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Evaluating Rust Preventatives for Customer

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Background: Customer had requested previous testing of BioCorr and VpCI-377 against their past product RP-10. They have asked for follow-up testing for parts they have already treated and requested the parts not be in bags in the humidity chamber.

Sample Received: Metal test parts:
- 8 with BioCorr already applied
- 8 with RP-10 (Lily Products Cleaner) already applied

Method: ASTM D-1748 Humidity (120°F, ~99% relative humidity)

Materials: Metal test parts
Laboratory grade methanol

Procedure: The following procedure was used:

- 1) One part was selected and cleaned with methanol to remove the coating to be the control sample.
- 2) Three parts treated with BioCorr and 3 parts treated with RP-10 were selected.
- 3) Each of the parts (7 in total) were then labeled and hung in ASTM D-1748 humidity cabinet (no bags in this test as per customer request).
- 4) Parts were monitored for corrosion and were considered failing with 3 spots of visual corrosion.
- 5) After 48 hours (final part failure) the parts were removed and photographed.

Results: The following results were found:

ASTM D-1748 Humidity

Rust Preventative Used	Time to Failure
BioCorr	~ 48 hours
Cleaner RP-10	5 hours
None (control)	2 hours

Note: One of the BioCorr test parts fell to the bottom of the humidity chamber and had corrosion failure at only 32 hours. The other two BioCorr parts lasted approx. 48 hours.

Photos: Photos taken after 48 hours in the humidity chamber:



Parts Treated with BioCorr



Parts Treated with RP-10



Parts with no Treatment (Control)

Interpretations:

The results of this test are comparable to the previous test for customer. Cleaner RP-10 only provided corrosion protection about twice as long as not using a rust preventative. BioCorr significantly extended the life of the part by protecting over 20 times as long as the control sample. The photographs after 48 hours in the chamber reinforce the results that BioCorr is the better rust preventative.