2007 Corrugated Technical Program
October 30 – November 1
Indianapolis Convention Center
Indianapolis, IN USA

The program sessions will be divided by key topics and participant size for each topic will be kept small to allow for maximum learning effectiveness. Industry experts for each topic will give a 30 minute presentation which will be interactive and hands-on. After each presentation/demonstration there will be 10 minutes of problem solving and Q&A. Attendees are encouraged to bring their questions and problems to the sessions for discussion. Presentations will be repeated every 40 minutes during the session time allotted.

Sessions will be repeated on the second day to allow attendees to benefit from the maximum number of topics and also to allow companies to send multiple employees on separate days

Tuesday, October 30, 2007 9:00 am – 11:15 am
Repeated on:
Wednesday, October 31, 2007 9:00 am – 11:15 am

Corrugator/Corrugator Maintenance

Session Moderator, Jim Carbone, Harper Love Adhesives

1. Starch Make-up and Water Treatment

Presententers: Roman Skuratowski, Corn Products & Bob Lantz, Ringwood

A slide show will be combined with tabletop demonstrations of adhesive mixing and testing

2. Singlefacer & Glue Machine

Presenters: John Sofinowski, MarquipWardUnited, Joe Finke, MarquipWardUnited, Jack Wallace, Packaging Corp of America Keith Lansdale, Packaging Corp of America

This workshop will focus on the operation and maintenance of single facers and glue machines and how these machines relate to overall corrugated board production. Demonstrations and tips will also be given for better viscosity control. Topics to be covered will be:

- Critical factors(heat/steam, starch, moisture and pressure) as they relate to corrugated board production
- Housekeeping and maintenance programs and how they profoundly influence quality and production of corrugated board
- Symptoms of poor corrugated board production and their root causes

3. Liner and Medium Properties and Their Relationship to Corrugated Board

Presenters: Jeff O'Cull, Temple Inland, Pat Pochiro, International Paper, Paula Henderson, Temple Inland

In this informative and hands on workshop attendees will learn about five important paper characteristics, how to test for them and how those characteristics affect the corrugated board. Through demonstrations of the test methods and open discussion you wil learn about ring crush, burst, concora, cobb and moisture.

4. Corrugated Board Quality Testing

Presenters: Jamie Adams, Weyerhaeuser Company, Carlton Mathews, Smurfit Stone Container, Dwyer Griffin, International Paper

This presentation will allow attendees to:

- Identify the key quality checks for board off the corrugator
- Understand the key characteristics of the test methods as they are being demonstrated
- Recognize how these quality checks impact box performance

5. Board Quality Analysis at the Corrugator Dry End

Presenters: Dave Vollick, Smurfit Stone Container & Chuck Shaffer, Weyerhaeuser Company

This presentation will focus on standard checks that should be made by dry end personnel in the daily operation of the corrugator to provide the best product that will meet customer needs. It will also review additional board check options to deal with specific customer issues as well as use samples to discuss board quality and provide reference sources for dry end defects.

6. Heat Transfer on the Corrugator

Presenters: Steve Schmidt, Copar Corporation, Bob Montgomery, Cleaver-Brooks, Craig Machamer

This presentation will include:

- Temperature vs heat (what is the difference?)
- Corrugator temperature measurement techniques for paper, traps and hot plates
- Steam traps: selecting the right type of trap for the application, trap installation principles and trap testing
- Rotary steam joints and siphons: selection, installation and maintenance
- Energy conservation – methods and procedures

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Converting/Converting Maintenance

Session Moderator, Steve Woodard, ARC International

1. Improving Productivity with pH Stable Inks

Presenters: Bob Cantu & Charles Hague, Sun Chemical

Some of the commonly asked questions about pH stable inks which will be addressed include:

- A lot of time is spent monitoring and adjusting pH during a production run. Heavy bodied inks and wide viscosity swings have kept my operators from really printing high quality work at faster speeds. Will we eliminate those issues if my operators switch to pH stable inks?
- Color consistency is a problem throughout a run. How will pH stable inks minimize the problem?
- What kind of cleaning solutions should I use with pH stable inks?

2. The Ink Metering Marriage: Anilox Rollers & Doctor Blades

Presenter: Jean Jackson, Allison Systems

The goal of the ink metering system is to deliver a uniform and predictable ink film for consistent color and print quality. What are the critical elements of the anilox roller and doctor blade metering systems and how do they interact? With increasing productivity and quality demands, it becomes critical that the metering system is optimized and in control for your print and press requirements. Come and learn how to get your metering system in control.

3. The Fingerprint and it's Continuing Use on Every Job

Presenters: Cordes Porcher, Packaging Corporation of America, Scott Gilbert, Smurfit Stone Container Corporation

Points of interest covered in this presentation:

- When to, and when not to fingerprint your press
- The difference in fingerprints – characterization…..optimization
- It is a team approach: Fingerprint Design – Who is on the team? What are their roles?
- Once you fingerprint, what do you do with the information?
- What is the importance of fingerprinting your machine on every run?
- The fingerprint results in everyday production – learn what other industries do with their targets…..and why your customers will ask for them!

4. Impact of Equipment on Structural Design

Presenters: Rick Putch & John Harmon, Dicar Inc.

The influence of structural package design as it relates to various converting equipment will be explained. To maximize diecutting efficiency, one must realize how package design influences equipment throughout. Avoiding "skinny slots", scoring laminated to sheets with counters and reducing waste within a design will all be reviewed in detail. Attendees are encouraged to bring samples from the troublesome jobs for solutions to their specific problems.

5. Converting Equipment Maintenance

Presenters: Rick Croker & John Troyke, Gerogia Pacific Corp.

This hands on presentation discusses basic press mechanical audit checks and techniques including use of a dial indicator, caliper, durometer and Pi tape. Come and learn what the basic items are that you should inspect and how to read a Pi tape and why these checks are important.

These checks should be part of the normal PM program but often are not!

- Basic items to inspect
- How to read a Pi tape
- Why these checks are important

6. Manufacturers Glue Joint Best Practices

Presenters: Rhonda Nichols, International Paper, Frank Charbonneau & Annick Ensley, Smurfit Stone Container

Attendees will:

- Understand minimum requirements for making a god glued box joint
- Be able to troubleshoot problems related to corrugated glued box joints
- Share knowledge with their team using the best practices guide (special take home)

7. Maximizing Box Compression Potential

Presenter: Dave Carlson, Fibre Box Association

The attendee will come away from this presentation with all of the basic knowledge required to maximize box compression potential from roll stock procurement, through the corrugating process and through the finishing/converting operations in a typical box plant.

Tuesday, October 30, 2007 9:00 am – 11:15 am
Repeated on:
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HRD/Safety

Session Moderator, Scott Ellis, P Squared

1. The Value of Training

Presenter: Bill Baggett, Bates Container

This presentation will illustrate how tasks may seem impossible/improbable for employees until training that instills confidence is provided. Effective training has a positive impact on employee retention. How to develop successful training and initiatives in a cost effective manner will be discussed.

2. Breaking the Cycle of At-Risk Behavior

Presenter: Gary Higbee, Higbee & Associates, Inc

Have you ever wondered why people do the things they do? Now is your chance to find out as we address not only why people do what they do, but why they think that what they do makes sense. The presentation is a fun fast moving look at what it takes to become a world class safety organization. Fasten your seat belt and go along for the ride as we use stories, examples and humor to bring home the point of what it takes for excellence in safety performance.

3. Visual Standards for Best Practices, aka Building a New "Our Way"

Presenter: Les Pickering, P Squared

Imagine the advances in productivity you will gain when all operators follow the standards of your ***best*** operator. Workshop participants will build a SOP and learn how to create Visual Standard Operation Procedures with their crews. The result will be greater productivity, consistency and accountability.

Tuesday, October 30, 2007 1:30 pm – 2:30 pm
Repeated on:
Wednesday, October 31, 2007 1:30 pm – 2:30 pm

Industry Innovations

1. **Lean Manufacturing**
   Presenter: Ron Lund, Georgia Pacific Corporation

2. **Robotics**
   Dave Ahrendt, Alliance Machine Systems

3. **Digital Printing**
   Phil Dempsey, Poteet Printing Systems

The 3 Industry Innovations presentations are FREE to all box plant employees – even if you are not a paid conference registrant!

Thursday, November 1, 2007

7:45 am – 9:15 am

What's New Technology Showcase Presentations

Nine presentations will be given, each one highlighting a new product or service in the industry.

9:15 am – 9:45 am

Committee Awards and Division Scholarship

10:00 am – 10:15 am

TAPPI Update

Larry Montague, TAPPI President
Craig Garbarini, Corrugated Packaging Division Chairman

10:15 am – 11:00 am

AICC China Trip Update

Steve Young, AICC

11:00 am – 12:30 pm

Technical Paper Session

Session Moderator: Michael Schaepe, Institute of Paper Science and Technology at Georgia Tech

Shear Measurement to Detect Combined-Board Crushing Effects

Presenter: Roman Popil, Institute of Paper Science and Technology at Georgia Tech

Corrugated board in production endures varying degrees of crushing from stacking, transfer, die cutting, printing, and other corrugating and converting operations. Thus production corrugated board has a measurable loss of shear stiffness from converting operations which reduces its potential buckling load resulting in loss of box performance and lifetime. Measurements of flat crush hardness or transverse shear stiffness have been shown to be greatly affected by board crushing. A newly available and convenient non-destructive method using sonically induced shear (Board Quality Measurement or BQM) is compared to a known torsion pendulum technique for validation. The results indicate that the effect of board crushing can be sensitively detected using these methods. Shear measurement can provide clear information regarding the effects of converting operations on board mechanical quality and provide an opportunity to minimize the impact of these operations.

Revisiting Paper Strength Measurements for Estimating Combined Board Strength

Benjamin Frank, Packaging Corporation of America

The Ring Crush (RC) test and the Short Span Compression (STFI) test can both be used to evaluate the compression strength of corrugated board components, and can both be correlated with combined board strength. Because each test evaluates paper strength at a different length scale, the correlations are not of equal quality. We find that the RC test correlates better with ECT strength of corrugated board, even when only a few RC specimens are used to evaluate the RC strength of the paper, and even when variations due to multiple combining sites are included in the analysis. We can relate the difference in correlation to the difference in failure mechanism within each paper test in relationship to the failure length scales in combined board. This paper will help readers understand differences between the Ring Crush and Short Span Compression (STFI) test methods for evaluating paper strength, and identify why they do not equally relate to the edge crush performance of corrugated board.

The Influence of Variability in Paper and Box Properties on Lifetime

Douglas W. Coffin, Department of Paper and Chemical Engineering,Miami University

The ability to predict box lifetime could greatly aid in improving the design of corrugated boxes, and open the door to new reductions in basis weight of liners and medium. Over the past 50 years there have been numerous studies to investigate the lifetime of boxes subjected to compressive loads. The resulting creep deformation is what leads to ultimate failure of stacked boxes and determines the lifetime. It is well known that conditions of variable humidity lead to shortened lifetimes. Despite the numerous studies of lifetime, box design has not been greatly affected by an increased knowledge of lifetime mechanism. One reason for this is that lifetime is difficult to predict. The ideal case would be to predict lifetime for a given compressive loading. The aim of this presentation is to discuss how variability in the properties of paper and board can have a major impact on creep and lifetime. The discussion will reinforce the view that improved product uniformity maybe the most efficient way to eliminating cases of low lifetime and allow for further reductions in box weight.