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LABORATORY ACCREDITATION BUREAU
ACCREDITED ISO/IEC 17025
Certificate # L2267 Testing

Evaluation of Synthro-Cor 221 vs. VpCI-329

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Purpose: To test the contact and vapor phase corrosion protection of Synthro-Cor 221, manufactured by Sythron Company and compare the results against VpCI-329.

Sample Received: Synthro-Cor 221

Method: 1) ASTM D-1748 (humidity testing)
2) MIL-PRF-46002C (vapor phase testing)*
*Cortec Laboratory is not accredited for the test marked

Materials: VpCI-329 (batch #07704)
Carbon Steel panels, SAE 1010

Procedure: The following procedure was followed for the humidity testing:
1) Dip or coat carbon steel panels with the samples to be tested.
2) Hang the panels to drip/dry overnight.
3) Place the panels in the humidity cabinet and inspect them for corrosion on a regular basis.
4) Record the number of hours for the panels to fail.
    a) Failure is determined by observing one spec of corrosion that is 1-3mm in diameter, or three specs of corrosion at least 1mm in diameter.
5) After 385 hours, the panels were removed from the humidity cabinet, hung to dry, and then photographed.

The following procedure was followed for MIL-PRF-46002C vapor phase testing:
1) Refer to part 4.2.2.2.2 of the MIL spec for vapor phase testing.
2) VpCI-329 and Synthro-Cor 221 are both considered to be grade 1 oils.
3) Failure is determined by observing at least three specs of corrosion greater than 1mm in diameter.

Results: The following results were found for the humidity testing:

Sample	Time to Failure*
Synthro-Cor 221	250 hours
VpCI-329	Did not fail

*tested for 385 hours

The following results were found for MIL-PRF-46002C vapor phase testing:

Sample	Results
Synthro-Cor 221	Fail
VpCI-329	Pass

Interpretations: VpCI-329 significantly outperforms Synthro-Cor 221 in both contact and vapor phase corrosion protection.

Photos:

Humidity Testing

after 385 hours

Synthro-Cor 221

VpCI-329