

## solvent-based coating

An independent study proves that solvent-based coating is superior to water-based coating...\*



# Which Coating Is On Your Blister Cards?

You have a coating choice, and that choice is now clear! An independent testing facility has found that solvent-based coatings are much more forgiving than water-based coatings. That is, the process window for solvent-based coatings is considerably greater, and they consistently outperform water-based coatings over a much wider range of equipment conditions. *A bigger window means fewer problems for you!*

With CardPak's Solvent-Based Coating on your cards, you can count on:

- **Faster Dwell Times**

Blister cards can be effectively applied, in some cases, at up to twice the speed of water-based coatings. This means faster throughput, reduced run time and a total lower cost for you!

- **Greater Strength**

CardPak's Solvent Coating consistently outperforms water-based coatings. In fact, it averages a 50% stronger bond with half the dwell time! This gives your product a longer shelf life, fewer returns and higher profits!

- **Consistent Sealing Parameters**

Solvent Coating gives you a 100% seal every time, maintaining solid bond coverage around the entire flange of the blister.

- **Excellent Sealing to Recycled Blister**

Whether your blister is made of PVC, styrene, RPET (Recycled PET) or PET, solvent coating gives you a complete seal every time.

- **Unequaled Overall Performance**

Solvent coating is much more forgiving on your equipment, regardless of the age or condition. You can be assured of a complete seal, time after time.

**And we can prove it!**

\*(See back side for technical data on independent study).



# Solvent-Based Coating. Consistent Performance. Conclusive Results.

It has long been our contention at CardPak that solvent-based blister coating provides better sealing integrity at shorter dwell times over a wider range of process variables than aqueous blister coating (water-based coating). In fact, we felt so strongly regarding our position, that several years ago we made a sizable investment in a catalytic converter to meet E.P.A. regulations on V.O.C.'s (Volatile Organic Content), and to continue producing a product that we believe in so strongly.\*

In order to validate our contentions with analytic data, we retained the services of Chemsultants, a national independent testing firm specializing in adhesive consulting and laboratory testing. They hold accreditation from the American Association for Laboratory Accreditation (No. 1629.01), and are members of the American Society for Testing and Materials (ASTM), the Society for Coating Technology and The Cleveland Society for Coatings Technology.

## Independent Study: Aqueous Blister Coating Vs. Solvent Blister Coating

The following is an overview of the testing parameters used for this comparative study:

PROCESS VARIABLES	
Each test studied 30+ different combinations of process variables:	
<b>COATINGS</b> - 2 types of coatings were tested: <b>S</b> - Solvent, <b>A1</b> - Aqueous, <b>A2</b> - Aqueous, 2nd Sample	
<b>SEALING**</b> - Platen Temperatures For Both Coatings: <b>L</b> - Lower Temp- 350°F, <b>H</b> - Higher Temp- 375°F	
<b>DWELL TIMES</b> - Tested For Both Coatings: <b>A</b> - 0.8 sec., <b>B</b> - 1.0 sec., <b>C</b> - 1.3 sec., <b>D</b> - 1.6 sec., <b>E</b> - 2.0 sec.	
<b>TEST CONDITIONS</b> - Blister cards were tested at both 0°F and 73°F, with 50% relative humidity	
<b>DROP TEST</b> - Blister cards were dropped from a height of either 9 inches or 24 inches, and tested both empty and weighted	

\*\*Blisters were sealed on a Alloy Model 2SC-1016 machine at an 80 PSI gage pressure.

### **Pull It!** The Machine Tear Test

Machine tear results clearly demonstrated that the bond on the aqueous coated cards was lower, with significantly greater process variation than the solvent coated cards. The tear force for the solvent coated cards was consistently above 30 pounds with an average standard deviation of approximately 2, while the tear force for the aqueous coated cards varied from above 30 pounds to below 15 pounds, with an average standard deviation of approximately 6.

### **Tear It!** The Hand Tear Test

Hand tear results demonstrated that all solvent coated cards, regardless of temperature or dwell time, displayed 100% paper tear every time. However, bonding on the aqueous coated cards needed a very narrow process window to come close to an equal performance. Bonds varied from 20 to 100%, depending on the platen temperatures and dwell times. There were few aqueous coated cards which displayed 100% bonding around the entire flange of the blister.

### **Drop It!** The Drop Test

**Drop Test - Empty:** All the replicates of all the process variables at both test temperatures passed the drop test. This is not surprising since the blisters were empty. There was essentially no force on the heat seal bond upon impact.

**Drop Test - Weighted:** Sample "A1" experienced failures at the lower dwell times at both sealing temperatures. All other samples of all card types passed all tests.

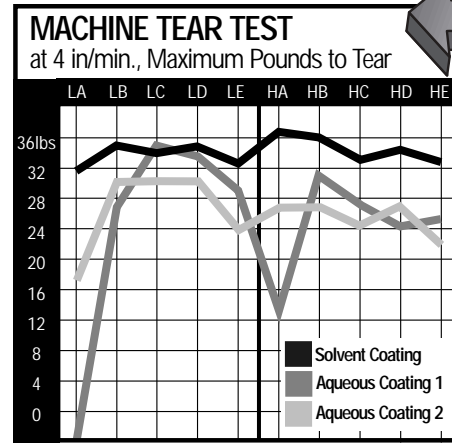
Here's what Chemsultants had to say in their official report:

“*This study clearly demonstrates the superiority of the solvent coated cards over a broad range of process variables. Although both sets of aqueous coated cards matched the bonding strength of solvent coated cards at a few very closely controlled processing conditions, they did not possess the same process versatility as the solvent coated cards.*”

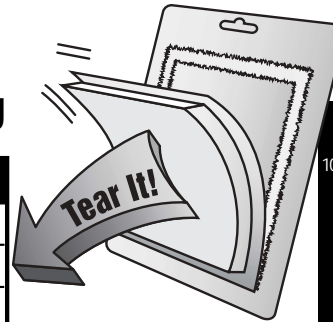
Donald L. Eppink  
Manager of Laboratory Services, Chemsultants

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industry standard from CardPak!  
**1-800-824-3342**

The test consisted of 1,140 replications:

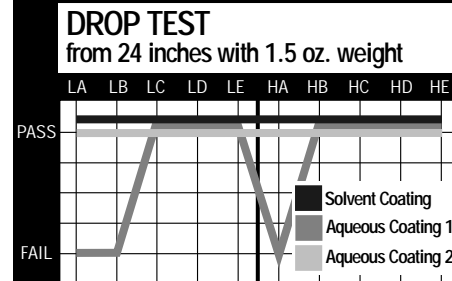
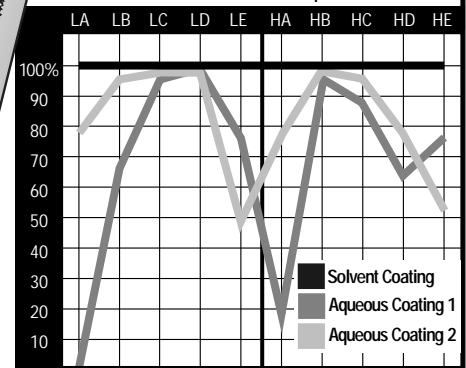


300 samples were tear tested for tensile strength by machine. The maximum force encountered (lbs. per inch) was recorded and standard deviation was computed. The results shown in this chart were conducted in a 73°F environment.



300 samples were tear tested by hand and the percentage of successful tear area was recorded and standard deviation was computed. The results shown in this chart were conducted in a 73°F environment.

### **HAND TEAR TEST** % Bonded Surface with Paper Tear



540 empty and weighted samples were drop tested to hit a flat surface perpendicular, from a height of 9" or 24". The percentages of successful bonds were recorded. The results shown in this chart were conducted in a 73°F environment.

\*We do supply customers with product coated with aqueous blister coating when requested

## **PROVE IT FOR YOURSELF!**

Give us a call with your card dimensions.  
We'll cut cards with solvent blister coating to your specifications and get them to you for your own testing!

For more information or a complete copy of this comprehensive study, contact the Quality Assurance Department at CardPak.



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