

Evaluating and Comparing Corlam Pouch, Cromwell Phoenix Paper, Cortec VpCI-146 Paper and Pouch Currently Being Used by Buckbee Mears

Background: Joe DiSabantonio / Stephens Packaging Supplies submitted Cromwell Phoenix paper, a packaging pouch currently being used by Buckbee Mears and Corlam Pouch to Cortec Corporation. An evaluation is sought involving VpCI-146 paper and the above three mentioned products with Carbon steel screens.

Purpose: Evaluate the corrosion inhibition offered on carbon steel screens using Cortec VpCI-146 paper, Cromwell Phoenix paper, Foil pouch currently being used by Buckbee Mears and by Corlam Pouch.

Method: ASTM D 1748-83 (105 –130 deg F, 100% R.H.)
Nitrite Test

Materials: Cromwell Phoenix paper
Pouch currently being used by Buckbee Mears
Cortec VpCI-146 paper
Corlam Pouch
EM Quant Nitrite/Nitrate Test (Lot # OC130397, Exp Oct 04)

Procedure: Carbon steel screens were placed into pouch currently being used by Buckbee Mears with Cromwell Phoenix paper placed on the bottom and the top of screens. The open end of the pouch was sealed off with duct tape.

Carbon steel screens were placed into pouch currently being used by Buckbee Mears with Cortec VpCI-146 paper placed on the bottom and the top of screens. The open end of the pouch was sealed off with duct tape.

Carbon steel screens were placed into Corlam pouch and sealed off with duct tape.

Carbon steel screens were placed into Corlam pouch, then vacuum sealed with the open end being sealed with duct tape.

Carbon steel panels were placed into Polyethylene film (3 mil), containing no corrosion inhibitors with non-corrosion inhibiting paper placed on both sides of screens (Control).

After the above were completed, the screens were checked twice at 28 day consecutive intervals. The screens were then checked 19 days later, after the second 28 day check. The control setup was check daily.

Results:

ASTM D 1748-83 (105 –130 deg F, 100% R.H.)

Material	Time until corrosion was observed (days)
Carbon steel screens placed into pouch currently being used by Buckbee Mears with Cromwell Phoenix placed on the bottom and the top of screens	75
Carbon steel screens placed into pouch currently being used by Buckbee Mears with Cortec VpCI-146 paper placed on the bottom and the top of screens	> 75
Carbon steel screens placed into Corlam pouch and vacuum packed	> 75
Carbon steel screens placed into Corlam pouch	> 75
Carbon steel panels placed into Polyethylene film (5 mil) containing no corrosion inhibitors with non corrosion inhibiting paper placed on both sides of screens (Control)	3

Nitrite Test: The Cromwell phoenix paper was found to be heavily nitrite based.

Conclusion: Cromwell Phoenix paper placed on top and bottom of screens and then placed into pouch currently being used by Buckbee Mears, did not offer the same level of corrosion inhibition as the Corlam pouch, Corlam pouch with vacuum packing and the setup involving the Cortec VpCI-146 paper, with pouch, currently being used by Buckbee Mears.

Project #: 02-232(2)

Estimated Cost of Project: 2 hours

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