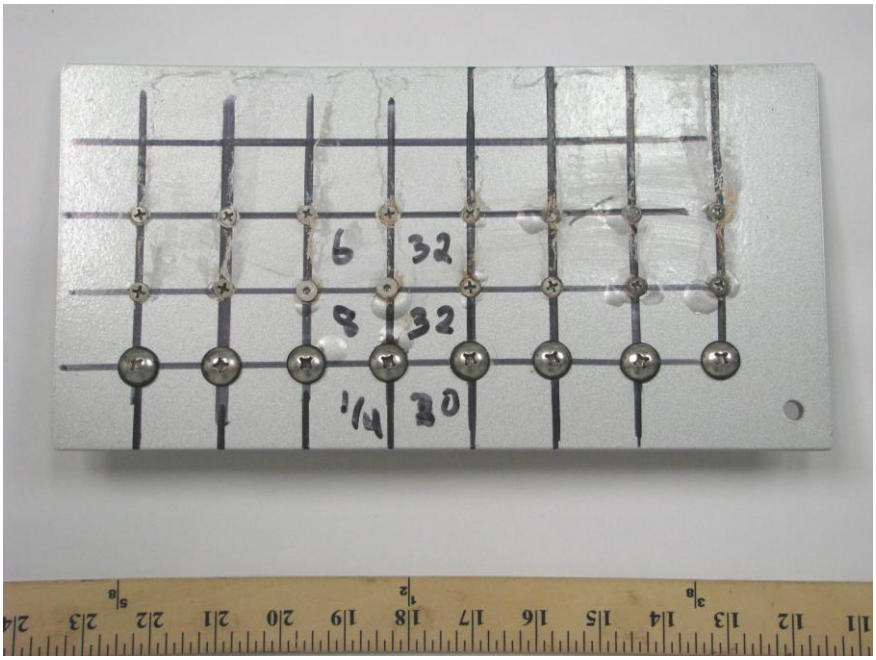
Panel 1 Back view – 500 hour salt spray exposure



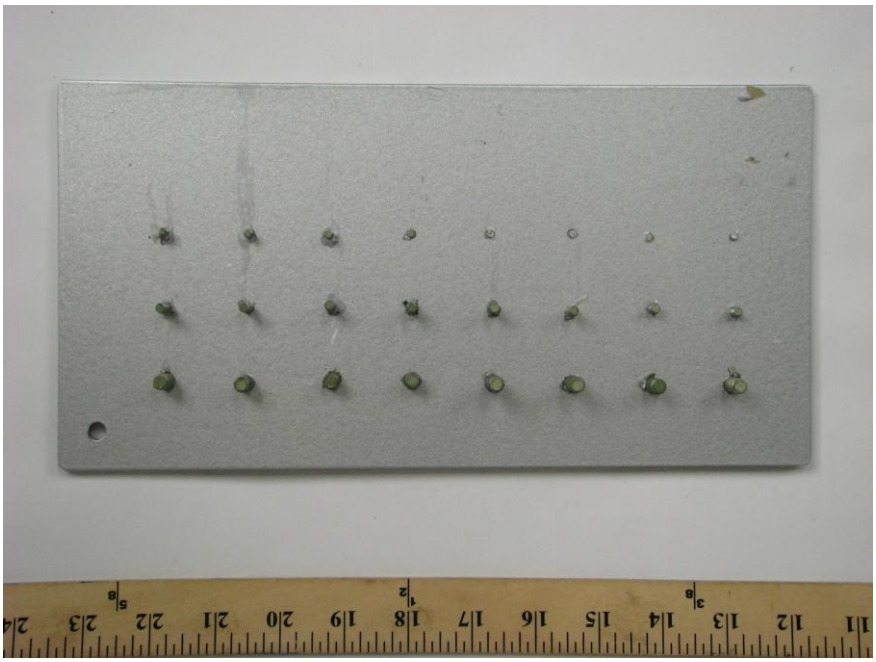
Panel 2 Front views – as-received



Panel 2 Back view- as-received



Panel 2 Front view – 500 hour salt spray exposure



Panel 2 Back view – 500 hour salt spray exposure