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Evaluating the corrosion protection offered to submitted metal filter cans

Background: Bellevue Mfg. submitted filter cans to Cortec Corporation. An evaluation involving Cortec VpCI-377 and Cor-Pak VpCI stretch film, and comparison with Caliburn stretch film is sought. Composition of metal in filter cans, is not given.

Purpose: Evaluate and compare the protection offered by Caliburn stretch film with Cortec Corporation VpCI-377 and Cor-Pak VpCI stretch film.

Method: ASTM D 1748-83 (120 deg F, 100% R.H.)

Materials: Submitted Filter cans
Cortec VpCI-377
Cor-Pak VpCI stretch film

Procedure: The following were placed into environmental chamber;

- (1) Filter can coated with Cortec VpCI-377 at 4% and enclosed within Cor-Pak VpCI stretch film.
- (2) Filter can coated with Cortec VpCI-377 at 7% and enclosed within Cor-Pak VpCI stretch film.
- (3) Filter can enclosed within Caliburn stretch film.
- (4) Filter can

Results: ASTM D 1748-83 (120 deg F, 100% R.H.)

Material	Time when corrosion observed (hrs)
Filter can coated with Cortec VpCI-377 at 4% and enclosed within Cor-Pak VpCI stretch film	$57 < x < \text{or equal to } 72$
Filter can coated with Cortec VpCI-377 at 7% and enclosed within Cor-Pak VpCI stretch film	$57 < x < \text{or equal to } 72$
Filter enclosed within Caliburn stretch film	$4 < x < \text{or equal to } 24$
Filter can only	4

Conclusion:

- (1) Filter can coated with Cortec VpCI-377 at 4% and 7% enclosed within Cor-Pak VpCI stretch film, showed at least 2.4 times longer protection than filter can enclosed within Caliburn stretch film.
- (2) Filter can coated with Cortec VpCI-377 at 4% and 7% enclosed within Cor-Pak VpCI stretch film, showed at least 14.2 times longer protection than filter can with no protection.
- (3) Based on the results described in the previous report (05-243-1125), the best protection is obtained (120 hours) when coating contains 10% of VpCI-377.

