Applied Polymer Research Center

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Test Report – Revised 10/10/2011

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Sample Identification: Various

Project No.: 310-11 APRC **Date: October 10, 2011**

Methodology: Specimens were washed with acetone prior to testing. Specimens were weighed, then immersed in the test solution at room temperature. After the specified time period, the samples were removed from the test solution, rinsed with distilled water, dried, weighed, and photographed. Flow-Aide solutions were prepared volume/volume using distilled water.

Test Results: Corrosion rates are tabulated on the next page. Photos of the tested specimens follow at the end of this report.

Materials Tested:

Nickel: Alloy 200
Copper : Alloy 110, unpolished, ½ hard
Brass: Alloy 260, unpolished, ½ hard
Stainless steel: Type 304

The following materials had corrosion rates ≤ 0.02 mil (≤ 0.00002 inch) per 5 hours exposure in FlowAide 50/50 and 20/80. These materials had similar corrosion rates in Vinegar. The corrosion rates are negligible and at the error limit inherent in the measurements.

Copper : Alloy 110, unpolished, ½ hard
Brass: Alloy 260, unpolished, ½ hard
Stainless steel: Type 304

Nickel (Alloy 200) had corrosion rates ≤ 0.02 mil per 5 hours exposure in FlowAide 50/50 and 20/80. This material was not tested in Vinegar. The corrosion rates are negligible and at the error limit inherent in the measurements.

Corrosion Rates as depth (mil = 0.001 inch) of material loss in the specified time period.

	FlowAide 20/80		FlowAide 50/50		Vinegar	
Sample	1 Hour (mil)	5 Hours (mil)	1 Hour (mil)	5 Hours (mil)	1 Hour (mil)	5 Hours (mil)
Nickel	0.01	0.01	0.00	0.02		
Copper	0.01	0.01	0.01	0.01	0.01	0.01
Brass	0.01	0.01	0.01	0.01	0.00	0.00
Stainless Steel	0.00	0.00	0.00	0.01	0.00	0.00

Nickel


310-11
Nickel
20/80 FlowAide
1 hr
310-11
Nickel
20/80 FlowAide
5 Hr

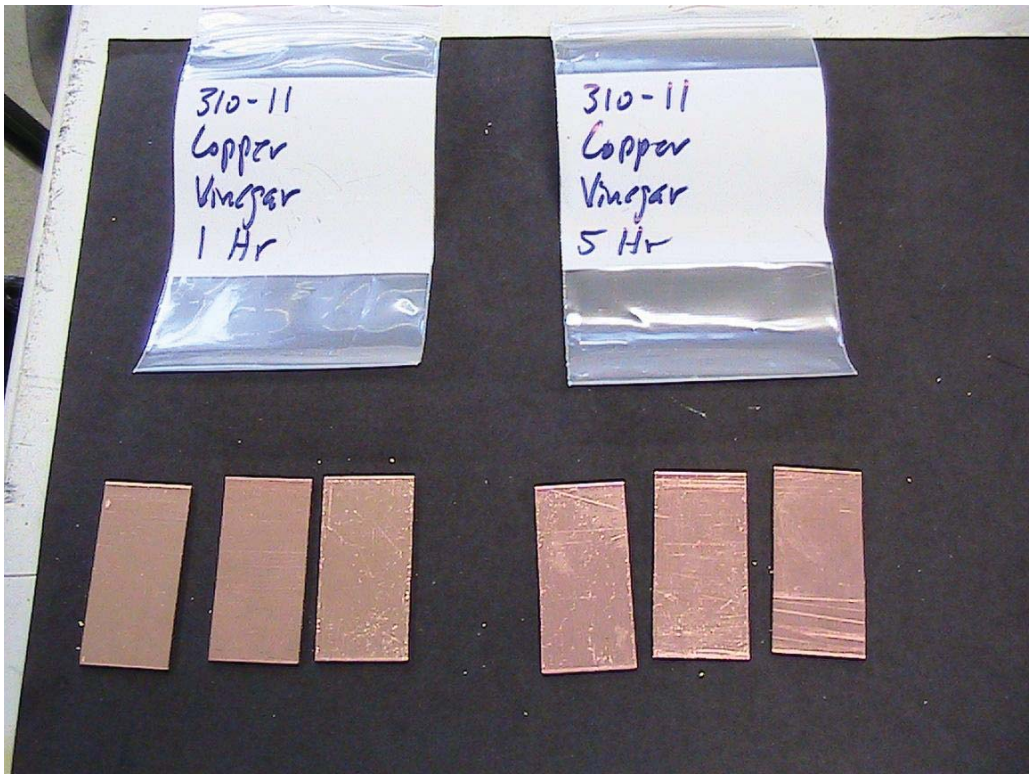

310-11
Nickel
50/50 FlowAide
1 hr
310-11
Nickel
50/50 FlowAide
5 Hr

Copper


310-11
Copper
20/80 FlowAide
1 Hr
310-11
Copper
20/80 FlowAide
5 Hr

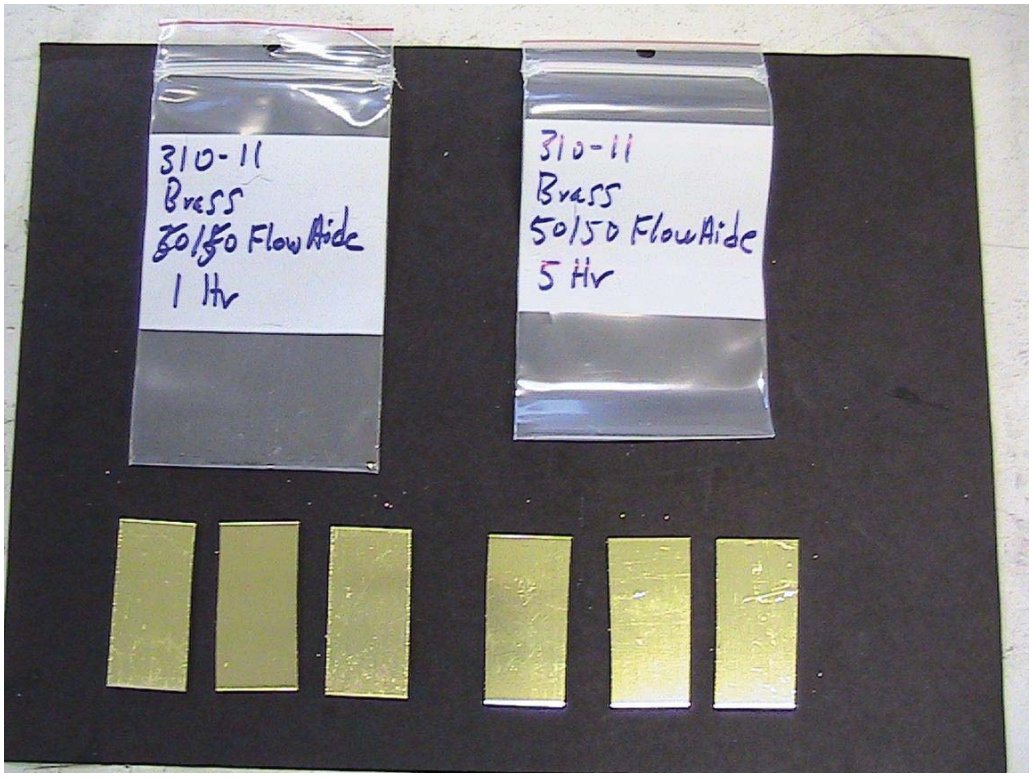

310-11
Copper
50/50 FlowAide
1 Hr
310-11
Copper
50/50 FlowAide
5 Hr

Copper



Brass


310-11
Brass
20/80 FlowAide
1 Hr
310-11
Brass
20/80 FlowAide
5 Hr


310-11
Brass
20/80 FlowAide
1 Hr
310-11
Brass
50/50 FlowAide
5 Hr

Brass

Stainless Steel

Stainless Steel