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Evaluating Packaging Systems for Customer

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Background: Customer sent 3 boxes of parts to Cortec for testing. They would like the effectiveness of Armor VCI paper evaluated and compared to similar VpCI packaging options

Sample Received: Three boxes of machined metal parts
Armor Wrap VCI Paper

Method: ASTM D-1748 Humidity (modified)

Materials: Three boxes of machined metal parts
Amor Wrap VCI Paper
VpCI-146 Paper
VpCI-126 Blue Film bag (3-mil)

Procedure: The following procedure was used:

- 1) Upon receipt, all parts were visually inspected for any signs of corrosion.
- 2) After inspection, the three boxes were prepared for testing as follows:
 - a. The first box was lined on the top and bottom with Armor Wrap VCI Paper
 - b. The second box was lined on the top and bottom with VpCI-146 paper.
 - c. The third box was lined with a VpCI-126 Blue Film bag (3-mil), and all parts were added back to the box.
- 3) After packaging, all boxes were taped shut and allowed to condition overnight.
- 4) All boxes were then placed in ASTM D-1748 humidity cabinet.
- 5) Parts from each box were visually inspected periodically.
- 6) After 500 hours, all boxes were removed from ASTM D-1748 humidity cabinet.
- 7) All parts were visually inspected.

Results: The following results were found:

Packaging Used	Time to Corrosion (Hours)
Armor Wrap VCI Paper	120
VpCI-146 Paper	312
VpCI-126 Blue Film bag	DNC*

DNC – Did not corrode during 500 hours of testing.

Interpretations:

Both VpCI packaging methods provided superior corrosion protection after 500 hours of ASTM D-1748 humidity testing. VpCI-146 paper provided nearly three times the initial corrosion protection, while VpCI-126 Blue Film (3-mil) was far and away the best product tested. None of the parts wrapped in VpCI-126 Blue Film corroded during the test.

All parts will be returned to Customer for further inspection.