

PURAFIL ENVIRONMENTAL CORROSION REPORT

06-Jan-2011

Company: 120304

Sales Order #: C002726

CCC Panel #: P68756

Date In: 30-Nov-2010

Date Out: 14-Dec-2010

Days In Service: 14

Room/Area ID:

Reference #:

DO NOT TOUCH METAL COUPON

Corrosion Classification Coupon

| | |
|--------------------------|---|
| Company 120304 | |
| Address | |
| Room/Area I.D. | |
| Date In 11/30/10 | Time In: 8³⁰ a.m. p.m. |
| Date Out 12/14/10 | Time Out: 8⁰⁰ a.m. p.m. |
| Coupon 68756 | Tracking # 02726 |
| Serial # | |

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| |
|---------------------------|
| CCC Panel # P68756 |
|---------------------------|

| |
|---------------------|
| ISA Class G1 |
| Mild |

| |
|-------------------------|
| Copper Corrosion |
| 229 Å/30 Days |

| |
|-------------------------|
| Silver Corrosion |
| 459 Å/30 Days |

(see next page for complete analysis)

Summary for PURAFIL CCC # P68756

The electrolytic reduction analysis on Corrosion Classification Coupon #P68756 shows the presence of only very low concentrations of contaminants in the environment tested. The hydrogen sulfide level is not expected to exceed 3 ppb and the sulfur dioxide level should be less than 10 ppb. During the test period, corrosion, as shown by the copper coupon, is not a factor in determining equipment reliability.

Please note: Copper's reactivity is sensitive to temperature and relative humidity and can therefore exhibit seasonal variation. For example, below 30% relative humidity (typical for heated indoor air in winter), copper readings will be dramatically reduced. However, silver's reactivity is not affected by temperature and relative humidity. Due to the elevated level of film growth on the silver coupon, corrosion may be a factor in determining equipment reliability; continued monitoring is recommended.

Your local representative for additional information and assistance is:
 Environmental Health and Eng
 117 Fourth Avenue, Needham MA 02494, USA
 tminegishi@eheinc.com

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PURAFIL CCC # P68756 Analysis Results

| Corrosion Film Composition | | | | Gold Coupon - Magnified 20x |
|-----------------------------------|-------------|--------|---------|------------------------------------|
| | Projections | | | |
| | 30 Days | 1 Year | 5 Year | |
| Copper Films | | | | |
| Cu ₂ S | 0 Å | 0 Å | 0 Å | |
| Cu ₂ O | 194 Å | 259 Å | 339 Å | |
| Unknowns | 35 Å | 47 Å | 61 Å | |
| Totals | 229 Å | 306 Å | 400 Å | |
| Silver Films | | | | |
| AgCl | 0 Å | 0 Å | 0 Å | |
| Ag ₂ S | 321 Å | 3904 Å | 19522 Å | |
| Unknowns | 138 Å | 1680 Å | 8402 Å | |
| Totals | 459 Å | 5584 Å | 27924 Å | |
| Gold Pore Corrosion: | | | | |
| Note: 1000 Å = 0.1 micron | | | | |

Equipment Reliability Correlation
(ISA Standard S71.04-1985 for Copper)

