

"TAMPER CONTROL PACKAGING WITH PLASTICS"

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Plastic will be shown in this report to have and will have a major part in the Tamper Control Packaging of the future in all areas of consumer packaging especially in the internally consumed products.

To start with, in order for us to have a more overall comparable understanding and communication on this subject, I would like to present my subjective views and definitions of Tamper Control Packaging Classifications as they would relate to various product lines.

The Department Of Health And Human Services, Food and Drug Administration indicates in the law (21 CFR Parts 211, 314, and 700) that Tamper-Resistant Packaging Requirements for Certain Over-The-Counter Human Drug and Cosmetic are currently in total effect. They have approved 11 concepts, which are mostly plastic:

Film Wrappers	Blister or Strip Packs
Bubble Packs	Shrink Seals And Bands
Foil, Paper, or Plastic Pouches	Bottle Seals
Tape Seals	Breakable Caps
Sealed Tubes	Sealed Cartons
Aerosol Containers	

The FDA frowns on the wordage Tamper-Proof, so we will abide by this decision even though there may be some packages very close to this category. The classifications that I feel would cover the subject are as follows:

1. TAMPER-RESTRICTIVE

A closure or device that requires the consumer to physically remove a component part of the package to enter the prime container and be accessible to the contained product. This would also cover the area where the product itself may be removed from an integral or hermetically sealed container by physical action on the part of the consumer.

Candidates In This Area Would Be:

	<u>Examples</u>
1. Tear-Tab Closures	(Anti-Freeze)
2. Fragile-Tab Closures	(Milk)
3. Metal Tear Rings	(Beverages)
4. Unit Dose Packages	(Analgesics)
5. Push Through Blisters	(Analgesics)
6. Blister Cards	(Diet Aides)
7. Aluminum Ferrule Crowns	(Pharmaceuticals)

2. TAMPER-RESISTANT

A closure or device which the consumer requires physical action to open the prime container with difficulty, but not being an integral part of the initial prime closure seal. This initial opening will resist tampering due to the increased effort required for entering the prime container to obtain the product.

Candidates in this area would be:

	<u>Examples</u>
1. Shrink Bands (Heat)	(Liquor)
2. Shrink Bands (Solvent)	(Liquor)
3. Tape Wrapping Sealed Closures	(Tobacco-Snuff)
4. Wax Dip Coating of Sealed Closures	(Wines)
5. Seal Disc Closure Liners	(Coffee)
6. Push-Through Blisters	(Contac)

3. TAMPER-EVIDENT

A closure or device which brings to the consumers attention that the package has been initially opened. Visually identifying to the consumer evidence of the package being opened.

Candidates in this area would be:

	<u>Examples</u>
1. Shrink Wrapped Prime Containers	(Cigarettes)
2. Shrink Wrapped Cartons	(Cough Drops)
3. End Sealed Cartons	(Milk of Magnesia)
4. Skin Packaged Cards	(Swabs)
5. Seal Stamp on Carton	(Playing Cards)
6. Seal Stamp on Prime Container	
Sealed Closure	(Liquor)
7. Push-Through Blisters	(Contac)

It appears to me from what I have learned at the Proprietary meetings in Washington and the feelings of packaging experts and consultants that regulations could be possible in four categories that would require Tamper Control Packaging.

A. Ingestables (Non-Food Items)

This would cover all product areas in the OTC marketing that depend on stomach chemistry to activate the product efficacy, such as Analgesics, Laxatives, Antacids, etc.

B. Ingestable Food Items (Recloseable Containers)

This would cover all product areas where the prime container closure can be opened and reclosed by the consumer without showing product loss evidence. This would cover such products as Ketchup, Mustard, Mayonnaise, etc.

C. Topical Product Items

This would cover product areas that require product efficacy through absorption into the skin through to the blood. This would cover mostly liquid, lotion, or cream type products such as Topical analgesics, Suntan Products, Skin Treatment Products.

4. Ingestable Food Items (Non-Reclosable Containers)

This would cover those products wherein the container such as a flexible package can be opened, and although they are not reclosable, they can be formed back into a part closed position to not be identifiable to the consumer that the package had been initially opened. This would cover such products as Potato Chips, Pretzels, Bread, etc.

5. Packages, Machinery & Production

The ability of these Tamper Control Packaging systems will effect directly current production lines to the point that in most cases some type of line modification, or new equipment will be required. Depending upon the initial change-over will it be determinable the effects on the production line speeds and the justification for investment into new equipment to maintain the current line speed standard or take the reduction in production speed and keep a no capital investment basis.

The value of the Push-Through blister package shows that it applies itself in all the Tamper Control Packaging categories with the evidence of tampering coupled with the advantages of measured dose control, hermetically sealed unit dose, clean and non-contaminable. However, the problems of packaging costs when compared to the multiple bulk packaging is still a major factor to the consumer willingness to pay more for these added advantages and protections.

The unit dose packaging such as packets, unettes, pouches, etc. as well as the Push-Through blister packages have made tremendous marketing and merchandising strides in the last ten years, not because of the need for Tamper Control Packaging, but due to the needs of product stability, consumer ease of usage, dosage control, non-contaminating etc.

Various machine manufacturers on the continuous form-fill-seal blister packaging machinery such as: Bosch, Packaging Industries, Alloyd, Mahaffy-Harder, Anderson, Uhlmann, Brown, Lakso, Verpa, and many others, have done a tremendous job to try and narrow the cost gap between the single dose and the multiple dose package. Production speeds, new computer and electronic control technology, increased web sizes, new plastic sheets, coextrusions, and laminate sheets have also advanced considerably within the past five years.

The Carded Packaging Institute has made excellent contributions through their society in the consumer dosage peel-back type packages. Various processors such as: Packaging Systems Corp, LaMar Plastics Packaging, Placon, Arbor, Card Pak, F.M. Howell, Key Packaging, McNamara Associates, Rexham, Federal Paper, DuPont, Thermoformed Products, Inc. etc, have all contributed towards the advancement of the single dose packaging concepts, and have been heavily developing with new films, processes, machinery, and design concepts.

Conclusions

There is very little question that the point of purchase carded package and the push-through blister package have been accepted by the consumer in the personal products areas for the many conveniences and advantages that are associated with this type of packaging, such as control dose, hermetically sealed, clean and sanitary, visual identification, portability, functional dispensing, child resistant, and now more than ever the opportunity to explore the tamper control type packaging for tamper resistant and tamper evident.

This new challenge for Tamper Control Packaging opens many new fields of application with very high values placed upon the blister and card packaging concepts by the Federal Regulatory Organizations, who would place very favorable acceptance towards this type of packaging for the personal products consumer fields.

Not to many years ago, the challenge of Child Resistant Packaging was pressed into the blister and card packaging fields, wherein again if you were part of the hearings prior to the CR Regulations, it was given a very high acceptance by the Federal Regulatory Organizations as an ideal personal product package for the consumer field with excellent immediate change-over possibilities for CR requirements. While the market increased for this type of packaging concepts in the Child Resistant Packaging during this period, because of still a slightly higher package cost problem over the multiple package, it was not then ready to be a replacement competitor to the multiple bulk dosage package.

I feel confident that this new challenge for Tamper Control Packaging on this turn around will find that the new materials, equipment, processings, and machinery will definitely make the blister and card packaging fields a much more competitive economical package to the old standard multiple bulk dosage package.

I only hope that we do not find ourselves retrogressing back to the recloseable paper carton packaging for the now ingestible foods (Non-Reclosable Containers).

For your reference, I have attached a list of suppliers who could be of help in the Tamper Control Packaging requirements. Bands, blisters, Seal Disco, Pressure Sensitive Tape, Tamper Indication Closures, Heat Sealing Tapes.

SUPPLIERS:

A. Bands (Cellulose)

Ampak, Ltd.
Bagcraft Corp. of America
Berk, O., Co.
Braun, W., Co.
Colonial Transparent Products Co., Inc.
Container Industries, Inc., Indianapolis
Container Co. Div.
EM-CO Container Corp.
Louisville Container Co.

Metco Packaging
Metcraft
National Packaging Corp.
Rabinowitz, J. & Sons, Inc.
Riekes Container Co.
Smith Container Corp., Div. of
H. Smith Bottle Supply Co.
T.C.B., Inc.
Thatcher Plastic Packaging
United States Steel Corp.

B. Bands (Foil)

Able Displays, Inc., Div. of Able National Corp.
Applebaum Tag & Label Corp.
Fleming-Potter Co.
Package Containers, Inc.

C. Bands (Plastic)

AAA Brands Plastic Industries
Arrow Plastic Products, Inc.
Bagcraft Corp. of America
Braun, W. Co.
Bunn, B.H., Co.
Carlson Sys. Eng.
Chicago Staple & Shipping Supply

Innovation Packaging, Inc.
Kols Containers, Inc.
Metco Packaging
Metcraft
National Plastics & Supply Corp.
Peerless Packages, Inc.
Rainbow Ribbons & Fabrics, Inc.

Colonial Transparent Products Co., Inc.
Design Packaging Co.
Eastern Tag & Label, Div. of Labelab, Inc.
EM-CO Container Corp.
Gilbreth International Corp.

Riekes Container Co.
Seal Bag Co.
Speedmaster Packaging Corp.
T.C.B., Inc.
Thatcher Plastic Packaging

D. Blisters

AAA Brands Plastic Industries
A2Z Packaging Systems, Inc.
American Packaging Corp.
Andex Industries, Inc.
Bardes Plastics, Inc.
Belco Engineering, Inc.
Boord, Clarence & Sons, Inc.
Boxmakers Div. of Warner Packaging,
Rexham Corp.
Display Pack, Inc.
Dougherty Brothers Co.
Electro-General Plastics Corp.
Gary Plastic Packaging Corp.
Globe Industries, Inc.
Gordon, L., & Son, Inc.
Hopple Plastics, Inc.
International Packaging & Development Co.
Jabero, Inc.
Laffer Industries, Inc.
Mankato Corp., Sub. of Bemis Co.
Marvell Pharmacal & Packaging Co.
Package America
Packaging Coordinators, Inc.
Packaging Systems Corp.
Panoramic Corp.

Brookdale Plastics
Bryan Mfg. Co., Inc.
Centrex Products, Inc.
Cheshire Molding Co.
Cinpac, Inc.
Clear-Vu Packaging Corp.
Colonial Packaging Corp.
Contour Packaging Corp.
Custom Merchandise Corp.
Placon Corp.
Plas-Form, Inc.
Plastofilm Industries, Inc.
Plaxall, Inc.
Precision Formed Plastics, Inc.
Prescotech
Preservation Packaging, Inc.
Pressure Moulded Plastics, Inc.
Risdon Corp.
SLM Mfg. Corp.
Sealy Plastics Corp.
Showcase Industries
Sibbkis Packaging Systems, Inc.
Techform, Inc.
Wells Badger Industries, Inc.
General Packaging Services, Inc.

E. Seal Discs Liners & Equipment

San-Cap Alliance, Inc.
3M Company
Poly-Seal Corporation
Essex Chemical Co.
Lepel Corporation
Pillar Corporation
Action Technology Co., Div. of Dart
Industries
Action Technology, Div. of Dart
Industries
American Can Co.
Arvey Corp., Lamcote Div.
Ball Packaging Products Inc.
Continental White Corp., A Member
of the Continental Group, Inc.
EM-CO Container Corp.

Ethyl Corp., Plastics Group
Grace, W.R. & Co., Dewey & Almay
Chemical Div.
J. S. Plastics, Inc.
National Novelty Brush Co.
Poly-Seal Corp.
Product Design & Engineering, Inc.
Research Sales, Inc.
St. Regis Paper Co.
Seal Bag Co.
Selig Sealing Products, Inc.
Staff Gasket Mfg. Corp.
Tekni-Plex, Inc. General Felt
Products Div.
Tri-Seal International, Inc., A
Sub. of Atlantic Research Corp.
Whittaker Coatings & Chemicals,
Providence Div.

F. Pressure Sensitive Tape

A.D.M. Corp.
AGP Industries, Inc.
Adohem Corp.
Adhesives Research, Inc.
Adhesive Tape Corp.
Air-O-Plastik Corp.

Alliance Paper & Packaging Co.
American Can Co.
Anchor Continental, Inc.
Apex Specialty Products Co.
Applebaum Tag & Label Corp.
Arlin Mfg. Co., Inc.

F. Pressure Sensitive Tape (con't)

Armak Co.
 Arno Adhesive Tapes, Inc.
 Automation Fastening Co., Inc.
 Bader Brothers Bag Co.
 Borden Chemical Div. of Borden, Inc.
 Brady, W.H., Co., Industrial Prod., Inc.
 CHR Industries, Inc. An ARMC Co.
 Cadillac Plastic & Chemical Co.
 Canadian Technical Tape, LTD.
 Cantech Industries, Inc.
 Chemplast, Inc.
 Chemtrol Adhesives, The Chicago Gasket Co.
 Chicago Staple & Shipping Supply
 Coated Products, Inc. Sub. of Essex Chemical Co.
 Coating Products, Inc.
 Coburn Corp.
 Cowa Tape Co., Inc.
 Custom Coating & Laminating Corp.
 DRG Packaging
 Daubert Coated Products, Inc.
 Dehnco Equipment & Supplies, Inc.
 Devon Tape Corp.
 DeWal Industries
 Dielectric Polymers, Inc.
 Durable Packaging Corp.
 Emblem Tape & Label Co.
 Essex Chemical Corp.
 Exeter Paper Div., Schwarz Paper Co.
 Fasson, An Avery International Co.
 Firstline Corp.
 Fitchburn coated Products, Div. of Litton Industries
 Fluorglas Div., Oak Materials Group
 GPS Corp.
 Garland Mfg. Co.
 Gerrard, A.J., & Co.
 Houston, Harold, & Co.
 Ideal Stencil Machine & Tape Co.
 Impact Label Corp.
 Indenco, Inc.
 Joanna Western Mills Co.
 Kandall Co., The Kirchheimer Bros. Co.
 Kwik Wrap, Inc.
 Lamart Corp.
 Lawrence Packaging Supply Corp., R. Downing
 Levine Industries
 Lord Label Co.
 MACTac (Morgan Adhesives Co.), Sub. of Bemis Co.
 Malow Corp.
 Manhasset Machine Co., Inc.
 Mark-Pack, Inc.
 Marsh of Chicago, Inc.
 Mason Box Co.
 Millar Geo. W., & Co., Inc.
 Mutual Paper Co., The Mystik Corp.
 Nashua Corp., Industrial Tape Div.
 National Plastics & Supply Corp.
 Neeco Industries
 Norel Paper Corp.
 Packaging Pioneers, Inc.
 Permacel
 Prata, J.B., Ltd.
 Pratt-Spector Corp.
 Prescotech
 Pressure-Sensitive Tape Council
 Q-A-1, Inc.
 Reliable Plastics, Inc.
 Riley & Geehr, Inc.
 Rippl Printing & Packaging, Inc.
 Royce Bay Mfg. Corp.
 Sanderit Corp.
 Seal-O-Matic Co.
 Sealed Air Corp.
 Shuford Mills, Inc., Tape Div.
 Sohn Mfg. Co.
 Stik-II Prod., Division of the October Co., Inc.
 Supreme Packaging
 T & F Industries Co.
 TFE Industries
 Taconic Plastics, Inc.
 Tape, Inc.
 Tapecon Label
 Tearstrip Systems, Inc.
 Tesa Corp.
 3M Co., Packaging Systems Div.
 3M Co., Product Identification of Converttee Systems Dept.
 Topflight Corp.
 Tuck Industries, Inc.
 Uline Enterprises
 Western/Sinclair
 Wilton Packaging, Div. of Wilton Corp.
 Woodbine Enterprises, Inc.
 York Tape & Label Corp.
 Zellerbach Paper Co.
 Zippertubing Co.

G. Tamper-Indicating Closures

American Flange Mfg.
 Ampak, Ltd.
 Anchor Hocking Corp.
 Associated Bag Co.
 Berman Bros, Inc.
 Champion Packages, Div. Champion International Corp.
 Moldcraft, Inc.
 National Packaging Corp
 Newmapak, Ltd.
 Northwestern Bottle Co.
 Owens-Illinois, Inc.
 P.X. Industries, Inc.
 Packaging West, Inc.
 Phoenix-Selig Sales, Inc.

Clayton Corp.
 Closure Systems International, Div.
 Aluminum Co. of American (Alcoa)
 Container Industries, Inc. Indianapolis
 Container Co. Div.
 Container Technologies, Inc.
 Continental Glass Co.
 Continental White Corp., A Member of
 The Continental Group, Inc.
 Crown Zellerbach Corp., Gaylord Div.
 Deniseal, Inc.
 Double R Enterprises, Div. of Rostan Corp.
 Eastern Cap & Closure Co.
 EM-CO Container Corp.
 Empire State Bottle Co., Inc.
 Ethyl Corp., Metal Products Div.
 Ethyl Corp., Plastics Group
 Ethyl Metal Products Div.
 Fleming-Potter Co.
 Gilbreth International Corp.
 Gutmann, Ferdinand, & Co.
 H-C Industries, Inc.
 Imperial Plastics, Inc.
 J.S. Plastics, Inc.
 J.S. Plastics, Inc.
 KLM Co., The
 King Plastics, Inc.
 Kois Containers, Inc.
 L & M Sales Co.
 Lochman, Philip, & Co.
 Louisville Container Co.
 Lumelite, TLB Plastics Corp.
 M & H Precision Plastics
 Metco Packaging
 Metcraft
 Albert Mojonniere, Inc.
 Poly-Seal Corp.
 Product Design & Engineering, Inc.
 R.J. I. International Corp.
 Rabinowitz, J., & Sons, Inc.
 Reliable Plastic Products Co.
 Rieke Corp.
 Riekes Container Co.
 Risdon Corp.
 Sanderit Corp.
 Seaquist Closures
 Smith Container Corp., Div. of
 H. Smith Bottle Supply Co.
 Stull Engraving Co.
 Sun Coast Plastic Closures, Inc.
 Sunbeam Plastics Corp.
 TLB Plastics Corp.
 Tolas Corp.
 Waterbury Companies, Inc., Div. of
 Talley Industries, Inc.
 Weathershem Corp.
 West Co., The
 Wheaton Scientific

H. Heat Sealing Tapes

Adchem Corp.
 Adhesive Products, Inc.
 Adhesives Research, Inc.
 Apex Specialty Products Co.
 Automation Fastening Co., Inc.
 Bemistape
 Borden Chemical, Div. of Borden, Inc.
 CHR Industries, Inc., An ARMCO Co.
 Coated Products, Inc. Sub of Essex Chemical Co.
 Custom Coating & Laminating Corp.
 De Wal Industries
 Dielectric Polymers, Inc.
 Emblem Tape & Label Co.
 Exeter Paper Div., Schwarz Paper Co.
 Fluorglas Div., Oak Materials Group
 Impact Label Corp.
 Jacobs, Louis, & Son, Inc.
 Lamart Corp.
 Malow Corp.
 Manhasset Machine Co., Inc.
 Milar, Geo. W., & Co., Inc.
 National Plastics & Supply Corp.
 Packaging Pioneers, Inc.
 Peters Equipment Corp.

Rexford Paper Co., Div. of Inland Container Corp.
T & F Industries Co.
Taconic Plastics, Inc.
Tape, Inc.
Terrell Corp., The
Tesa Corp.
3M Co., Packaging Systems Div.
Vijuk Bindery Equipment Inc.