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Evaluating Potential Rust Preventatives for Wayne-Dalton Garage Doors

Background: Since 1954, Wayne-Dalton has been a leader in garage door and garage door opener technology. Part of Wayne-Dalton's manufacturing process involves stacking door components for storage. They would like a rust preventative that can be effectively used in a wet stacking operation.

Purpose: Evaluate, in humidity, the corrosion protection of Cimperial 1017 metalworking fluid, and compare with various Cortec products.

Method: ASTM D-1748 humidity cabinet

Materials: 12 garage door sections, provided by Wayne-Dalton
Cimperial 1017 fluid, provided by Wayne-Dalton
VpCI-337
VpCI-347

Procedure: The following procedure was used:

1) Garage door sections were received and inspected.
    a. All sections were cleaned with methanol prior to testing.
2) Groups of 3 sections were then dipped in one of the following solutions:
    a. Cimperial 1017 fluid (diluted 1:20 with water)
    b. VpCI-337
    c. VpCI-347 (diluted 1:20 with water)
3) Sections were then wet stacked and allowed to dry.
4) Stacks were then placed in ASTM D-1748 humidity cabinet.
    a. A control stack was also tested.
5) All section stacks were visually inspected periodically.
6) After 1000 hours, all sections were removed from ASTM D-1748 humidity cabinet.
7) All pieces were visually inspected and photographed.

Results: The following results were found:

Product	Time to Corrosion (Hours)
Control	432
Cimperial 1017	672
VpCI-337	912
VpCI-347	DNF*

DNF – Did not fail during 1,000 hour testing period.

Conclusion: The white coating that was already on the parts provided a significant amount of protection. Corrosion did not begin for 432 hours, even on the control part. Both VpCI liquids provided significantly better protection than the Cimperial 1017. VpCI-347 would be the most similar to the Cimperial product, while VpCI-337 would be a water-based alternative.

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