2/3/2011 CCC - P68819

PURAFIL ENVIRONMENTAL CORROSIVITY REPORT

12-Nov-2010

Company: 118563

Room/Area ID: Reference #:



 Sales Order #:
 C002726

 CCC Panel #:
 P68819

 Date In:
 05-Oct-2010

 Date Out:
 19-Oct-2010

Days In Service: 14

CCC Panel # P68819

ISA Class GX Severe

Copper Corrosion 5163 Å/30 Days

Silver Corrosion 535 Å/30 Days

(see next page for complete analysis)

Summary for PURAFIL CCC # P68819

The electrolytic reduction analysis on Corrosion Classification Coupon #P68819 shows the presence of extremely high concentrations of contaminants and the possibility of high/variable humidity in the environment tested. The hydrogen sulfide level is expected to be in excess of 50 ppb, sulfur dioxide greater than 300 ppb, and chlorine greater than 10 ppb. The presence of moisture and small amounts of inorganic chlorine compounds greatly accelerates sulfide corrosion. Electronic/electrical equipment is not expected to survive in this environment due to corrosive attack.

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 # P68819 Analysis Results

Corrosion Film Composition Projections				Gold Coupon - Magnified 20x
Cannar Films	30 Days	1 Year	<u>5 Year</u>	g
Copper Films Cu ₂ S	195 Å	802 Å	2346 Å	
Cu ₂ O	4875 Å	20010 Å	58510 Å	
Unknow ns	93 Å	381 Å	1115 Å	
Totals	5163 Å	21193 Å	61971 Å	
Silver Films AgCl	435 Å	5299 Å	26496 Å	
Ag ₂ S	100 Å	1220 Å	6101 Å	
Unknow ns	0 Å	0 Å	0 Å	
Totals	535 Å	6519 Å	32597 Å	
Gold Pore Corrosion: Note: 1000 Å = 0.1 micron				

Equipment Reliability Correlation (ISA Standard S71.04-1985 for Copper) **ISA Class GX: SEVERE** Electronic/electrical equipment not expected to survive due to corrosive attack 2000 (Cu>= 2000) F i m ISA Class G3: HARSH High probability that corrosive attack will occur. Probable effect on equipment reliability 1500 Т in less than 5 years. (1000 <= Cu < 2000) h С k n 1000 ISA Class G2: MODERATE е Effects of corrosion measurable and may be a factor in determining equipment reliability. Possible effects in less than 5 years. s (300 <= Cu < 1000) s 500 n Å 300 ISA Class G1: MILD Corrosion is not a factor in determining equipment reliability. (Cu < 300) 0 Silver Copper (535 Å) (5163 Å)

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