

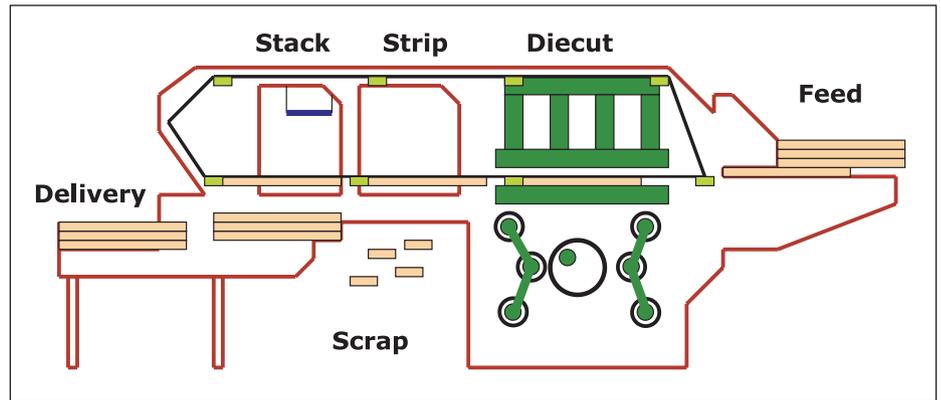
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# The Corrugator

OFFICIAL MAGAZINE OF FEDERATION OF CORRUGATED BOX MANUFACTURERS OF INDIA

January - March 2016





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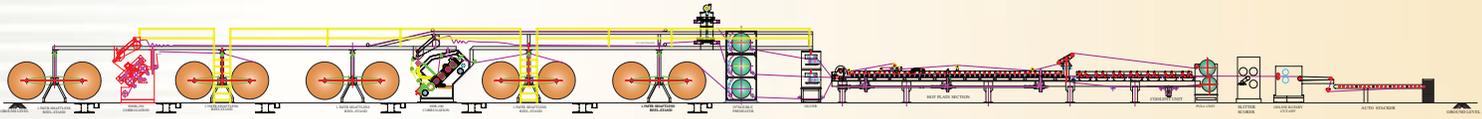
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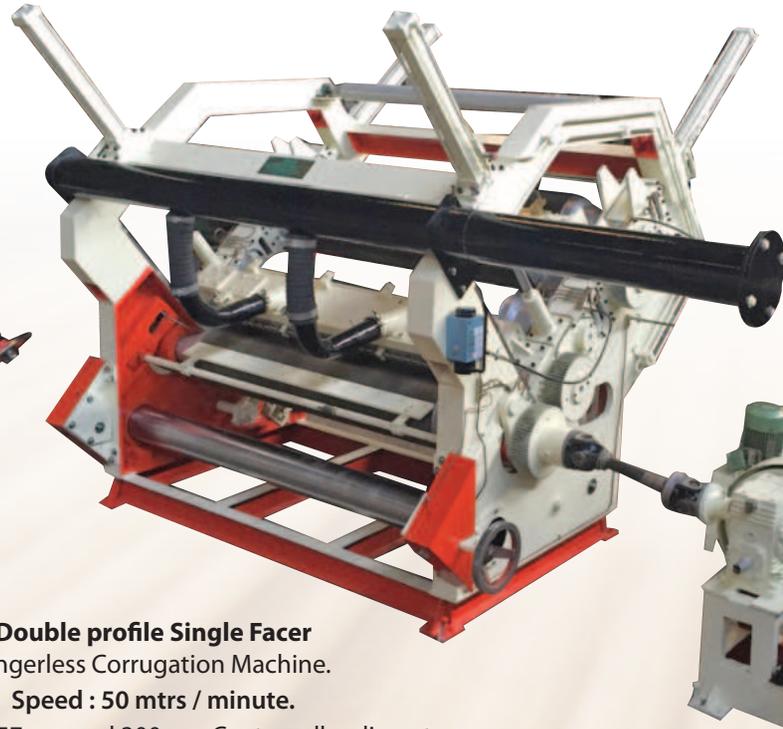
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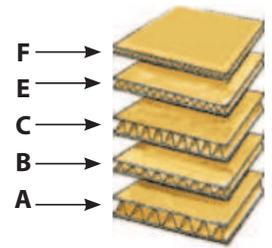
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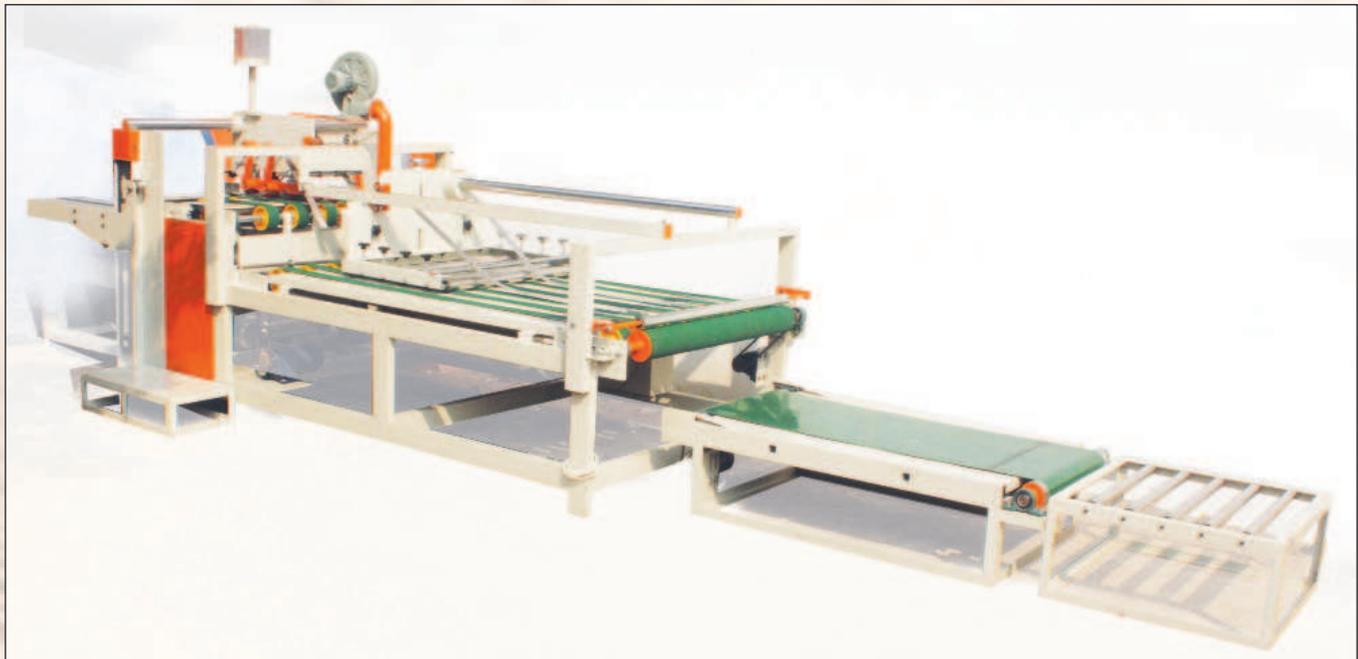
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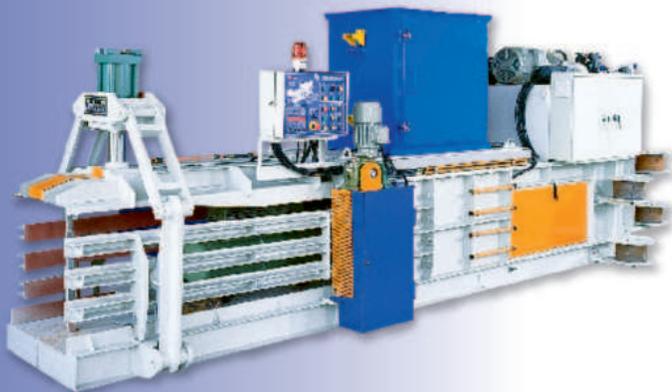
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January - March 2016



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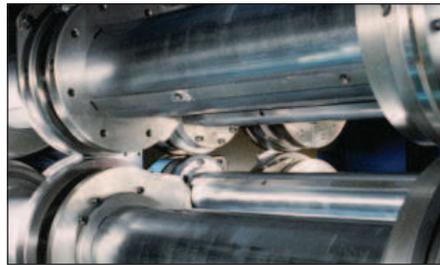
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A Cost Effective Solution



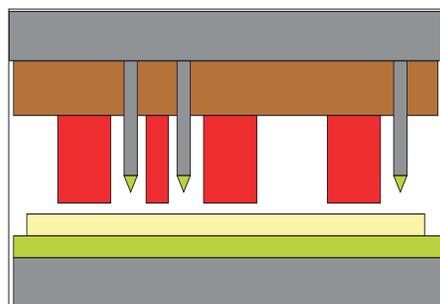
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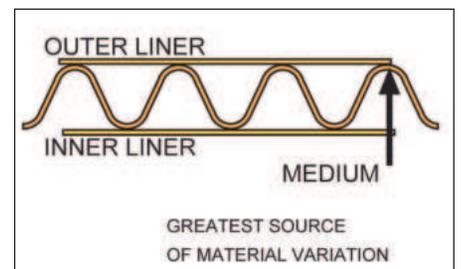
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# THE EDITORS' PAGE

## EDITORIAL BOARD



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Greetings from the new Editorial Board. Forming of Editorial Board is an initiative by our New President Mr. N. X. George.

Inclusion of eminent FCBM Members in the Editorial Board will infuse new ideas and thoughts into the content and style of our magazine.

-----  
All seem to be not so well at the ground level on the country's economic front.

Although the Union Budget has been complimented for sticking to the fiscal deficit target of 3.5% of GDP for 2016 - 17 the much needed push for economic upsurge seems to be wanting.

The Finance Minister is hopeful that there is a larger constituency backing reforms than those opposed to it and credited former Prime Minister P. V. Narasimha Rao's efforts to unshackle the economy.

He added "India realised that only when you grow faster that you pull up a major part of people and start a lot of poverty alleviation programmes".

Foreign Investors Infuse 11000 Crore in Stock Market in March on continued hopes that RBI would reciprocate to the government's commitment to fiscal prudence with a rate cut sooner than later.

Exports have been falling for the 15th consecutive month, dipping to 5.7% in February. Imports have declined by over 5% .

And on our own home front, the continuous and steep rise in paper costs have pushed the industry into a crisis.

Let us hope the new financial year will bring relief, hope and cheer.

-----  
This quarter has been quite active for the Federation. Our new President Mr. N. X. George has outlined various measures to infuse vibrancy into FCBM activities.

EICMA organised a very grand programme on 'Chai pe Charcha' and 'What's Up?'

The Managing Committee Meeting at Noida was well attended.

SICMA organised a seminar on Taxation

Seminars were also organised by Rajasthan Association and Gujarat Association.

WICMA had conducted their regular Certificate Course in Corrugated Packaging – which is now one of the most sought after courses across the country.

All these and more are featured in this issue.

Mr. Greesh Sardana, Vice President I will lead the FCBM delegation to Sino Corrugated South – the 4 in 1 Mega Expo for the whole packaging industry chain.

We are sure the members will witness the latest trends and developments in the packaging industry. Such exposure will surely trigger the progress and development in our industry.

-----  
Diecut boxes have become the most preferred type of corrugated boxes for packing variety of products.

Diecutting technology is still at a nascent stage in India.

Thanks to our association with IADD – the International Association of Diecutting and Die Making – we are able to bring to the readers latest trends and technologies in dies and diecutting. The relationship is mutual since IADD also reprints some articles from The Corrugator. There are two articles shared by IADD in this issue.

This issue also features an eye opener article from Packworld on how the testing has shown that Corrugation Process Destroys Bacteria. This article sent by Mr. Manohar Shetty will also be a USP for corrugated boxes.



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# PRESIDENT'S MESSAGE



N. X. George

*Dear Friends,*

It has been a vibrant and hectic quarter since I assumed office of the President of FCBM.

The Union Budget has been generally hailed as positive with valuable focus on rural sector. It is laudable that the FM has managed to contain the fiscal deficit. Aadhar Bill also got through. There is hope that other measures will be taken to push the reforms forward at a faster pace.

The Budget does not have any direct impact on our Corrugated Packaging Industry.

One of the major problem plaguing our industry is the frequent increases in kraft paper prices and the cohesive tactics adopted by Paper Mills.

During the current quarter few of our regional associations had organized Technical Seminars on topics of relevance to their members.

The Managing Committee Meeting at Noida was very successfully organized by UPCBMA.

One very welcome initiative of the UP Association was the introduction of the next generation young corrugated industrialists to the MC Members. This is a very welcome step and other Regional Associations must emulate this initiative. It was very heartening to see qualified and efficient youngsters coming into Corrugating Industry. Youngsters got the opportunity to interact with experienced elders who in turn must have heaved a sigh of relief knowing that the youngsters will follow.

We are moving forward in digitization of our “CORUUGATOR”—one of the steps I had suggested on taking office.

I do hope the momentum will continue and we will have even more vibrant activities during the year.

Our Vice President Mr. Greesh Sardana will be leading a delegation of our members to Sino Corrugated South. I am sure our members will return enriched with the latest trends and developments that will help them to prepare on their road ahead.



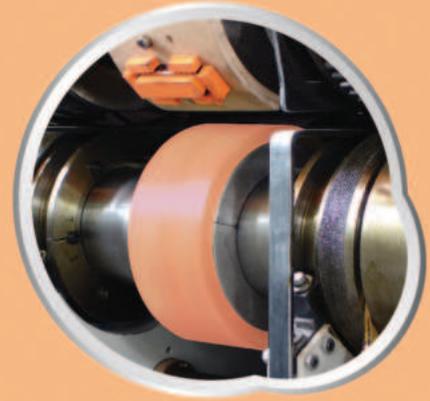
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# The Inside of the Slotter Section

**First of all, I trust that everyone is surviving the winter of 2106!! The Blizzard that hit the East Coast January 22 and 23, 2016 was a real challenge. Many cities and counties had 25 + inches of snow. The Weather People were really accurate on this one!**

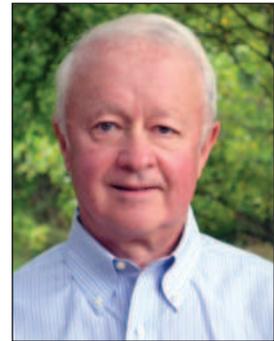
During my recent series of articles, I have discussed in detail methods and tools that we all can use in producing a better box or shipping container that meets or exceeds our customer's requirements. I have discussed machine settings, control functions and particular points that we need to understand in the box making industry. This time, I want to take an opportunity to review some good old fashion engineering that we should review in the slotter section. There are several designs available that should be understood and a series of tolerances that need to be followed.

We must always remember that it is important to deliver a consistent and predictable caliper sheet to the slotter section all the time. Maintenance and machine crews need to review and verify the machine settings in order to control and minimize caliper loss. How can we expect to slot and score with some consistency if the product that we deliver to the slotter section is not consistent itself? We must also be diligent in measuring the caliper of incoming stock for every order. We can then properly set the rolls in the feed section so as the sheet travels through the press, we loose no more than 0.003" (0.08 mm) board caliper in the sheet itself.

Now, lets discuss slotting. The slotter head assembly consists of four sets of male and female slotter heads. The design and application of the slotting heads is critical and should be understood. The tool steel (HARDENED STEEL) that is used in manufacturing slotter heads generally is delivered to the plant with Rockwell Hardness of 57 on the "C" scale. It is

important to maintain the hardness of the steel so that the blades themselves will last a long time while delivering consistent and clean slotting. Over time, the metal does get softer as the sustainability of the hardness is simply a function of time and temperature. When slotter head assemblies are improperly set, too tight, the color of the heads can turn blue as a result of the of high temperatures caused by the slotter heads rubbing against the female slots. The higher the temperature of the slotter head itself, the time function or the life cycle of the slotter knife becomes shorter. Please note: The high temperatures that I am discussing here is when the steel turns blue as temperatures rise above 750 degrees "F"(399 degrees "C"). The high temperature environment causes the grain structure of the steel to relax. The final result is softer steel and a slotter head that offers poor slotting performance.

It is also important that our friends in maintenance understand and properly set the male and female slotter head assemblies. The thickness of slotter heads are 0.3735" +/- .0005" (9.48 mm +/- 0.02 mm). The width of the slot in the female head is 0.3770" +/- 0.0005" (9.57 mm +/- 0.02 mm). As you can see, these dimensions are very close. The only way to properly set them is to understand these numbers and then accurately set the wear buttons supplied by your particular machine manufacturer in order to assure proper clearance. If they are worn or set too close, the result will be increased slotter head temperature. As stated above, the heads will then turn blue resulting in be premature wear, shorter slotter knife life and poor slotter head performance.



**Dick Target**  
"On Target Consultants"

Note: This can also result in a fire in your scrap system as paper ignites at 450 degrees "F". (232 degrees "C").

Now, lets discuss the design of the slotter knives themselves. In the late 1970's our industry started recycling paper. This introduced a complete new set of challenges and opportunities for the corrugated industry. Around the same time, box plant customers started using automatic case erectors and that changed the performance requirements of our shipping containers. During that time period, the box industry also changed from 1/4"(6 mm) slots to 3/8" (9 mm) slots. The wider slots offered additional clearance for opposing flaps so that they could clear each other in the automatic case erectors.



This then opened up a slot that was not only wider but it showed a ragged slot due to the recycled fibers that were now exposed. Customers were not happy with the irregular slotting they saw on their



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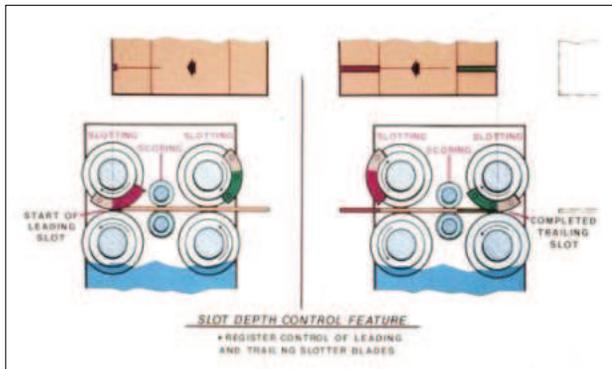


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boxes. At this time, we had to pay detailed attention to the design of the slotter knife itself and its maintenance. The design of the knife says that there are two cutting surfaces 3/8" (9 mm) apart. It is not one 'flat' blade that is 3/8" (9 mm) wide. There must be a valley or relief separating the two cutting surfaces.

You can see the pronounced radius at the bottom of the blade as it enters the slot. The radius must be maintained in order to allow the blades on either side of the slotter knife to penetrate the sheet freely without compressing the paper in between the two knives. This then enables the two blades to actually cut the sheet and not PUNCH a slot into the paper.

Many times, I have seen the following: Worn slotter heads are removed from the slotter section because they are tearing the paper, as both edges are worn smooth and no longer sharp. These slotter knives are then sent out to a local machine shop to be 'sharpened'. They are then returned to the box plant with sharp edges on either side of the knife with the internal radius ground away. This is standard procedure when people who do not understand the proper design and function of a slotter head rework slotter heads. They are doing just what the box plant asked them to do - sharpen the edges! The machine shop's surface grinder also introduces high temperature to the knife. The steel has not only been tempered, it is now no longer a proper slotter knife. The internal radius is gone and the reworked head is now punching and not cutting slots into the sheet. These reworked blades should be removed from the plant and the steel recycled.

Our industry then evolved into the Serrated Slotter Knife. You can clearly see on Page 5, the difference between straight edge cutting and serrated cutting. The straight edge blade is tearing the sheet with obvious results. The serrated knives are actually cutting the sheet in a random / uniform format minimizing the affect of the short re-cycled fibers.

As I have stated above, the radius between the two serrated knives must also be maintained. We have to offer clearance and relief between the two blades in order to cut a clean slot. Please see Page 6 for a proper serrated slotter head. You can see the valley is pronounced and is actually below the bottom of the blades. Again, this is the only way to assure clean cutting and proper slotting.

Another area that has been improved is the sequence of slotting and scoring. Current design Flexos have a design that says that the process scores the sheet first and then slots it. Some slotter sections score the sheet twice and then slots the compressed board. This definitely offers a cleaner looking slot in the sheet.

One other area that I want to discuss is the width and the design of the scoring head. There are different designs and opinions regarding the width and the height of the score bead located in the center of the head. We must remember that the design of the scoring head is a combination of one scoring bead and two shoulders. If you are given a choice, I would suggest that you pick a wider profile scoring bead at least 0.040" [1.1 mm] wide and 0.050" [1.3 mm] high in order to completely crush the sheet during the scoring process. (See illustration XX showing the "Wavy A" Profile.) The Wavy design actually is a wider, wavy type profile that further assists in delivering an accurate and pronounced score. This is necessary as the sheets that we are folding today have a higher resin content with shorter (recycled) fibers. This

paper combination resists the scoring and folding function. We must be aggressive in this part of the process in order to assure accurate scoring and proper folding.

The shoulders on either side of the scoring bead also assist in the folding function. They reduce the caliper of the sheet on either side of the score and allow for clearance in the folding function of each flap. Please note that the working width of the scoring head equals the width of the slot. In previous articles, I have discussed the point that the two scoring heads that score the two "major" flaps should be wider than the two heads that score the two "minor" flaps. Major flaps fold 180 degrees and minor flaps fold on 90 degrees. Again, these are just suggestions as we should be progressive in our thinking regarding the designs and applications of the tooling that we use today.

Please take time to review the contents of this article. These points are important and necessary in processing quality corrugated boxes. We are processing paper products today that have a new set of parameters. Our liners and mediums today are ever changing (lighter weight paper) and we should be up to date and be aggressive in our manufacturing processes. Enjoy Your Job!!

*Dick Target, owner of "On Target Consultants" based in Lower Gwynedd, Pa., has been in the corrugated industry for over 35 years.*

*He has worked in 29 countries developing and guiding corrugated plants in lean manufacturing, vendor development and management training.*

*He teaches Flexo and Die Cutter Calibration "Short Courses" for TAPPI several times each year.*

*Dick also writes for Corrugated Today and International PaperBoard Magazines.*

*The Readers will recall that he is a regular contributor to our magazine.*

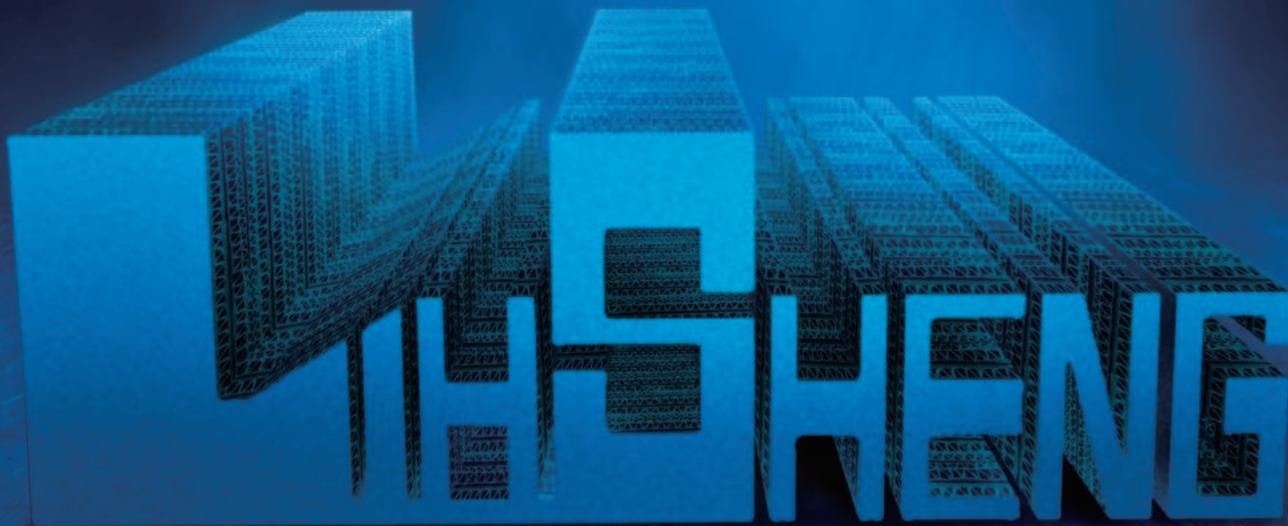
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# 10 Top Trends of 2016

## The Internet World Of Packaging

**The world is one big shopping centre. POS is everywhere. We are in the middle of a revolution. The Internet is simply changing everything: design, marketing and trade structures. This also has far-reaching consequences for packaging, which is playing an even greater role as it moves towards becoming the central element of the buying experience. Pro Carton has looked at the 10 most important international trends.**

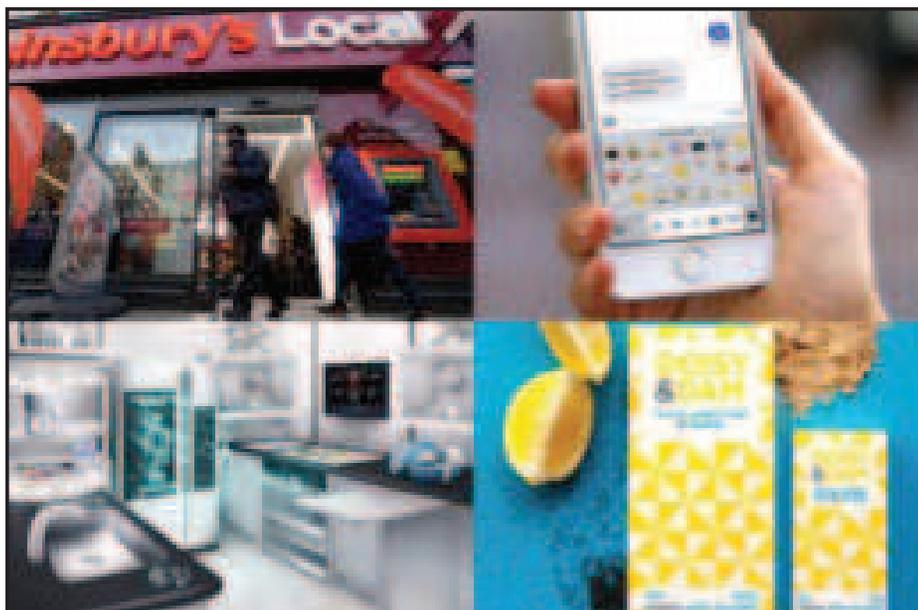
Three current developments are driving these trends: first of all, it still takes customers much too long to key in data. New address services are turning this into a thing of the past. An addressee's name will soon suffice for a gift to be on its way. Alibaba has already gone one step further: in March 2015 CEO Jack Ma demonstrated technology that will allow users to pay 'selfie style' using smartphone face recognition.

Secondly: things announced long ago are now becoming reality – domestic appliances are becoming an interface for retail. Amazon Dash Replenishment Service already allows reordering of detergents via a washing machine sensor. Corresponding partnerships with manufacturers are

ongoing. Gartner, a US consulting firm, estimates that machines linked to the Internet will generate sales of USD 263 billion in 2020.

Third: delivery will speed up considerably. In the UK Argos offers same day delivery 7 days a week for small orders to 90% of households. Amazon UK delivers food and drink items to selected locations in under an hour for GBP 6.99, or free to Prime users, with a minimum basket spend. Ocado offers same day delivery and hourly slots, covering 70% of households.

Overall, information is becoming more and more transparent and services are getting faster and faster. This has a bearing on the entire Supply Chain.



## 1. Design: the end of authenticity

Demonstrative authenticity is a thing of the past. Words such as artisanal “have lost all sense of meaning, value, truth and descriptive weight,” says Martin Raymond, editor-in-chief at The Future Laboratory, a London lifestyle and consumer insight consultancy. What counts is real authenticity, one that does not need explaining. More important than an “authentic” appearance is convincing performance combining technical quality and natural origin.

The anti-authenticity backlash “does not mean that products cannot be authentic, artisanal or crafted,” says Raymond, but “like true luxury, such benefits need to be apparent, manifest and implicit.”



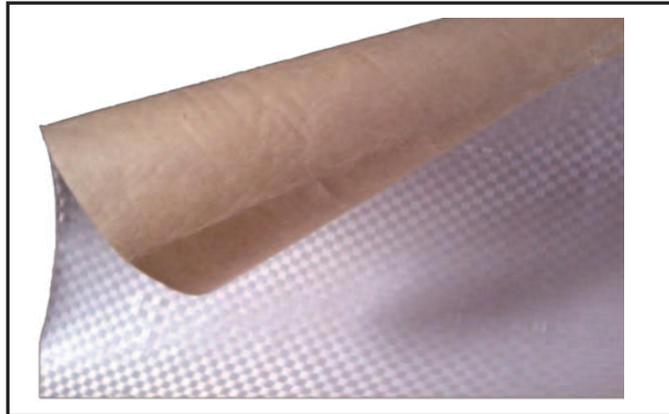
## 2. Design: clear communications

With the growing number of on-pack claims competing for shoppers' attention, consumers are demanding more information about what they are buying but seeking less on-pack clutter that confuses their purchasing decisions. This is perhaps nowhere more apparent than in food, where 58% of UK consumers check ingredient information on product packaging and 76% are concerned about the use of artificial preservatives. Clear and concise information about ingredients, functional product attributes, or even convenience and safety must be communicated with total transparency – a key responsibility brands and consumers are placing squarely on packaging.

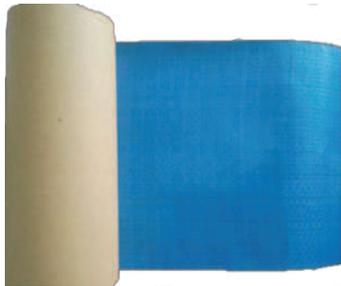


# ToolAsian

## PAPER LAMINATED WOVEN FABRIC



ITEM	PAPER LAMINATED WOVEN FABRIC
MATERIAL	HD/PP FABRIC+ PP LD COATING + PAPER
WIDTH	20 INCH TO 60 INCH +/- 2 INCH, AS AVAILABLE
LENGTH	1500/2000 METERS OR ABOUT 200 KGS
COLOUR	BROWN KRAFT AND WHITE, OTHER COLOURS ON REQUEST
GSM	100 TO 350 GSM
MOQ	500 KGS IN STANDARD SIZE OR MORE
APPLICATION	CORRUGATED BOX, METAL PACKING, STEEL WRAPPING, BAG MAKING, PVC FLEX ROLLS AND OTHER ROLL PACKING
FEATURES	STRONG, DURABLE, WATER / MOISTURE PROOF, COST EFFECTIVE STRONG PACKING MATERIAL
PRINTING	MULTI COLOUR PRINTING AVAILABLE ON FABRIC OR PAPER SIDE
DELIVERY TIME	READY / TWO WEEKS



### ABOUT PRODUCT

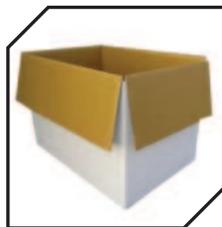
Paper Laminated woven fabric is strong, durable, moisture/water proof high performance packaging material with different strength and specifications, made from the Woven fabric, kraft paper laminated with layers of resin. It protects material from moisture and prevents RUST. Also available with VCI coating is designed for the application in such fields as metallurgy, war industry, machinery, auto parts, electron and hardwares, etc. We can make This Paper Laminated Fabric as per your Specification also.



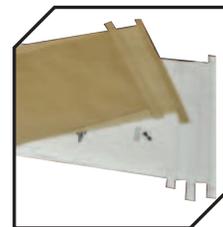
PRINTED CORRUGATED BOX



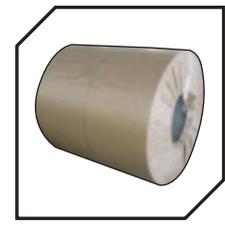
PRINTED PAPER FABRIC



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### 3. Marketing: naturalness becomes the measure of all things

Natural is back – as anxious consumers reject an industrial system that appears increasingly toxic and damaging to health, they are turning toward natural products as a solution. Raised on digital culture, they no longer see nature and technology as mutually exclusive, and are combining the best aspects of both to build New Natural lifestyles. Diet, beauty, wellbeing, mind, body, fitness: all are viewed by the consumer as one big ecosystem to maintain. Brands, once judged on their desirability and products, are now being judged on their value systems, on whether they are innovators, on whether they are promising to change the world.

### 4. Marketing: being honest counts

Having a social mission is no longer a bonus but a core expectation among consumers, particularly millennials. A recent survey of consumer attitudes to brands found that 88 % of UK and US millennials and generation Xers believe brands need to do more good, not just “less bad.” Now companies are taking social good to epic proportions. Lego, aware of the ever-growing number of plastic toys in landfill, has invested USD 150 million into research on sustainable materials. Ikea is dwarfing most governments with its investment in sustainability. The Swedish home retailer has vowed to spend EUR 1 billion on renewable energy. As tech luminary Biz Stone said during South by Southwest Interactive 2015, “The future of marketing is philanthropy.”

### 5. Marketing: sustainable products are preferred

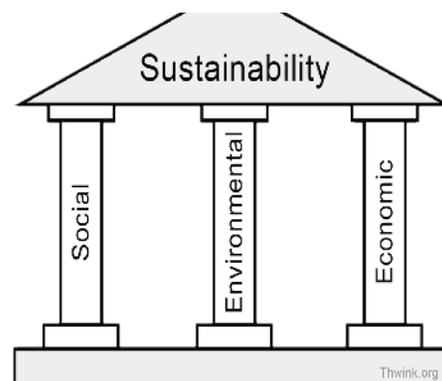
Sustainability is a fundamental future trend. The greater the worries about our



planet grow, the fewer the chances for Plastic & Co. It is true that many consumers do not have the extra budget to spend more on sustainability. However, 63% of US consumers have stated that reusable and repurposable packaging is a key purchasing driver they see as being yet another link in the long and complex green packaging chain. When product price and perceived product quality are equal, consumers will be increasingly turning to these eco- and alternative-use attributes as the deciding purchasing factor. Going forward, brands cannot afford to ignore this.

### 6. Marketing: the brain reveals its secrets

Neuromarketing – a buzzword for years now in the agency world – is finally moving into the realm of serious science and real applications. A study published in the September 2015 edition of the Social



Cognitive and Affective Neuroscience journal found that researchers were able to predict accurately the large-scale outcomes of an anti-smoking campaign by measuring brain responses using an fMRI machine (fMRT, functional magnetic resonance tomography). Compared to traditional methods, the brain data more than doubled the researchers' ability to predict responses to the anti-smoking campaign—a hugely significant and largely unprecedented result for such a study.

### 7. Trade: the three pillars of growth

Growth in the retail trade is based on three pillars: Internet, Discount and Convenience. Larger volumes and store-cupboard items are mainly purchased via the Internet and in discount stores. IGD is forecasting online to be the fastest-growing segment of the UK grocery market over the next five years, almost doubling

in value from GBP 8.9bn in April 2015 to GBP 17.2bn by April 2020. Smaller daily staples will still be purchased in the corner shop. James Walton of IGD: “New openings may be smaller than the usual 3,000 sq ft max with micro-convenience stores of around 1,000 sq ft. Such stores are already commonplace elsewhere in the world (Hong Kong, Japan), but successful operation requires advanced logistics, clever ranging and space

Cont. on - 23



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- Design Speed: 120 - 250 Mtr / Min.
- Economic Speed: 100 - 200 Mtr / Min.
- Production Qty.: 40-300 Ton
- Corrugation Roller Dia: 300 mm / 320 mm / 340 mm / 360mm / 380mm
- Control Panel: Scada Controlled Centralised Panel

**PRICE RANGE: 200 - 450 Lacs**

#### PREMIUM MODEL



### 03/05/07 Ply Automatic Plant (ECONOMIC)

- Design Speed: 100 - 150 Mtr / Min.
- Economic Speed: 60 - 120 Mtr / Min.
- Production Qty.: 25-60 Ton
- Corrugation Roller Dia: 300 mm / 320 mm / 340 mm
- Control Panel: Centralised Controlled Panel

**PRICE RANGE: 80 - 200 Lacs**

#### ECONOMIC MODEL



### High Speed Square Model Single Facer

- Design Speed: 120 - 200 Mtr / Min.
- Flute Roller Design: UV Flute Design
- Corrugation Roller Dia: 320 mm / 340 mm / 360 mm / 380 mm
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- Control Panel: Touch Screen HMI Controlled Panel

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- **Speed:** 120-200 Box/Minute
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- **In-Line Bundling:** In-Line Bundling Optional

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PS-500B



PS-900

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PS-700

1600×3300 mm

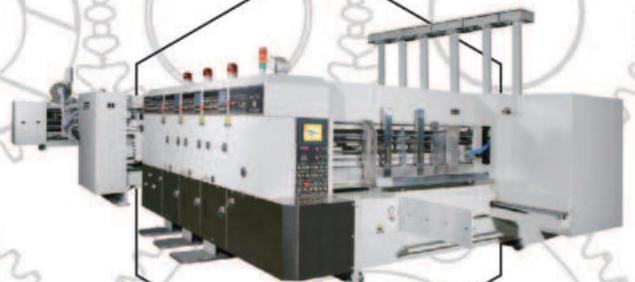
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AFG-5000A

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AFG-2000

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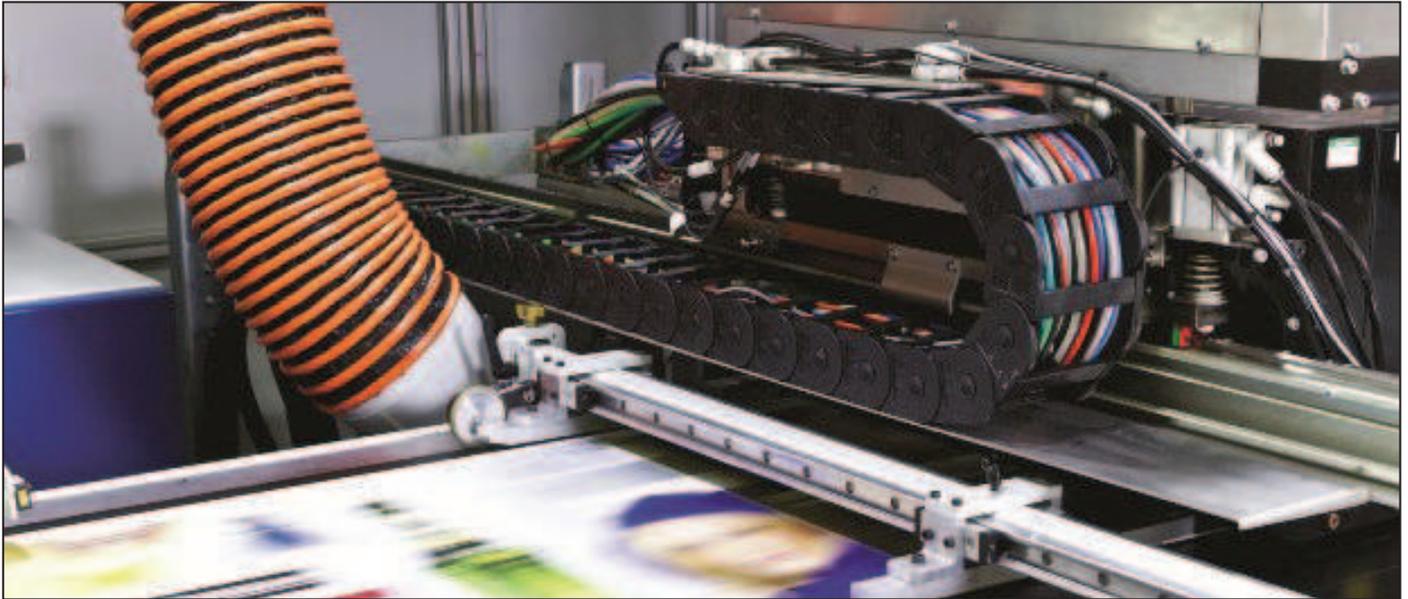


AFG-1500

635×1900 mm



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management skills.” Micro-convenience stores also provide a platform for another key trend – retail ‘hybridisation’. This uses physical stores to bridge real-world and digital operations, for example by offering pick-up points for online orders.

### 8. Packaging: advertising space for ready distribution

What the retail trade needs is ready-for-distribution packaging in different sizes to perform tasks perfectly over all channels and to advertise the products at the POS – wherever that may be. Meanwhile, 39% of UK consumers would like to see a wider range of smaller bottles of alcoholic beverages. As evident by the 50% of health-conscious snackers saying they’d be willing to try a new product if it comes in a small, trial-size pack, as brands’ product portfolios grow, the ability to reach consumers in unique and time-shifting uses means brand-owners must offer a greater range of pack sizes – both larger and smaller. In 2016, following such major downsizing strategies as those by Kellogg’s in 2015, if brand-owners are to overcome the growing lack of consumer brand loyalty, they must create and deliver packaging that consumers see as right-sized for themselves, their families, and shifting uses.

### 9. Packaging: the direct link

There’s a revolution happening in mobile-engaged packaging. Mobile interactions will account for 64 cents of every US dollar spent in retail stores by the end of 2016. But unlike the previous generation of mobile-enabled packaging – which included clunky QR and text codes, as well as often-disappointing augmented reality experiences – this time around, brand owners are tapping near-field communication (NFC) and bluetooth low-energy (BLE) as primary engagement technologies to deliver on the promise that so many first generation mobile engagements either didn’t or couldn’t. Moving forward, as brands clamour for innovative ways to engage and connect with shoppers, the mobile environment will become the new front line in the battle to win consumers’ hearts, minds, and wallets.

### 10. Packaging: a digital print revolution

The unique capabilities of digital printing have captured the attention of retailers, brand owners, and packaging converters around the world. Brought into the global mainstream limelight by the tremendous success of Coca-Cola’s “Share a Coke” campaign, digital printing is capturing brands’ attention by creating opportunities to engage consumers on a local, personal,

or even emotional level. One in five US millennials is seeking custom or personalised packaging, and nearly one quarter of Chinese consumers indicate they would pay more for personalised soft drink packaging. Thus digital printing is positioned to grow well beyond the 10% share of the packaging market it is currently estimated to account for. Mintel believes 2016 will be the turning point for digital package printing, as brands and package converters begin to move beyond using digital primarily for limited editions and personalisation, and begin to capitalise on its economic and speed-to-market advantages for mainstream package decoration.

“As you can see, packaging is facing a number of exciting prospects in the sense that we need to be absolutely ready for the future wishes and needs of consumers and the retail trade”, says Roland Rex, President of Pro Carton. “The entire cartonboard and carton industry is well equipped to meet these challenges and we look forward to the tasks ahead as packaging takes on even greater responsibility in the sustainability arena. We see an amazing dynamic development for packaging in general and look forward to the future novelties and advances in cooperation with the entire Supply Chain.”

Source: [www.procarton.com](http://www.procarton.com)



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Specifications			
Model No.	OMEGA-23 / ES-23	OMEGA-28/ES-28	OMEGA-32/ES-32
Max. Sheet size	700 x 2,000 mm	1,200 x 2,500 mm	1,200 x 2,900 mm
Min. Sheet Size	250 x 600 mm	300 x 900mm	300 x 900 mm
M/C Dimension	2,800 x 12,000 mm	3,100 x 13,000 mm	3,500 x 13,000 mm
Max. Belt Speed	200 M/Min		
Max. Stitching Speed	120 Sheets/Min (OMEGA Model) 100 Sheets / Min (ES Model)		

# Combating Loose Corrugations

Many consider the singlefacer the heart of the corrugator. Single face web is the primary component of all board combinations (including triple wall) and can even be used by itself as a packing material for furniture. Once the medium is formed or fluted in the corrugating labyrinth (where the corrugating rolls meet) it tries to spring away from the lower corrugating roll and therefore must be held in place. Three methods are commonly used to accomplish this: fingers on older machines and positive pressure or vacuum on modern machines. Singlefacers are commonly identified by this characteristic.

Loose corrugations, also called fluff out or blow out, are the most common defect seen in plants today. They appear as intermittent flutes which are distorted or pulled out of shape as they exit the nip of the pressure roll, forming waves along the edge or v-shaped spots in the middle of the web. Let's look at how to identify and correct the most common causes for this type of defect.

## Medium running on or too close to a corrugating roll slot.

This defect appears as large V-shape spots of delamination on the edge of the web. On pressure type single facers it is caused by high-pressure air blowing the edge of the medium into the slot in the corrugator roll. On vacuum machines, if the edge of the medium is too far away from the slot, the vacuum can't hold the edge of the medium during its transition around the

lower corrugating roll. This issue is tricky to diagnose because too much or not enough, pressure/vacuum can also cause loose edge on the singleface web.

## Starch build up on the pressure or corrugating roll.

Unlike the other defects, this will show up as random loose spots on the edge of the web. The singleface operator will often hear the problem before anyone sees it. Starch build up on the rolls will cause them to bounce, making a loud thumping noise. The two most common causes are: running the single face liner and medium out of alignment, or improperly set glue dams. Housekeeping can also play a major role in this type of defect. The largest contributor to most breakdowns, quality issues and jam ups, is poor housekeeping. Crews not understanding the importance of proper housekeeping and taking shorts



cuts to save time, causes a great deal of problems. For example, a dirty glue station can cause poor adhesive transfer and make it very challenging for the operator to set the glue dams.

## Improper gap between the lower corrugating roll and glue roll.

The singleface web may look fine coming out of the nip of the pressure roll, but can be easily pulled apart at the dry-end of the machine. The gap between each adjustable roll on the machine, should be checked and calibrated at the start of every new workweek to ensure the proper settings.

The gap between the glue roll and lower corrugating roll must be set to the caliper of

**“Loose corrugations, also called fluff out or blow out, are the most common defect seen in plants today.”**

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the medium that is running on each order. The most common operator mistake when presented with this issue, is to increase the amount of adhesive film on the glue roll. This will result in starch slinging onto the medium, instead of forming a smooth glue line and could cause post warp due to excess starch application. The soak test will show a spotty glue line on both the singleface liner and medium if the glue roll to lower corrugating roll is not set properly.

**Not enough pressure roll pressure or an out of parallel pressure roll.**

Inspection of the combined board reveals good flute formation and glue pattern on the medium, but light or missing pressure lines on the singleface liner. On most machines, this adjustment is made

by decreasing the distance between the pressure roll and lower corrugating roll or by increasing the loading pressure on the cylinders. If the board is loose on only one side, the pressure will need to be adjusted until parallel. On some machines, this can be accomplished by just moving one side of the adjustment control.

On others, shims are added or removed from the wedge blocks. This adjustment is typically performed by maintenance personnel.

**Here are a few steps that are key to the success of a wellrun operation and will help combat loose corrugations:**

- Training is important, both for the crews and the management team, they must have the ability to consistently do the basics well.

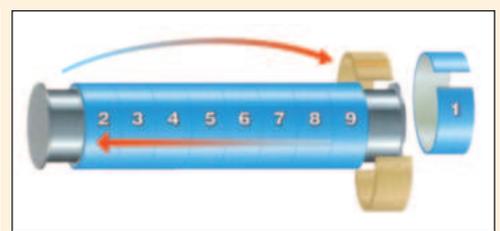
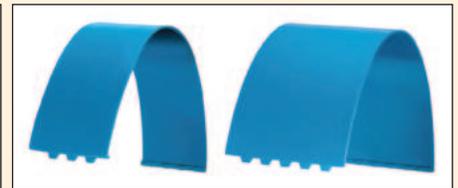
- Strive to keep work areas efficiently organized.
- Ensure the machine is cleaned properly and is run ready at all times.
- Ensure a good preventive maintenance program is in place. The machine operators and maintenance crews should work hand in hand to deliver the best machine condition.
- Have a detailed pre-flight checklist to guarantee that the adjustable settings are accurate, ensuring the machine will perform at optimum levels.

*Source:  
Harper/love Newsletter August 2015*



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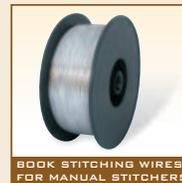
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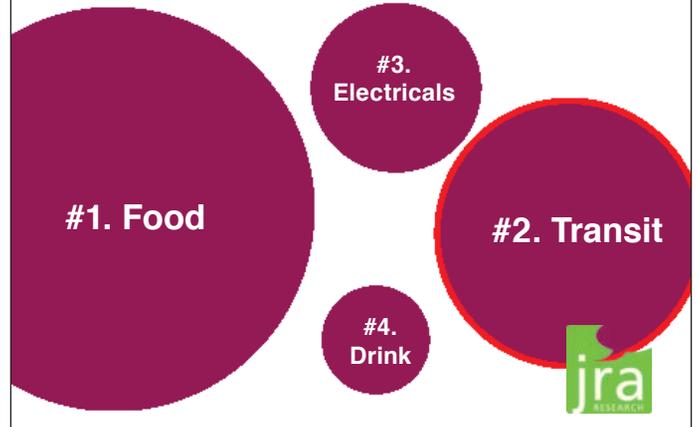
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## SPONTANEOUS FRUSTRATIONS

**85% identified some frustration with packaging**



## CATEGORIES WHOSE PACKAGING FRUSTRATES



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No. 1, Qingquan Rd., Shalu District,  
Taichung City 433, Taiwan  
TEL: +886-4-26153117  
FAX: +886-4-26154017  
www.mingwei.com  
E-mail: mwcold@ms15.hinet.net  
總經理 簡福全 General Manager Mr. Chien Fu Chuan  
手機 Phone Number: +886-988087539

明璋機械(東莞)有限公司  
MING WEI MACHINERY (DONGGUAN) CO., LTD.  
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Fu Min Industry Area, Da Lang Zhen,  
Dongguan City, Guangdong Province, China  
TEL: +86-769-82979100 (代表號)  
FAX: +86-769-82979110  
E-MAIL: mwdg999@163.com  
總經理 劉季紅 General Manager Ms. Ellie Liu  
手機 Phone Number: +86-18826809854  
業務副總 張正偉 Vice Marketing GM Mr. Steven Chang  
手機 Phone Number: +86-18822956762

山東明璋包裝機械有限公司  
SHANDONG MING WEI PACKAGE MACHINERY CO., LTD.  
山東省海陽市海陽經濟開發區珠海街8號  
8, Zhuhai Street, Economic Development Area,  
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E-mail: sdmw88@163.com  
總經理 劉明德 General Manager Mr. Liu Ming De  
手機 Phone Number: +86-13805326737

阿聯酋(杜拜)明暉分公司  
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Manager Mr. Zhao Guang  
Phone Number: +971-50-6457615

印度明暉分公司  
India office - Pune  
G102, Empire Estate, Chinchwad, 411 019,  
Pune, Maharashtra, India  
TEL: +91-20654 01122  
E-mail: mingwei.india@gmail.com  
Vice General Manager Mr. Su  
Mobile: +91-8698320316



### 天龍618 T.LONG-618

全電腦式迷你型聯動線(固定式)  
MINI IN LINE (Fixed Type)



### 天龍1號/2號 T.LONG-1/2

全電腦式  
印刷開槽糊摺合機(雙軌式互換系統)  
Computerized Flexo Printer Slotter Folder Gluer  
(Options: Side Tracking System)



### MAX-300 高速瓦楞紙板機 High Speed Corrugator Line





## BUDGET RIPPATAPE APPLICATOR

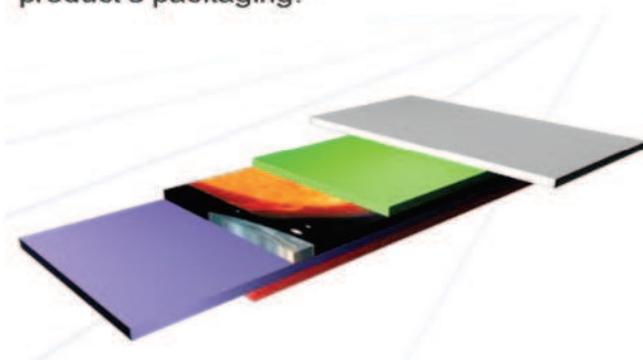
### Our Budget Rippatape Applicator offers:

- Straightforward Set Up
- Controlled operation
- Trouble Free Application
- Simple Design
- Robust Construction

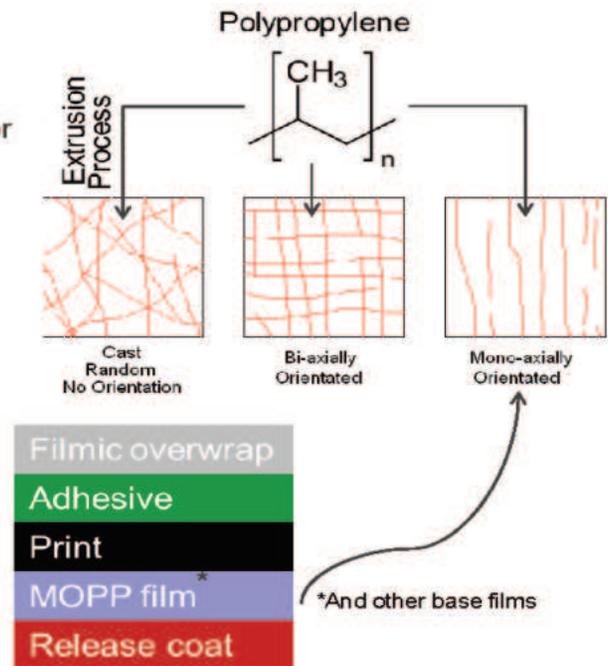


## WHAT IS TEAR TAPE?

"Tear Tape is a plastic (filmic based) narrow tape that is attached to the inner surface of overwrap, or corrugated cardboard, to allow easy opening of a product's packaging."



General Construction of tear tape

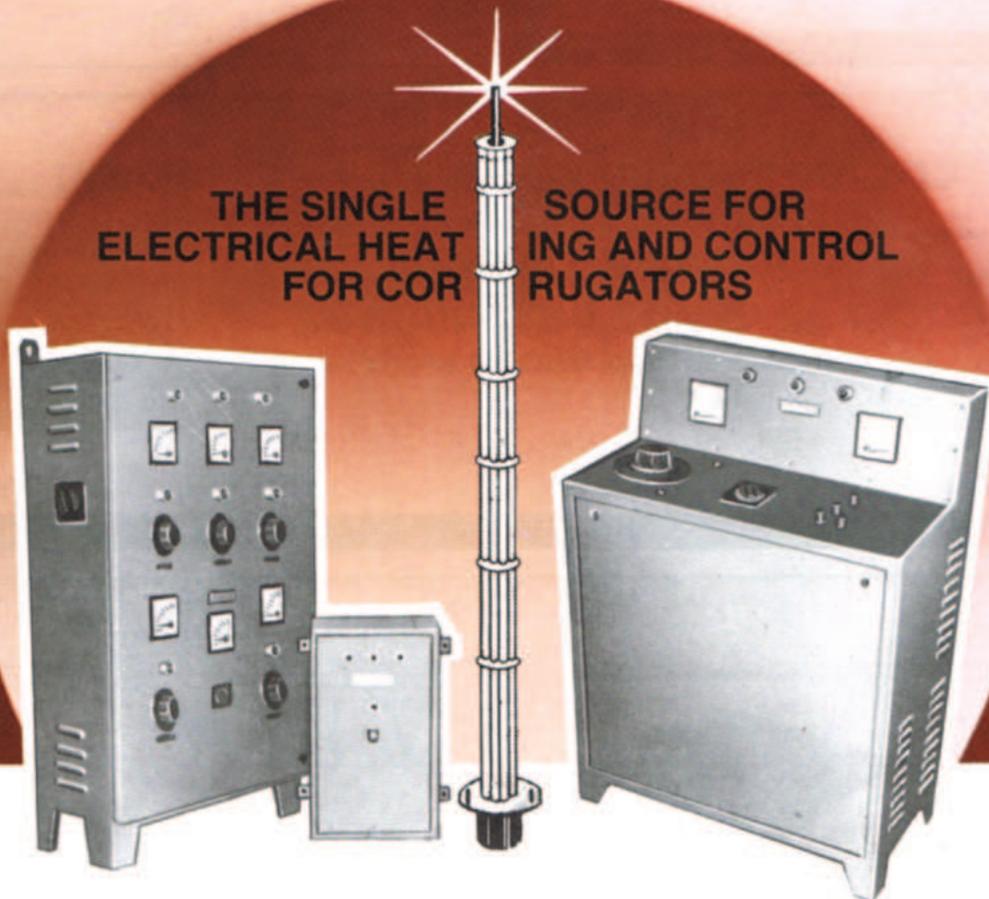


## RIPPATAPE APPLICATOR RANGE

	Budget Applicator	PRS350 Applicator
Max Speed/ Core Type	120 (m/min) Jumbo/Bulk	350 (m/min) Jumbo/Bulk
Materials Applied to	Corrugated board, cardboard, fibre board	Corrugated board, cardboard, fibre board
Operation Type	Manual Operation	Automatic Head Pressure Control
Image		

# THE HEAT IS ON!

THE SINGLE ELECTRICAL HEAT SOURCE FOR CORRUGATING AND CONTROL PANELS



When it comes to efficiency in heating, leading corrugated box manufacturers have come to rely on Hotron. Endowed with a rich technological expertise backed by years of experience in the field, Hotron have developed a range of electrical heaters with exceptional features, specially suited for corrugating machines.

## Hotron means "electrical heating & control too"

### Hotron Heaters offer features that make them stand apart:

- STURDY SPIRAL RESISTIVE WINDING in 80/20 or Kanthal with resultant low level specific load.
- Ideal "INSULATION" – Imported MGO powder having high melting point, high thermal conductivity and high electrical resistance.
- S S Studs – Long lasting, prevents frequent burning.
- Proper Assembly of unit having flanges and Strong Central Support. Prevents sagging.

### Salient features of Hotron Control Panels:

- Saves power by correct monitoring & control.
- Proper control enhances life of the heater.
- Better safety & protection system.
- Panel mounted indicators & meters indicate status and performance of heaters.
- Only standard equipments and components used.

We shall be pleased to offer free technical advice and recommend most ideal heaters for your corrugating machines.



D/122, Bonanza Ind. Estate, Ashoknagar, Kandivali (East), Mumbai-400 101.  
Tel.: 2887 0236 • Telefax: 91-22-2887 4803 • E-mail: hotron@vsnl.com

## PRS350 RIPPATAPE APPLICATOR

Our PRS350 Applicator offers:

- Controlled Operation
- Versatility
- Options
- Full Integration



## RIPPATAPEFOR REINFORCEMENT

The Implications of adding Rippatapeare:

- Greater load per box
- Opportunity to use thinner board
- Best use of space
- Less cost
- Etc.



## RIPPATAPE RANGE

**Value Proposition:**

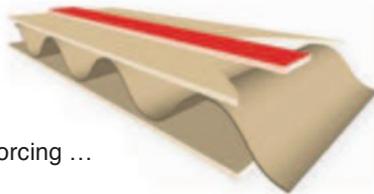
- 60 years and still tearing strong

**Rippatape Products:**

- Transparent (60/125 micron MOPP)
- Pigmented Red/White (60/125 micron MOPP)
- Gravure Print (60/125 micron MOPP)

**Rippatape Uses:**

- Tearing through Corrugated liners, Solid fibre board, envelopes, ...
- Rippatape125 –Reinforcing ...



## BRAND AND COMMUNICATION ADVANTAGES

Essentra possesses world class printing facilities and is able to add additional brand value to the tapes used on your packs. Through our 10 station gravure press we can offer:

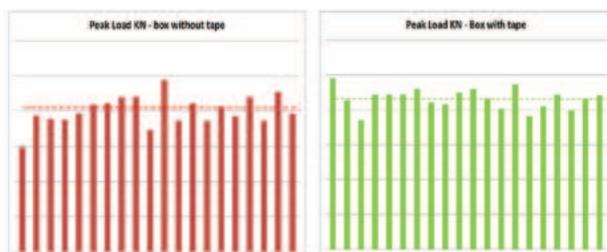
- High quality printed tapes providing branding and promotional opportunities
- Promotion for your company, brands and new capabilities at point of opening
- Designs that match any brand logo or colour



## RIPPATAPEFOR REINFORCEMENT

We conducted a study with the Sheffield Hallam University and found Rippatapeincreases box compression strength. A load was applied to over 100 boxes in accordance with IS:708 (Part6-1987) and point of failure recorded

The introduction of Rippatapeadd 8% to the box compression strength of the same format of box



## RIPPATAPE™ FOR EASY OPENING WITH BRAND PRINT



Cont. on - 39

# Pinlong Seiko Machinery

Quality First, Technology Innovation

**Wanted Agent  
For INDIA**



**PL-Y4 Series** Lead edge Feeder Flexo Printer Slotter Die Cutter.

With PLC And Servo Motor; Full-Automatic & High Speed. PC Control Touch Screen Input.

**Servo Motor Adjustment.**



**PL-Y3 Series** Lead edge Feeder Flexo Printer Slotter Die Cutter (Middle Speed Type)

More Than 95% Of The Elements Are International Famous Brand. Like Schneider/Siemens, South Korea LG/Taiwan Brand Etc.



**PL-Y2** Chain Feed Flexo Printer Slotter Die Cutter.

Chain Feed Type; PLC Touch Screen Input.

**Humanize Design.**



**PL-K1** Chain Feed Rotary Slotter Scorer Corner Cutter Machinery.

Six Axis with Liner Guider; With Variable-Frequency Convert; Four Linking Boards.

**Humanize Design.**

# PINLONG Introduction

Established on Mainland, With Global Perspective, We are Continuing doing R&D for Producing Higher Quality, More Functional and Operation more Convenient Products.

Located In Industrially Developed and Convenient Transportation ShunDe Aear Foshan City, FoShan ShunDe PinLong Seiko Machinery Co.,Ltd. is Expert and Specialized in Corrugated Carton Machinery R&D, Manufacture, Market Sell, After-Sales Service etc.

More then Ten Years of Developing, our company has been sticking to the aim of “Better Quality, Technology Innovation, service foremost” , We absorb International Advanced Technology, Improve all staff Skills and characteristics, Fully assembled and Standard specialized Producing line. Producing whole Series Corrugated carton Machinery, Including High-Speed Lead-Edge PC Flexographic Water-Based Printing Slotting and Die cutting machine, High-Speed Lead-Edge PC Four Link Die Cutting Machine, Chain-Feeding Flexographic Water-Based Printing Slotting Machine, Flexographic Water-Based Printing Machine, Electrical adjust Rotary Slotting Corner-Cutting machine, Thin Blade Creasing Slitting Machine etc. Been sold Nearly everywhere Inland and worldwide, especially Southeast Asia Countries, earn good reputation and Corporate Identity.

With the aim of “Better Quality, Technology Innovation, service foremost” , sincerely give back to our customers with rewards.



**COMPANY: FOSHAN SHUNDE PINLONG SEIKO MACHINERY CO.,LTD.**

Address: Taocun Industrial Zone, Beijiao Town, Shunde District, Foshan Guangdong Province ,China.

Website: <http://www.pinlongjx.en.alibaba.com> / [www.pl-mc.com](http://www.pl-mc.com) / [www.pinlongjx.com](http://www.pinlongjx.com)

Contact Person: Daniel Fu

QQ: 2843885831

Mobile: +86-13517153007 (Whatsapp) / 18666561671(Wechat)

E-Mail: [danielfu@pinlongjx.com](mailto:danielfu@pinlongjx.com) [info@pl-mc.com](mailto:info@pl-mc.com) [plzjx@163.com](mailto:plzjx@163.com)

Skype: lovedaniel7545

Tel: 0757-86693280

Fax: 0757-26325025

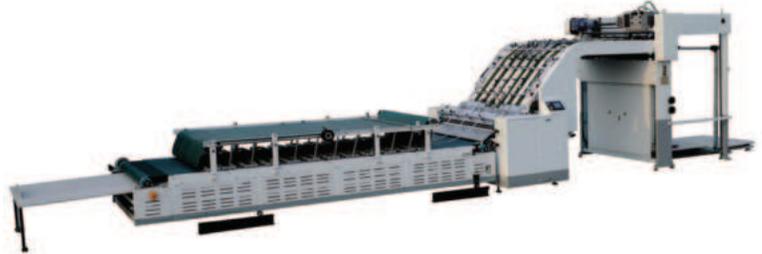


### Lead Edge Printer Slotter



For Multi Color Printing, Cutting, Creasing, Slitting & Slotting, Die Cutting of Corrugated Sheets in Single Operation.

### Fully Automatic Flute Laminator



For Pasting of Paper Board of 180 GSM - 600 GSM With Two Ply Corrugated Paperboard of A/B/C/E Flutes.



A reputed history of 30 years, Printpack Engineers is recognised as one of the most trustworthy brands in the field of Print Finishing and Packaging Machines.

We are exclusive distributors of various internationally reputed brands of machinery in India.

Every machine that bears the mark of JIYA reflects our passion for precision and performance.

### Semi Automatic Gluing Machines



For Gluing Flaps of Corrugated Boxes



**PRINTPACK  
ENGINEERS**

For Sales/Inquiry:  
[info@printpackengrs.com](mailto:info@printpackengrs.com)  
[sales@printpackengrs.com](mailto:sales@printpackengrs.com)  
[sales@jiyaprintpack.com](mailto:sales@jiyaprintpack.com)

Mr. Harish Sheth (CEO): 91-9820085047

STAKEHOLDER NEEDS		
Who	Needs	Attributes
End Consumer	<ul style="list-style-type: none"> <li>• Enhanced easy opening</li> <li>• Quicker</li> <li>• Easy Access to product</li> <li>• Pack integrity</li> <li>• Enhanced message communication</li> </ul>	<ul style="list-style-type: none"> <li>• Easy opening</li> <li>• Quick &amp; Neat</li> <li>• No knife</li> </ul>
Manufacturing	<ul style="list-style-type: none"> <li>• Low maintenance</li> <li>• No impact on line speed/efficiency</li> <li>• Technical support</li> <li>• Cost effective</li> </ul>	<ul style="list-style-type: none"> <li>• Simple Integration</li> </ul>
Brand Owner	<ul style="list-style-type: none"> <li>• Ability to communicate with customer</li> <li>• Brand &amp; Product enhancement</li> <li>• Retail share??</li> <li>• Packaging development partner</li> </ul>	<ul style="list-style-type: none"> <li>• Maintains brand perception</li> </ul>

### ENVIRONMENTAL ADVANTAGES

- Tape does not affect board recyclability as fully separable during recycling process
- Products fully enclosed so no damage during stacking or tracking
- No scoring or perforations are required for opening so box strength is maintained during transit



### SINGLE METHOD OF OPENING

- Combine with void release sealing technologies to ensure consumer/retailer confidence that box has not been opened



### NO KNIFE EASY OPENING ADVANTAGES

- Your customers are not frustrated, or even worse hurt, while opening the pack
- Reduced damage to goods during opening reduces spoilt items thrown away
- Combine with void release sealing technologies to ensure consumer confidence that box has not been opened
- Tape / box can be designed to opened cleanly allowing reuse or be destroyed to prevent refilling and reuse by counterfeiters



### Unilever Case Study

Personal care giant Unilever has underlined the easy opening credentials of Rippatape™ from Payne by choosing it for a new men’s grooming multipack offer in Chile.

The tape is being used on 20,000 promotional ‘Total Protection’ cardboard gift boxes. Each pack contains a Clear Men 400ml shampoo and AXE deodorant body spray. The Spanish-language pack design features the Real Madrid footballer Cristiano Ronaldo.

A 4mm, 60 micron Rippatape™ M near the top of the rear of the box allows the end user easy access to remove the products.

As well as allowing for easy opening, the Rippatape™ tab also helps make clear to the consumer precisely where the pack should be opened.

Unilever’s use of Rippatape™ was driven by the desire to make the packaging consumer-friendly, frustration-free and safe and it was clear that Payne’s solution met these needs.

Tadeu Margaria, Payne’s General Manager, Latin America, says: “Rippatape™ offers significant commercial and environmental advantages to manufacturers and brand owners requiring a versatile method for the easy opening of boxes and cartons.”

*This is a presentation made at 44th FCBM Conference held at Cochi and hosted by KeCBMA*

**HIGH RCT  
BASE KRAFT LINER**



[www.astronpaper.com](http://www.astronpaper.com)



We are 2<sup>nd</sup> recipient of  
FSC Certificate of India in our Trade

# BEST TECHNOLOGY FOR BEST RESULTS

## Astron Paper The Complete solutions for packaging



- ✓ Multi layer kraft liner with triple wire: 18 to 45 B.F. with high RCT
- ✓ Top white kraft liner with high brightness
- ✓ Range of GSM – 140 to 450
- ✓ Finish Deckle: 3800mm



 **astron**<sup>TM</sup>  
PAPER & BOARD MILL  
Excelling with Innovation

Astron Paper & Board Mill Limited

D-702, 7th Floor, Ganesh Meridian, Opposite Gujarat High Court, Sarkhej Gandhinagar Highway, Ahmedabad - 380 060, Gujarat.  
Ph.: +91-79-40081221 | M.: +91- 99090 24945 | e-mail: [marketing@astronpaper.com](mailto:marketing@astronpaper.com) | e-mail: [marketing.astronpaper@gmail.com](mailto:marketing.astronpaper@gmail.com)

# Corrugation process destroys bacteria, testing shows

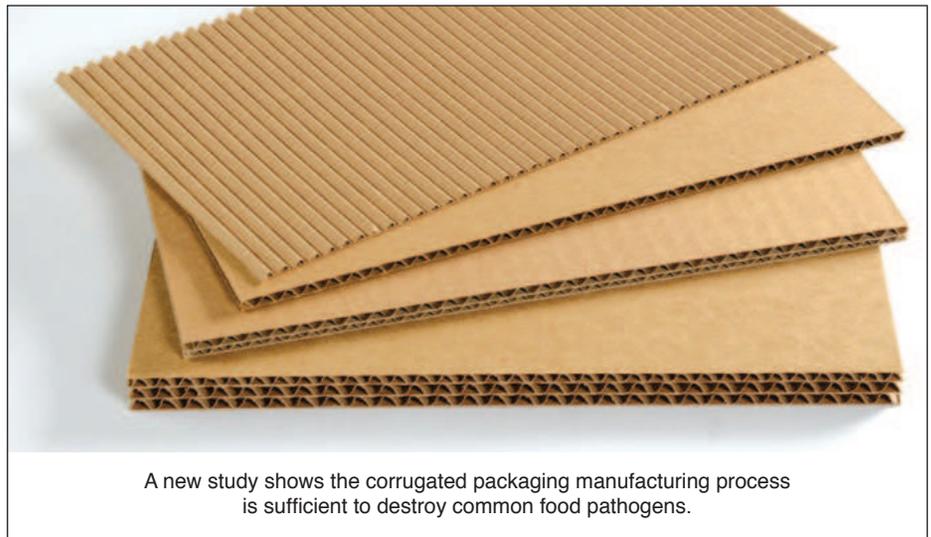
**A lab study determines whether the corrugated manufacturing process is sufficient to destroy common food pathogens looking at both time and temperature.**

A new study shows that the process of combining linerboard and medium to make corrugated packaging is sufficient to destroy common food pathogens, effectively meeting the U.S. Environmental Protection Agency's (EPA) requirements for chemical sanitizers.

The laboratory study, conducted by NSF International under the direction of Maryann Sanders, Senior Regulatory Specialist and microbiologist at Haley & Aldrich, Inc. and sponsored by the Corrugated Packaging Alliance (CPA), evaluated both temperature and time to determine if typical corrugated manufacturing processes, which combine a fluted or arched layer of paper sandwiched between two smooth layers, were sufficient for sanitization.

The study employed a temperature and time profile representative of manufacturing practices where linerboard reaches temperatures of 180° F to 200° F for approximately nine seconds. That profile was attained in the laboratory by placing corrugated material between two 1-in.-thick, preheated aluminum plates for the specified time. Under these conditions, linerboard contaminated with a cocktail of various thermotolerant organisms, including both *E. coli* and *Salmonella* spp., reached the specified temperature for the identified time resulting in a five-log reduction in the number of organisms present on the liner surface, effectively meeting the EPA's defined requirement for sanitization.

"This research confirms what we have known for decades," says CPA Executive Director Dennis Colley. "The corrugation



process has sufficient temperatures and dwell time to kill microbes. Clean boxes have been consistently verified at box plants and at customer locations."

This study is the latest in a line of both field and laboratory-based research studies performed over the past several years demonstrating the cleanliness of single-use corrugated packaging. A study conducted

from 2010 to 2014 showed that more than 400 microbiological test results collected from 40 paper and box facilities all met acceptable standards for clean packaging. Another study released in February 2015 revealed that 100% of corrugated boxes from six different box suppliers tested at six different customer locations in three different U.S. regions met standards for clean packaging.





# European Standard Full Computerized High Speed Flexo Printer Machine

## High Accuracy

- Feeder Unit: Sun Lead edge feeder with adjustable feeding stroke.
- Vacuum transfer wheels and impressing roll with ceramic coated.
- Die cutter unit with independent motor driven anvil cylinder and anvil trimming device, to keep each board cut in high accuracy and identical.
- Extended feeder unit with vacuum transfer box.

## High Efficiency

- Dedicate computer console to set up orders and save orders.
- Remote diagnose for fast trouble shooting.
- Auto washing system with reset function.
- Quick die mounting system (Optional)
- Rubber inking system and doctor blade inking system exchangeable.
- Main electrical cabinet equipped with AC to prevent tripping.



## Less Wastage

- Touch screen PLC for machine set-up to reduce paper wastage.
- Ink saving function. Save 0.4-0.5kg ink per time
- Multi-sectional blowers, multiple brushes, and anti-static device for a optimist dust cleaning.

## 24/7 comprehensive on-site service support

- Permanent engineer and regular consumable parts are available at local.

## GUANGDONG DONGFANG PRECISION SCIENCE & TECHNOLOGY CO.,LTD

Add: No. 2 Qiangshi Rd., Shishan, Nanhai District, FoshanCity, Guangdong Province, China

Tel: 0086-757-86692362

Fax: 0086-757-86695481

E-mail: df-india@vmtdf.com

Website: www.vmtdf.com

## Full Automatic Inline Solution



Foodborne illness is an escalating problem, with deadly outbreaks making news on a regular basis. Often, the infections are traced back to contaminated protein products or fresh produce. Much effort is going toward identifying the sources of contamination and preventing bacteria from multiplying along the way to store shelves. This important public health issue commands attention and diligence from all parties in the food supply chain, including food packagers and shippers, as well as producers and retailers.

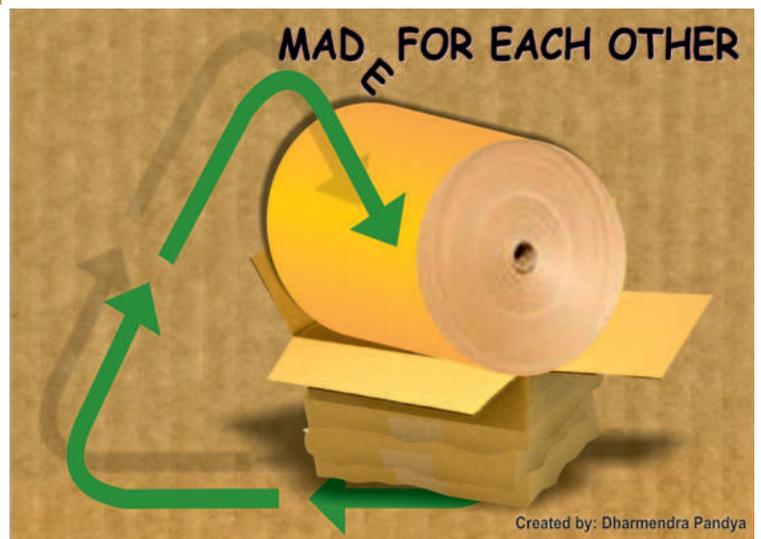
The containers used to ship food products are just one link in the chain that should be evaluated for cleanliness to prevent the spread of disease. Packaging in single-use, recyclable corrugated containers is a cleaner, safer way to go. Here's why. A new study shows the corrugated packaging manufacturing process is sufficient to destroy common food pathogens, effectively meeting the U.S. Environmental Protection Agency's (EPA) requirements for chemical sanitizers.



Source: [www.packworld.com](http://www.packworld.com) / pics added  
Our thanks to Mr. Manobar Shetty for sending this article



Aptly illustrates  
the present critical  
position in which  
our industry is pushed



# Design For India

**JETS300** CORRUGATED BOARD PRODUCTION LINE

Width: 2000mm/2200mm/2500mm  
Design speed: 300m/min  
Tailored length: 90~100m



## What ? is the condition ?

Dry paper, Indian paper moisture 6-8%, less than average 9-11%, even lower in dry season.

Low strength of paper.

High moisture in rain reason.

## Soulution-“Design for India”

More solution to be continue.....



J.S. CORRUGATING MACHINERY CO., LTD.

J.S. Machine India Branch: A 403, Dream Apartment, Plot 14, Sector 22, Dwarka, New Delhi-110077

J.S. Machine India Pvt. Ltd.: Plot No.628, Sector III Pithampur, District Dhar (M.P.) India-454775

Tel: +91 7389901217; +86 13807121003

Contact: Mr. Adam Wang; adamwangzy@gmail.com

Website: www.jspackmach.com





# J.S. Machine India

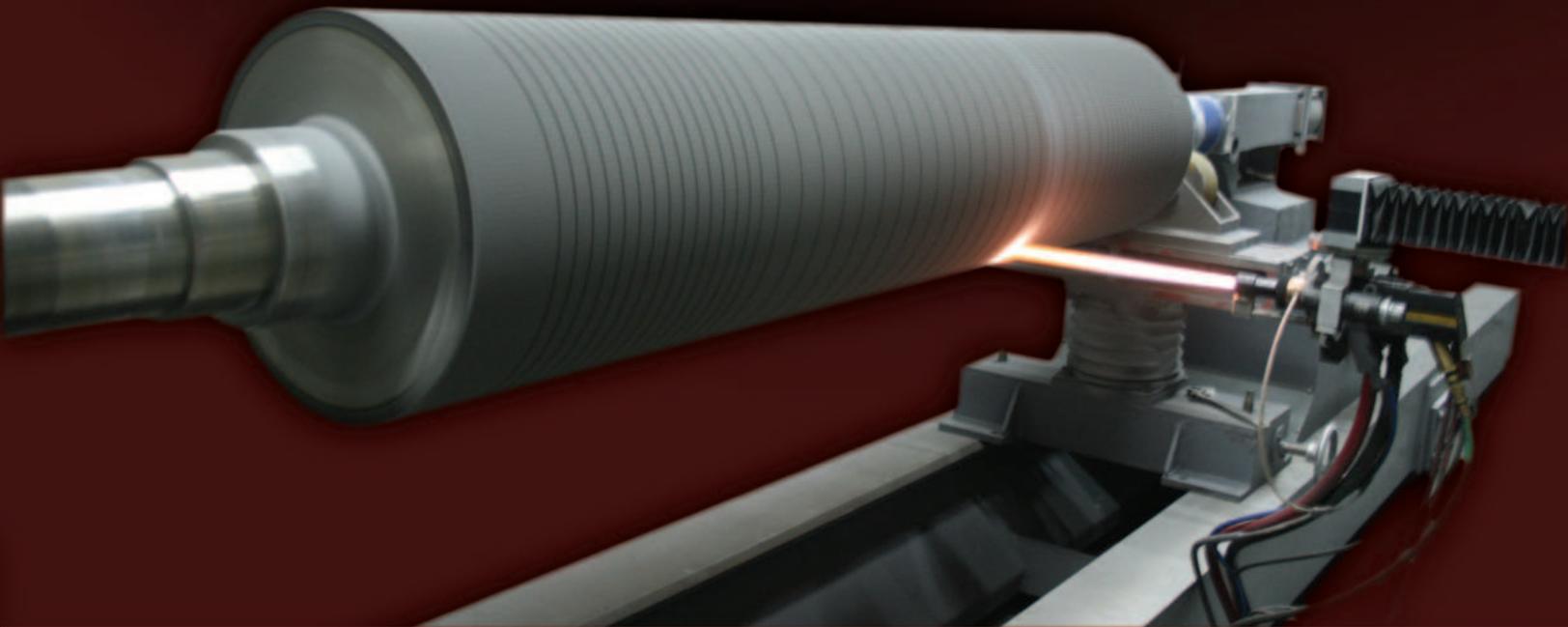
PRODUCTION & **in** INDIA  
SERVICE BASE

## MANUFACTURING UNIT:

1. **Repair** and **manufacture** rolls for corrugating machines
2. **Tungsten carbide** and **NiCr-Cr3C2** coating are optional

## SERVICE UNIT:

Promptly spare parts supplying is supported by newly-built spare parts center  
Local engineers' timely and overall service is around you all the time.



### J.S. MACHINE INDIA PRIVATE LIMITED

Factory address: Plot No.628, Sector III, Pithampur District Dhar(M.P.)-454775

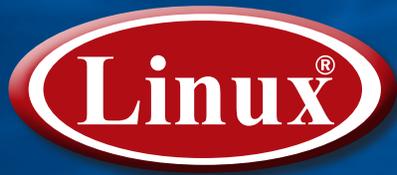
Office address: No.302, South Pride Building, 8/3, South Tukoganj, Indore-452001

Mr. Adam Wang Tel: +919311656580; +8613807121003

E-mail: adamwangzy@gmail.com

Mr. Arun Maheshwari Tel: +91 9165268131; +91 9229363555; +91 8719968300

E-mail: connect.arunkm@gmail.com



New

# Bursting Strength Tester

Latest Innovation from Linux

The Bursting Strength Test of paper, paperboard, including liner board and corrugated board, is a composite measure of certain properties of the sheet structure, principally tensile strength and elongation. In general, bursting strength is dependent on the type, proportion, preparation and amount of the fibre present in the sheet and their formation, internal sizing, and to some degree, the surface treatment. While bursting strength is an empirical property, this test, in combination with basis weight, serves to define "standard grades" in commerce.

**Recommended for:** Paperboard, Paper, Corrugated board, Nonwovens, Textiles, Geotextiles, Film, Tissue, Tobacco Leaf etc.



Clamp N Print Model



Printed Test Results by In-Built Thermal Printer

### Features :

- Fully enclosed body, panel mounted micro processor based digital display
- Adjustable clamping pressure
- Auto Calibration in 5 simple steps
- Overload protection (Preset)
- System BF calculation for Paper

### Programmable :

- Vendor / Customer Name, Codes, Lot No., Date & Time etc.
- A group of 12 tests can be performed for report
- Report is directly printed from the built-in Thermal printer



Manual Clamping System with Clamp Pressure Indicators



Instrumental in Your Success

An ISO 9001:2008 Company

### Linux Machines Incorporation

Plot No. 3, Ahad Industrial Complex, Near Bharat Gears Ltd., Bholenath Nagar, P. O. Dawla, Mumbra, Thane - 400612

Tel. No. : +91 88794 97458 / 68 / +91 88791 47556 / 54

Email: machines.linu@gmail.com | sales@linuxmachines.in | info@linuxmachines.in



## Eicma Conclave Chai Pe Charcha & Interactive Session

A Panel Discussion “Chai Pe Charcha” between representative from Paper Mills & Corrugated Box Manufacturers; moderated by EICMA President Shri Milan Dey, was held on Friday 29th January, 2016 at Silver Spring Club, Kolkata.

details. Our Honorary President Shri Milan Dey played the perfect moderator for this Panel Discussion which lasted for over an hour and attended by over 160 people from the Industry, mostly Corrugators.

Shri Nisheeth Totla (Paper Dealer) and Shri Gajanand Agarwal (GRD Paper Mill Kolkata) were also requested to join to share their views. Topics like Auto Vs Semi Auto, Justified Volumes in new Auto Plant investments, Significance of Baling Machine, Delivery & unloading issue at Corrugators end were discussed in lighter vein.



The discussion was followed by an Open Forum discussion “WhatsUp in Corrugation Industry” moderated by Shri Hemant Saraogi. The highlight of this event was Felicitation of the legendary Shri A.B Ajmera for his contribution to the Industry. The event was followed by Cocktail, Dinner & Fellowship.

Various aspects of quality parameters were highlighted in Chai Pe Charcha. Panelist from Paper Mill included representatives from Astron Mill, Genus Papers, Ballavpur & Ecotech.

To add some “Masala” in Chai, Shri Bhaskar Reddy from Amylodex was included as one of the Panelist. Panelist from Corrugators included Shri Subrato Das, Shri Ram Kumar Sunkara & our FCBM PMCC Chairman Shri Dilip Patel. Issues like Cracking Tendency, Linear Meterage, Cobb, RCT and other parameters were discussed in

This was followed by an Open Forum “WhatsUP” where our past President Shri Hemant Saraogi moderated the Session & randomly called members from the Audience including Sri Vikas Goel from TGI Packaging Chennai, Shri Chetan Shah, Shri Mohit Bajaj, Shri Nani Gopal Das & Shri Saurav Jhawar from Kolkata.

The Highlight of this Event was Felicitation of Shri A.B Ajmera for his contribution to the Industry; in the presence of his family & friends! The felicitation speech was given by our Past President, Sri Bharath Kedia followed by a PPT on the journey of the legend. Sri B.N. Ghosh, Past President & a founder member of EICMA welcomed



Ajmera ji with a bouquet, Sri R. K. Dani adorned Annu Bhai with a shawl as a mark of respect from EICMA members, followed by presentation of a commemorative plaque by Sri Milan Kumar Dey, President EICMA.

Sri A.B. Ajmera, in a rare speech, after several years, blessed the members present & asked members to be patient & optimistic. He assured the house that with proper co-operation between paper mills & corrugators, the industry was bound to grow with leaps & bounds, in spite of the challenges. He re-iterated his famous motto – “The morning starts with corrugated boxes & the day ends with corrugated boxes”





Seminar on Taxation & TNVAT Amendments was organized by SIMCA on 10th March 2016, at Quality Inn.

Mr. Sampath, Senior CA and Consultant spoke about Taxation and TNVAT Amendments.

Mr. Srinivasan elaborated on e-tax compliance with Tally ERP9

It was a well-attended Seminar and all participants appreciated the way doubts in their minds were cleared.



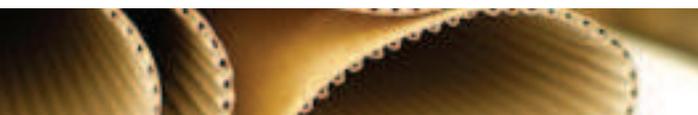
### Technical Seminar:

A Technical Seminar **Improvisation in Systems to Increase Margins in Semi Automatic Process** was organised 8th January 2016 at Hotel The Chancery Pavillion Chennai.

Mr. Ramkumar Sunkara gave a wonderful presentation on various aspects of the fast Changing Corrugating world.

#### Some of the eye openers in the Seminar.

- The Sq. Mtr. vs. KG. costing.
- Improving systems in the factory, collecting data, collating the data and interpreting it for finding problems and then providing solution to mend the same.
- Insights provided on this aspect will definitely help and inspire the members to adopt it.
- Breaking our old beaks and claws and then regrowing them to face the new challenges and survive for some more years was both encouraging and showing each one of us the reality.
- Clearing the myth that costs increase by using costlier paper.
- Reducing costs by using High RCT paper is the need of the day.





## FCBM Managing Committee Meeting at Greater Noida

The Managing Committee Meeting of FCBM was organized on 11th & 12th March 2016 at Raddison Blue, Greater Noida.

### UPCBMA hosted the event.

Besides regular discussions as per Agenda, E-HandBook on Implications of Union Budget 2016-17 on Corrugated Box Industry was released by President Mr. N.X. George.

Preceding the meeting a seminar was also conducted.

Shri. Sunil Kumar made an interesting presentation on 'How to be cool in an adverse situation'

Shri. I. A. Peter talked on 'How to enhance Profits by increasing Productivity'



A new initiative by UPCBMA was a Grand Welcome to the new generation of entrepreneurs entering the corrugating industry.

Although educated and qualified in different fields like engineering, commerce etc, these young entrepreneurs have chosen to enter and make the family business flourish in a new direction.

**This initiative by UPCBMA is indeed laudable.**

The following Nexgen corrugators were welcomed into the industry.

Name	Organisation
<b>UPCBMA (Noida chapter)</b>	
1. Mohit Singh	Monarch Packaging
2. Akshay Singh	Vividh Packaging
3. Anshu Singh	Vividh Packaging
4. Shirsti	Dev Pack
5. Rahul Malhotra	Sarva Mangalam Impex
6. Shubham Gupta	L. N. Pack System
7. Jyoti Sehgal	Sehgal Consultants Pvt. Ltd.
8. Siddhart Sood	Multiply Ltd.

<b>UPCBMA (Varanasi Chapter)</b>	
1. Rahul Jaiswal	UP Packaging
2. Vishal Jaiswal	Radhika Packaging
3. Mehul Nagar	Shree Nath Gopal Das & Co.



*KeCBMA President Presenting Conference Cheque to FCBM President*



Mohit Singh - Monarch Packaging



Shubham Gupta - L. N. Pack System



Anshu Pundir - Vividh Packaging



Jyoti Sehgal - Sehgal Consultants Pvt. Ltd.



Abhishek Kapoor - Pack Care India P. Ltd



Akshay Pundir - Vividh Packaging



Nishant Kumar - Balwant Industries



Rahul Malhotra - Sarva Mangalam Impex



Jatin Jain - Paper Creations



### 37th Certificate Course in Corrugated Packaging Basic Level – 1

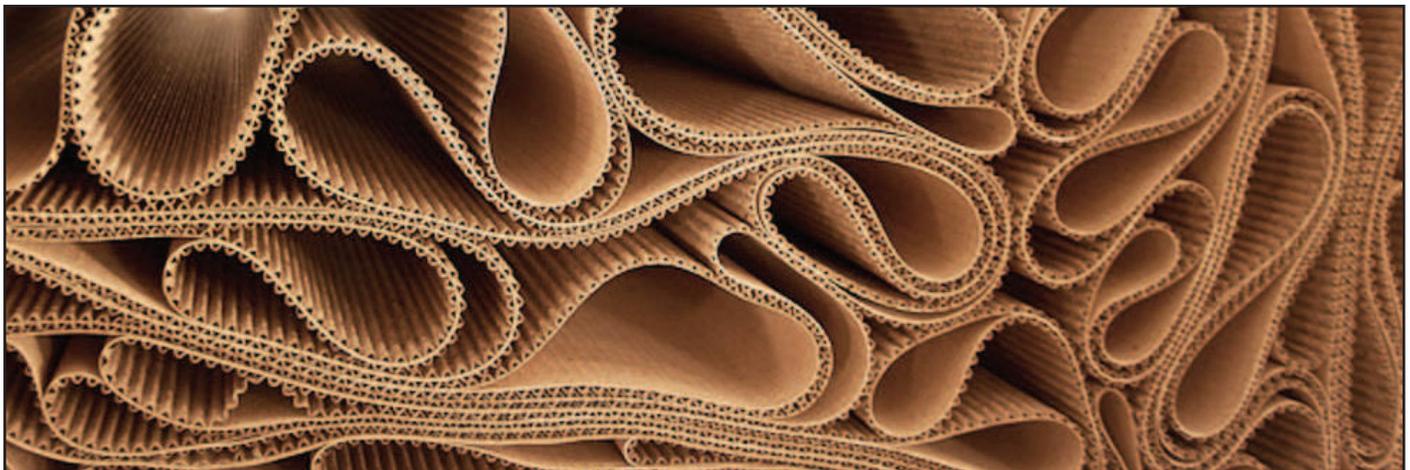
WICMA R & D Centre organized 37th Certificate Course in Corrugated Packaging – Basic Level - 1 at WICMA Auditorium, Mumbai from 14.03.2016 to 18.03.2016.

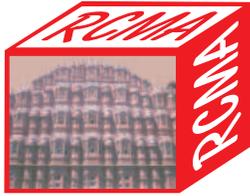
The Course, spread over 5 days covered various basic subjects such as raw materials, manufacture, manufacturing defects & remedies, design, quality control, costing, marketing, wastage reduction, among other subjects. Besides, there were practical demonstrations of QC tests, box design & plant visits to Semi Automatic plant.

27 students attended the course. Students from places like, Mumbai, Nagpur, Pune, Kolhapur, Nasik, Satara, Amravati, Gujarat, Kolkata, Bangalore, Jaipur, Chennai, Kochi, Belgaum and Bhutan attended the course. 21 students were from outside.

This course was supported by Federation of Corrugated Box Manufacturers Association (FCBM) and Indian Institute of Packaging (I.I.P.) participated as 'knowledge partner'.

The successful students of the course will be awarded the performance certificates.





**RCBMA Organised a Technical Seminar on 19th March, 2016 at Hotel Maduram Royale, Jodhpur.**

Eminent Speakers - Mr. Ram Kumar Sunkara and Mr. Bhaskar Reddy. covered various topics of importance

There was an interactive discussion followed by cocktails and dinner

The event was well attended and appreciated by all participants

## More Photos and matter to come



## Photos and matter to come



# Tariff implications of Budget 2016.

## A. CENTRAL EXCISE TARIFF

### 4819 10 - Cartons, boxes and cases, of corrugated paper or paperboard:

4819 10 10 --- Boxes – 6 %

4819 10 90 --- Other – 6%

(Notification No. 12/2012 CE. - 17.03.12 – S. No. 171, Condition no. 13) (Fittments sold & billed with boxes as a set are eligible to be cleared @ 6% otherwise 12.5%)

4819 10 10 --- Boxes – 12.5 %

(Standard rate where the above conditional exemption is not applicable) (As Per The First Schedule of CETA, 1985, Section X, Chapter 48)

### 4819 20 - Folding cartons, boxes and cases, of non corrugated paper and paperboard:

4819 20 20 --- Boxes – 12.5%

4819 20 90 --- Other – 12.5%

(As Per The First Schedule of CETA, 1985, Section X, Chapter 48)

### 4819 50 - Other packing containers, including record sleeves:

4819 50 10 --- Made of corrugated paper or paperboard – 12.5%

4819 50 90 --- Other 12.5 %

(As Per The First Schedule of CETA, 1985, Section X, Chapter 48)

### 4707 RECOVERED (WASTE AND SCRAP) PAPER OR PAPERBOARD

4707 90 00 - Other, including unsorted waste and scrap - 6 %

(Notification No. 12/2012 CE. - 17.03.12 – S.No. 160) (No Change)

### 4808 PAPER AND PAPERBOARD, CORRUGATED (WITH OR WITHOUT GLUED FLAT SURFACE SHEETS), CREPED, CRINKLED, EMBOSSED OR PERFORATED, IN ROLLS OR SHEETS, OTHER THAN PAPER OF THE KIND DESCRIBED IN HEADING 4803

4808 10 00 - Corrugated paper and paperboard, whether or not perforated - 6% (Size should be greater than 36x15 cms.)

(As Per The First Schedule of CETA, 1985, Section X, Chapter 48)

**Note:** Please mention relevant Notification No. In invoice etc. where concessional rate of duty is being charged.

## SSI EXEMPTION LIMIT

No Change for the industry. The SSI Exemption Limit vide Notification No. 8/2003 C.E continues upto clearances of Rs. 1.5

Crores in a financial year; eligibility criterion of preceding year remains at Rs. 4.0 Crores.

To determine the eligibility for availing of the SSI exemption from 2016-17 onwards, a certificate from a Chartered Accountant, based on the books of accounts for 2015-16 will suffice

## C.E.D. ON RAW MATERIALS TO THE INDUSTRY

**PAPER & BOARD** - Chapter 48 - 6%

(Made from unconventional raw material)

**GLUE** – Cetsh. 3505 20 00 – 12.5%

**PRINTING INK** – Cetsh. 3814 00 10 – 12.5%

**STITCHING WIRE – G.I.** Wire of Iron Or Non Alloy Steel – Cetsh. 7217 90 12 – 12.5%

– Brass Stitching Wire - Cetsh. 7408 21 90 – 12.5%

**CAPITAL GOODS – Machines, Generator, Boilers, Spare Parts, Motors Generator etc.** - The Excise Duty on all goods falling under Chapter 84 & 85 of the Schedule to the Central Excise Tariff Act are 12.5 percent.

## B. SERVICE TAX

Swachh Bharath Cess @ .5% on taxable amount continues as before.

Krishi Kalyan Cess is proposed to be levied with effect from 1st June, 2016 (after enactment of the Finance Bill) on any or all the taxable services at the rate of 0.5% on the value of such taxable services. Credit of Krishi Kalyan Cess paid on input services shall be allowed to be used for payment of the proposed Cess on the service provided by a service provider.

Service tax assesses above a certain threshold will also be required to file an annual return by the 30th day of November of succeeding year. This change shall come into effect from 1st April, 2016. Service Tax Rates of duty is 14%.

Service tax is payable on 30% of the value of transport for goods transport by road by a goods transport agency, subject to a condition of non-availment of Cenvat Credit on inputs, capital goods and input services. (w.e.f. 01.04.15)

Manpower supply and security services when provided by an individual, HUF, or partnership firm to a body corporate was brought to full reverse charge. In case of supply of manpower and security agency services the recipient has to pay the full 100% service tax . ( w.e.f 01.04.15)



## C. CUSTOMS

There is no change in peak rate for non-agricultural products. It continues to remain at 10%.

Customs Duty continues to remain at 10% on paper & board & Nil on Waste Paper as before.

Notification exempting Education Cess and SHE on CVD rescinded: Notifications No. 13/2012-Customs and No. 14/2012-Customs both dated 17th March, 2012 exempt Education Cess and Secondary & Higher Education Cess leviable as CVD on imported

goods got rescinded, since Education Cess and SHE leviable on excisable goods are being exempted in general, there will be no corresponding levy on CVD on imported goods. Hence, cess on CVD continues to be exempted as before.

No Change in Education Cess and SHE as duty of Customs on Imported Goods: There is no change in Education Cess leviable on imported goods under section 91 read with section 94 of the Finance Act, 2004 as a duty of customs and Secondary & Higher Education Cess leviable on imported goods under section 136 read with 139 of the Finance Act, 2007 as a duty of customs. These Cesses shall continue to be levied on imported goods.

## FCBM PUBLICATIONS

3:90	Corrugated Box Manufactures' Practical Standards – Standard Test Method for Bursting Strength of Corrugated fibre board
4:90	Proceedings – Technical Sessions of Conference 1982 – 1990
6:91	Corrugated Box Manufactures' Practical Standards – Standard Test Method for Puncture Resistance of Corrugated fibre board
7:91	Corrugated Box Manufactures' Practical Standards – Nomenclature: A Glossary of Terms related to the Corrugated Packaging Industry
8:92	Corrugated Box Manufactures' Practical Standards – Standard Test Method for Water Absorption (COBB Method)
9:92	Technical Information Booklet – Variable Speed Drives for Corrugated Machines Standardisation of Electric Motors for Corrugated Box Manufacturing Units
10:93	Corrugated Box Manufactures' Practical Standards – Standard Test Method for Grammage of Kraft paper and Corrugated Fibre board
11:94	Technical Information Booklet – Adhesives
12:94	Technical Information Booklet – Box Styles
14:96	Corrugated Box Manufactures' Practical Standards – Standard Test Method for Compression Strength of Corrugated Box
15:97	Corrugated Packaging Brochure
16:97	Technical Information Booklet – Industry Survey - 1996
17:97	Operational Manual ACS (Ver 4.2) (Account Computing System)
18:98	Technical Information Booklet – Industry Survey - 1997
19:98	Corrugated Box Manufactures' Practical Standards – Standard Test Method for Ring Crush Resistance of Paper and Paper board
20:99	Technical Information Booklet – Industry Survey - 1998
21:99	Corrugated Box Manufactures' Practical Standards – Standard Test Method for Moisture Content in Paper and Paper board
22:00	Technical Information Booklet – Industry Survey - 1999
R 1:00	Corrugated Box Manufactures' Practical Standards – Box Dimensions, Styles, Mfrs. Joints
23:02	Technical Information Booklet – Industry Survey - 2001
24:02	Project Report (Full Version)
	i) A study on the Important Properties of Kraft paper at Different Climatic Conditions
	ii) A study on the influence of Properties of Kraft paper on the Properties of Corrugated Board and Box at various climatic conditions

25:02	Project Report (Condensed Version)
	i) A study on the Important Properties of Kraft paper at Different Climatic Conditions
	ii) A study on the influence of Properties of Kraft paper on the Properties of Corrugated Board and Box at various climatic conditions.
26:03	Technical Information Booklet – Industry Survey – 2002
27:03	Proceedings – Technical Sessions of 31st Conference 2002, Mumbai
28:03	Proceedings – Technical Sessions of 30th Conference 2001, Chennai
29:04	Corrugated Box Manufactures' Practical Standards – Standard Test Method for Thickness of Board
30:04	Technical Information Booklet – Industry Survey – 2003
31:05	Proceedings – Technical Sessions of 32nd Conference 2003
32:05	Proceedings – Technical Sessions of 33rd Conference 2004
33:05	Technical Information Booklet – Industry Survey – 2004
'34:06	Proceedings – Technical Sessions of 34th Conference 2005, Bangalore
'35:06	Technical Information Booklet – Industry Survey – 2005
'36:06	Technical Information Booklet – Units of Measurement and Conversion Factors
'37:06	Technical Information Booklet – International Rules for Corrugated Board and Cases
'38:07	Proceedings – Technical Sessions of 35th Conference 2006
'39:07	Technical Information Booklet – Restricted Heavy Metals Specification in packaging Material
'40:07	Technical Information Booklet - Guidelines for- Designing Heat Transfer System using Heat Transfer Fluids
'41:08	Proceedings – Technical Sessions of 36th Conference 200
'42:10	Proceedings – Technical Sessions of 38th Conference 2009
'43:11	Proceedings – Technical Sessions of 39th Conference 2010 – Interactive DVD
'44:11	Technical Information Booklet - Industry Survey - 2010
'45:12	Proceedings – Technical Sessions of 40th Conference 2011 – Interactive DVD
46:12	Technical Information Booklet – Scoring Allowances and Blank Size
47:14	Technical Information Booklet – Tolerances for Regular slotted containers (RSC)



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Fully Computerized Flexo Printer Slotter Die Cutter with Dryer and Varnisher

- Single point entry for all box data settings, with computerized control and order memory
- Extended wheel type lead edge feeder with vacuum assist for precise board feeding
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Fully Computerized Flexo Printer Slotter Die Cutter

- Jumbo machine specially designed for big size heavy duty board converting
- Extra strong frame and cylinders for robust machine building with high running steadiness
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# Fundamentals of Diecutting Corrugated Substrates

What we're looking at is how corrugated substrates are converted into shipping containers, point of purchase displays, or various other corrugated products. I'll begin by giving a brief description of paper and the properties that are important to us as converters. I will explain the development and structure of corrugated and provide you with several charts that help identify the characteristics of combined board. Once we've gained a basic understanding of this substrate I'll cover the principles of cutting and creasing.

## Paper properties

How is a flat sheet of corrugated transformed into a unique shape that we're able to fold and erect into a container? Let's begin by examining the properties of paper. Paper was first invented by the Chinese in 105 AD. They first made paper by hand dipping a sieve into water containing rag fibers, lifting it out and hanging the resulting mat of wet paper to dry. This basic process has not changed, though today we use complex machinery and many different chemical mixtures to make the large variety of paper products.

Today paper is a structure of pressed and matted wood fibers. During the paper

making process, wood chips are cooked and then ground up to separate the fibers. These fibers are mixed with water and starch along with various other chemicals. This liquid mixture is called a slurry. The slurry is poured onto a moving wire screen looped over rollers (see Diagram 1). As the screen moves along, the water is drained off, leaving a tangled array of fibers on the screen. This tangled array of fibers is then lifted from the end of the screen and pressed or metered to the desired thickness by passing the web through the nip point of two parallel drums. The wet web of papers is then passed over a series of heated drums to dry. This is the basic process by which paper is made.

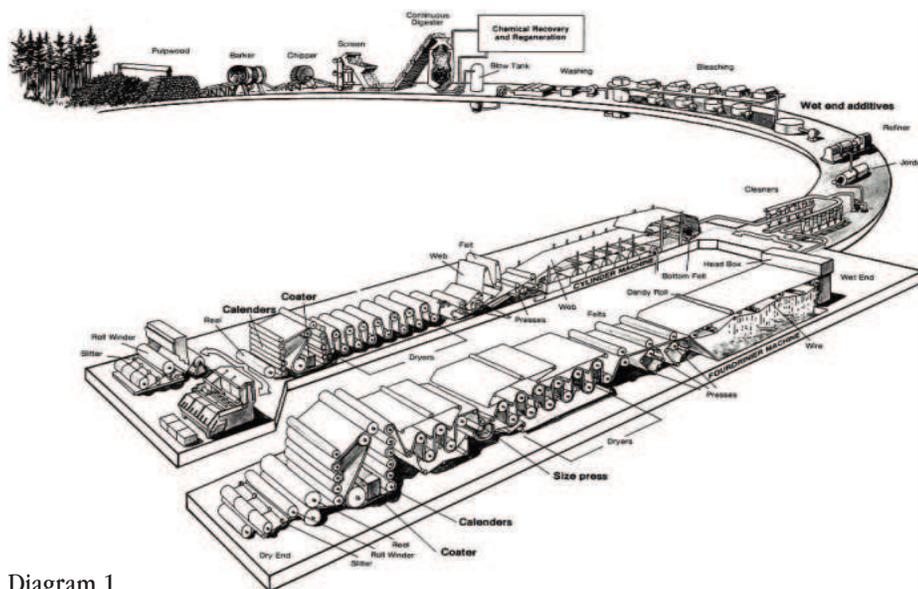
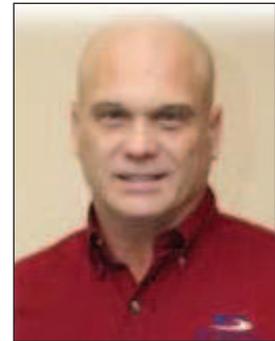


Diagram 1



**Guy Earley**  
Stafford Cutting Dies, Inc.,  
Indian Trail, NC, USA

Let's look at the individual pieces of paper that make up corrugated. If we look at one piece of paper, the properties that are most important for us as converters are the weight, the thickness and the recycle content.

In the imperial system, weights are measured in pound weight, or the actual pounds that a 1,000 square foot sheet of paper would weigh if placed on a set of scales. In the metric system the weights are measured in the amount of gram weights per square meter (see Diagram 2).

The thickness of paper is measured in thousandths of an inch. A typical piece of copy paper is only .004" (.101mm) thick. The typical business card is .012" (.305mm) thick. In most cases, as the paper becomes thicker, the weight is increased.

Common Board Weights	
Weight	Thickness
26 LB	.008
33 LB	.010
42 LB	.011
69 LB	.018
90 LB	.026

Diagram 2

# Serving the Corrugated Packaging Industry Since Five Decades



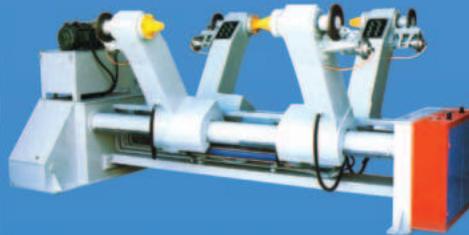
Pioneers and leaders with over 4 decades of experience, MICRO has brought about a technological revolution, setting a benchmark in corrugated packaging machinery in India.

MICRO endeavours to join the ranks of the world's leading names in corrugated packaging machinery by designing, developing and building machines that reflect engineering excellence and outstanding performance.

Towards this, MICRO will leverage their technological strength, expertise and experience to build a lasting relationship with their customers world-wide.



**H-350 Fingerless Single Facer**  
Speed : 150 M/ Min



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Single / Double wall Corrugator

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Recycle content has a drastic effect on the cutting and creasing because paper made from recycled content is not as strong as paper made from virgin fibers. In the recycling process, paper products are shredded and soaked in water to separate the fibers. These recovered fibers are shorter than virgin fibers and do not bond together as well. The recycled content is added to the slurry containing virgin wood fibers. Now a slurry mixture of 20% recycled content is still considered to be virgin board.

A piece of corrugated is made of a minimum of two pieces of paper. The outside piece of paper is referred to as the liner, and the fluted piece of paper is referred to as the medium. The liners are made primarily of soft wood, such as fir, hemlock, spruce, or pine. The fibers of these trees are long and can be made more pliable than those of hardwoods. This gives the liners the ability to stretch without fracturing.

Mediums are made from hardwoods such as maple or oak. The fibers of these trees are shorter and more dense than soft woods and give the medium the stiffness needed for stacking strength.

The chart in Diagram 3 gives the common weight and compressed thickness of both the liners and the mediums. Notice the difference between the thickness of a 26-pound liner and a 26-pound medium. The medium is thicker by .010" (.254mm). It's made with the more dense wood fibers.

Corrugated was first introduced as a fluted medium alone, then as singleface, which consists of a fluted medium glued to one flat facing of liner board. Singlewall was introduced next and consists of a single

the thickness of the board and the letter denoting its name. Originally the lettered name came in sequence when they were invented.

A-Flute was developed first as a fluted medium alone, using one roll of paper. It was used for cushioning bottles and glass chimneys that were packed in wooden crates. In 1895 the first singlewall corrugator was invented, and corrugated boxes were introduced to the marketplace.

B-Flute was introduced next in response to the need to improve the quality of printing on boxes. B-Flute was thinner than A-Flute and had more flutes per foot, providing more

resistance to crush during the printing process. However, B-Flute boxes didn't have the stacking strength of boxes made from A-Flute.

C-Flute was introduced as a compromise between the extremes of B-Flute and A-Flute. C-Flute was thicker than B-Flute, but thinner than A-Flute, with more flutes per foot than A but less than B. Now here's where the sequential lettering of flutes ended. There's no D-Flute, unless it's been developed in the last couple of years, and

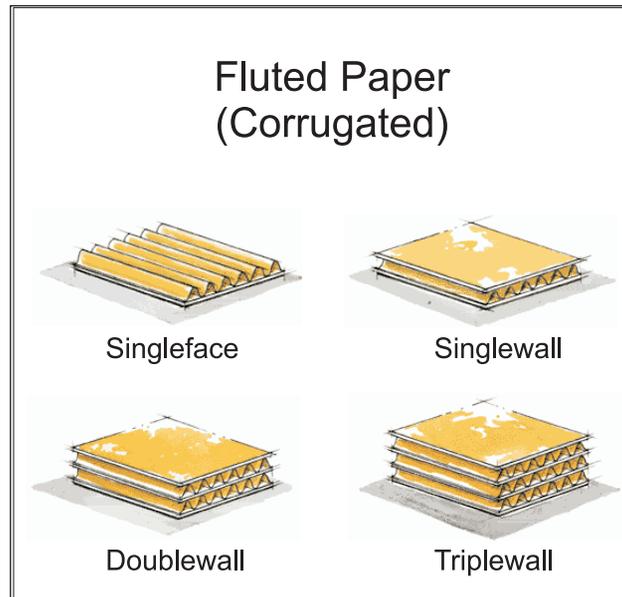


Diagram 3

medium with two liners. Doublewall was developed next and consists of two mediums and three liners. Last was triplewall, which consists of three mediums and four liners. (See Diagram 4)

Along with the different paper combinations, we also have different flute configurations (see Diagram 5). The height and spacing of these flutes make up their characteristics. You'll want to note that there's no correlation between

### Structure of Corrugated

- Liners**
  - Softer wood
  - Longer fibers
- Medium**
  - Mostly hardwoods

Weight	Thickness
26 LB	.0080
33 LB	.0100
38 LB	.0110
42 LB	.0125
69 LB	.0200
90 LB	.0230

Weight	Thickness
26 LB	.0090
33 LB	.0110
36 LB	.0120
40 LB	.0130

Diagram 4

### Flute Profiles

- F Flute
- E Flute
- C Flute
- B Flute
- A Flute

Diagram 5



# Cold Gum Mixing Machine

The Advance Starch Glue Preparing Technology in Square

		Capacities				
		200 Kgs.	400 Kgs.	600 Kgs.	800 Kgs.	1000 Kgs.
Gum Stirrer Size:	Length	20.5"	24"	27"	30"	31"
	Width	20.5"	24"	27"	30"	31"
	Height	30"	44"	52"	56"	65"

### Salient Features

Most Modern and Versatile
High Shear Mixing Agitator
Compact Design
Sturdy Fabricated Unit

### Benefits

High Shear Mixing efficiency
Stable Viscosity, Consistence Product
Low wastage in handling & transferring
Improved Product Quality as compared to the Round Tank
No Maintenance Cost as in the case of Pulley System



Our organization has supplied more than 200 Cold Gum Mixing / Stirrer Machine to our valued customer which is our appreciated achievement.

For more information on our products and to watch our Cold Gum Mixing / Stirrer Machine video log onto our website [www. balajienterprisesindia.com](http://www.balajienterprisesindia.com)

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I haven't heard of it yet. Today flutes are generally named after either the person who developed them or refer to some characteristic of the board. For example, the people who invented G-Flute wanted it to stand for graphics flute because they felt their product was ideal for printing.

Diagram 6 is a typical flute chart. It's important to note these are average flute heights and spacing. We're talking about the medium here; just the fluted piece of paper. Each manufacturer has their own set of standards which they adhere to, and it's important to note that these are average flute heights, and they do not include the thickness of the liners.

### Flute Chart

Flute	Avg. Flute Height	Flutes Per Foot
N Flute	.020	170 +/-4
F Flute	.030	128 +/-4
G Flute	.040	179 +/-4
E Flute	.045	90 +/-6
B Flute	.097	47 +/-3
C Flute	.142	39 +/-3
A Flute	.184	33 +/-3
K Flute	.260	25 +/-2

Source: Corrugated Crossroads & Boxboard Containers, May 2001

Diagram 6

Diagram 7 shows non-compressed thickness. This chart does include the thickness of the liners and shows us the difference in the thickness of corrugated sheet when different paper combinations are used.

### Non-Compressed Thickness

Non-Compressed Thickness of Singlewall					
Flute	26/26/26	42/26/33	42/26/42	69/26/69	90/26/90
E Flute	.059	.063	.067	.081	.097
B Flute	.111	.115	.119	.133	.149
C Flute	.154	.158	.162	.176	.192
A Flute	.194	.198	.202	.216	.232

Non-Compressed Thickness of Doublewall			
Flute	42/26/26/26/26	42/26/42/26/42	90/26/90/26/90
BC Flute	.262	.270	.315
AB Flute	.302	.310	.355
AC Flute	.325	.353	.398

Source: Ward's Fundamentals of Soft Anvil Rotary Die Cutting

Diagram 7

One thing that you must understand is that not all B-Flute is the same height. Notice the differences in the non-compressed thickness of B-Flute when the different paper combinations are used. This rule applies to all flute profiles.

By now you can see that there's an endless combination of paper weights, flute configurations and board makeups. With all of these different options to choose from what terminology do we use to simply identify our board combinations?

If you place a 42-pound liner together with a 26-pound medium and a 42-pound outer liner, is that called 110-pound board? The answer is no. While mathematically it

makes sense, there are testing procedures that are used to identify our board combinations. That particular combination is referred to in the imperial system as 200-pound test. This number and terminology is derived from one of the more common testing systems. This system

measures the amount of pressure needed to burst through the corrugated board. This is the standard test used throughout the world.

This type of testing is referred to most commonly as the bursting test or Mullen test. The test is conducted using a burst tester. In essence, it consists of forcing

a rubber diaphragm through a 25-millimeter diameter hole with hydraulic pressure. The resultant upper bulge of the diaphragm causes it to puncture the corrugated specimen. The hydraulic force required to burst the specimen is recorded on a dial or electronic digital readout device. In this type of testing, it

is most important that the liners be strong and resilient. The need for longer fibers with elasticity plays a huge role in the performance. The medium plays a small-er role in achieving a high bursting strength reading. You'll see in a few minutes how this directly affects cutting and creasing.

Another test that has become more popular is the ECT test or Edgewise Compression Test. ECT testing determines the amount of force needed to crush a small section of a combined board held on its edge with the flutes in the vertical direction. ECT is a primary factor in predicting the compression strength of the finished box and used primarily when stacking boxes on top of each other is the most important aspect.

In this type of test, the medium becomes the most important part of the structure. When standing corrugated edgewise, the fluted material gives the strength. That means the emphasis will be placed on the medium. Better, stronger paper is used for the medium with lesser, weaker paper used for liners. As this testing becomes more popular, the challenges of diecutting will change.

### Principles of cutting and creasing

Now that we've covered the fundamental characteristics of corrugated, let's look at what happens during that nanosecond of time when the rule comes into contact with the corrugated sheet during the diecutting process.

Diecutting is that part of converting process that occurs after printing. Whether in rotary or flat operations, this fundamental principle remains the same. It is during the diecutting process that the flat corrugated sheet is cut into a unique shape and creased for folding. There are two basic differences between rotary and flat diecutting. The first is how the sheet travels through the press.

In Diagram 8, you can see that in rotary converting the corrugated sheets are pulled through the press by a series of opposing

Cont. on - 66

# COLD GUM MIXING MACHINE

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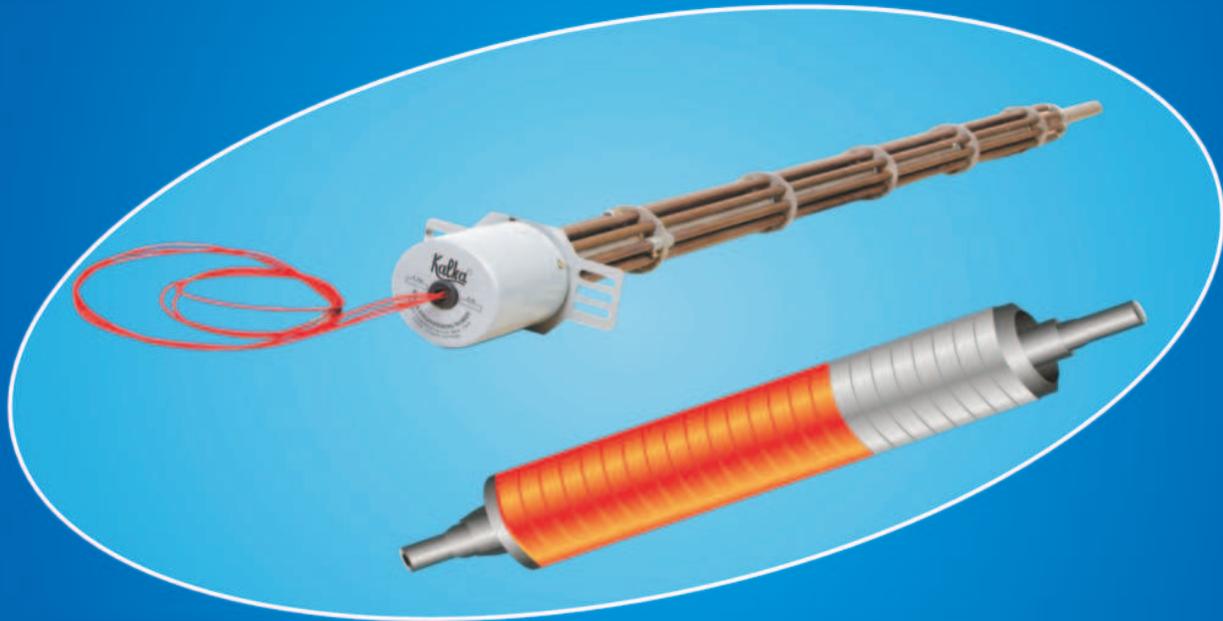
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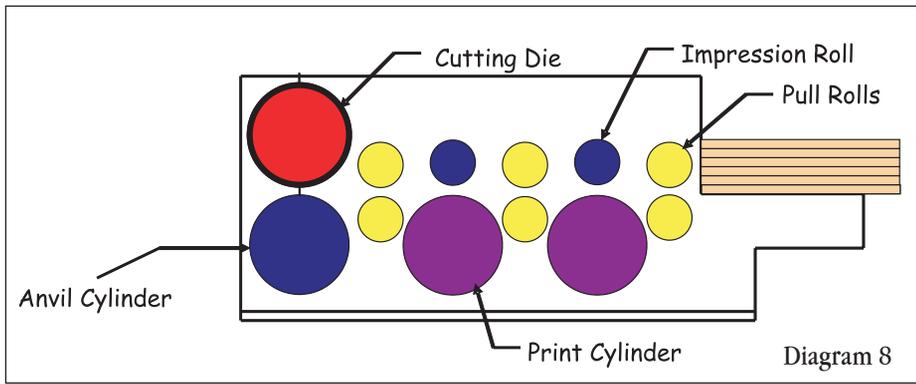
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occur. This is called soft anvil cutting (see Diagram 10).

In flat diecutting, the steel rule cuts against a steel surface, which it does not penetrate and should not actually come into contact with. This is referred to as hard anvil cutting (see Diagram 11).

Now when the rule strikes the corrugated board, what happens first—cutting or flute compression? And is it different between flat and rotary?

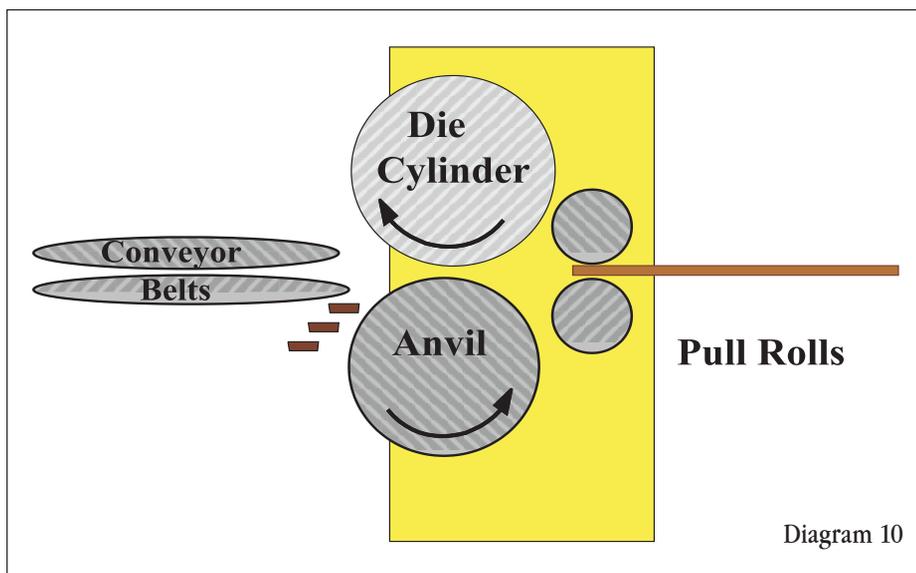
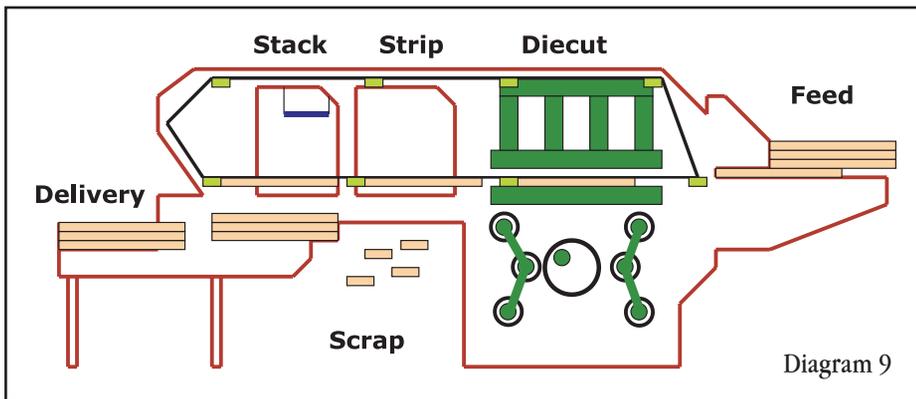
It's important in converting corrugated substrates to minimize crush wherever possible. Crush affects the strength and stability of any design. It certainly affects the design's ability to lock a tab into a small slot if that tab is being crushed.

**Principles of soft anvil cutting**

Crush is minimized in soft anvil or rotary die cutting by using rule with a serrated edge. If we look at serrated rule, we notice peaks and valleys. When the rule comes into contact with the corrugated sheet, the tips or points are forced into the paper of the inner liner first. As the rule continues its downward force, the paper is scissored into as the valley of the serrated rule passes through it. Complete cutting is not achieved until the valley of the rule passes through the outer liner of the sheet. This places the tips of the rule into the soft anvil. On average, serrated rules will penetrate into an anvil about .060" (1.524mm) before a complete cut is achieved.

**Principles of hard anvil cutting**

In flat or hard anvil cutting, serrated rule cannot be used since the points would be damaged striking the solid steel surface (see Diagram 12). Therefore, non-serrated rule with a bevel edge is used to minimize compression. During hard anvil cutting, all of the rule comes into contact with corrugated board at the same time. As the rule continues its downward movement, the liners and the mediums are compressed together until the bevel edge of the rule causes the compressed paper to shear in two (see Diagram 13). In theory, it's only necessary for the tip of the beveled rule



parallel rollers. Cutting and creasing occur as the sheet travels between the nip point of two parallel cylinders, one covered with urethane blankets and the other holding the curved steel rule die.

In flat converting, the corrugated sheets are pulled through the press by grippers attached to the lead edge of the sheet (see Diagram 9). However, the sheet stops traveling in the diecut section and is stationary as cutting and creasing occur.

So the basic fundamental difference is that we've got a sheet actually traveling through the press while cutting and creasing occurs in rotary. In flat diecutting, the sheet is stationary.

The second basic difference in flat and rotary converting is the theory of cutting. In rotary diecutting, the steel rule must pass through the corrugated substrate and must also penetrate into the urethane blankets in order for a complete cut to





Diagram 11

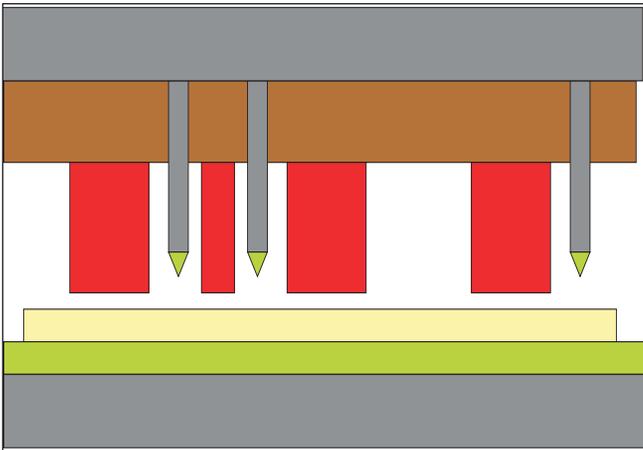


Diagram 12

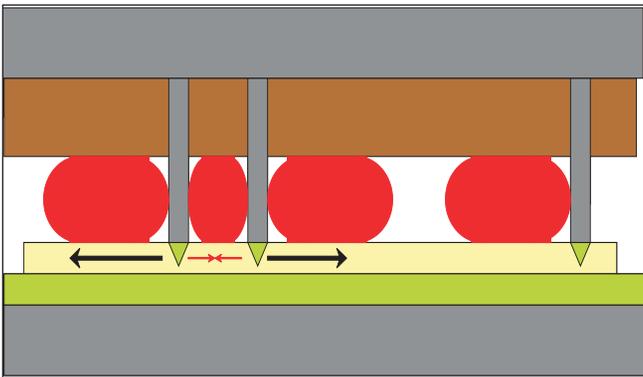


Diagram 13

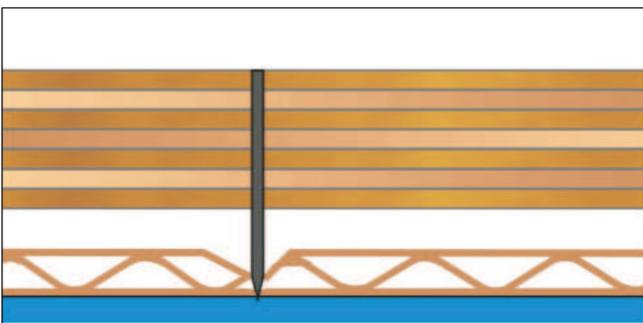


Diagram 14

to pass through 75% of the thickness of the compressed substrate before the separation occurs. This is referred to as kiss cutting, because the tip of the rule only needs to lightly kiss the surface of the lower plate in order to cut.

Now that we have a basic understanding of the principles of cutting, let's look at how the characteristics of paper and the other attributes of corrugated board affect the quality of die-cutting.

The strength of the medium and the weakness of the liners will determine the amount of flute compression before penetration into the liner is achieved (see Diagram 14). If the medium is a soft weak paper, it will compress very easily and therefore the substrate may completely compress before the teeth enter into the inner liner, especially if the teeth are rounded or slightly dull.

So what if the medium is stronger than the liner? The combination of a stiff medium and a thin liner can cause bursting on the inner liner before the teeth penetrate (see Diagram 15). As the paper is drawn

downward by the rule, it stretches. Since a strong medium does not collapse easily, the force of the paper being stretched is limited to a confined area. If during this process the paper does not have the elasticity to stretch, naturally it will fracture. It is a common problem with liners that have high recycle content because the fibers of recycled paper are shorter than those of virgin board, and as a result, the paper is not as elastic as liners made from virgin fibers.

Another point that should be made is that as the weight and thickness of the corrugated substrate is increased, the distance between the teeth of the serrated rule should also be increased as well. The distance between the teeth should be directly proportional to the thickness and strength of the substrate being diecut. Increasing the distance between the teeth allows more room in the valley and enables each point to work independently as it punctures through the inner liner. This means more scissoring action and less flute compression. So with substrates consisting of many pieces of paper such as doublewall or triplewall, as well as singlewall made with heavy liners or more virgin fibers, more space is required between the teeth.

Most of the same principles apply to creasing that apply to cutting. What are we trying to accomplish? We're trying to create the deepest most defined score without fracturing the liner (see Diagram 16). This is most easily accomplished when we have corrugated made with a pliable inner liner and a weak medium.

But when trying to crease corrugated with stiffer mediums and thinner liners, fracturing becomes a problem again (see Diagram 17). We have the same effect of stretching the sheet in a limited area, resulting in bursting. Dry board or board with high recycle content in the inner liner will also tend to fracture more easily.

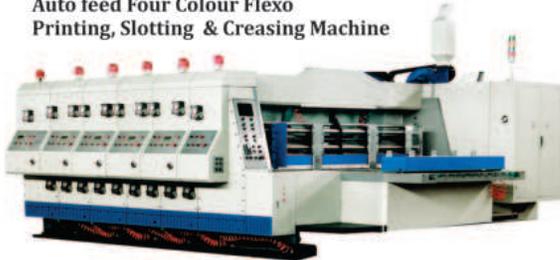
So what do we do to combat this problem? To minimize fracturing in scores, harder rubber slightly lower than the score height

*Cont. on - 71*



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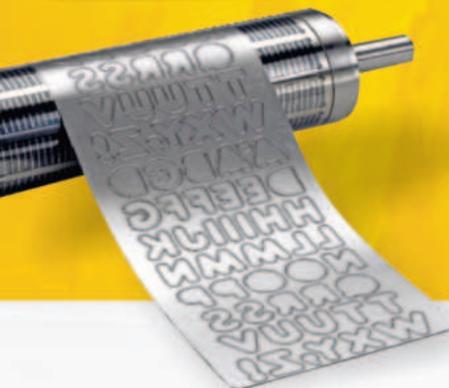
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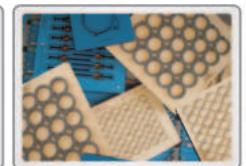
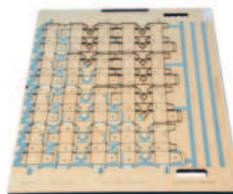
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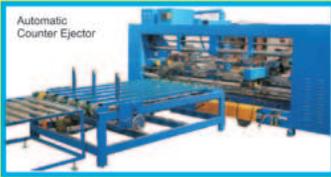
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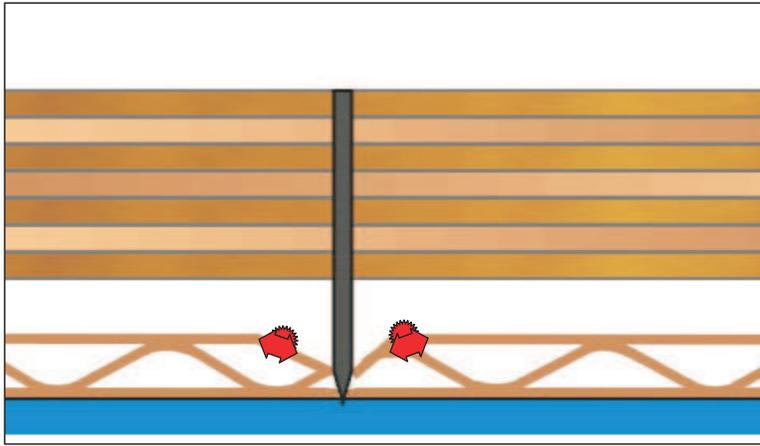


Diagram 15

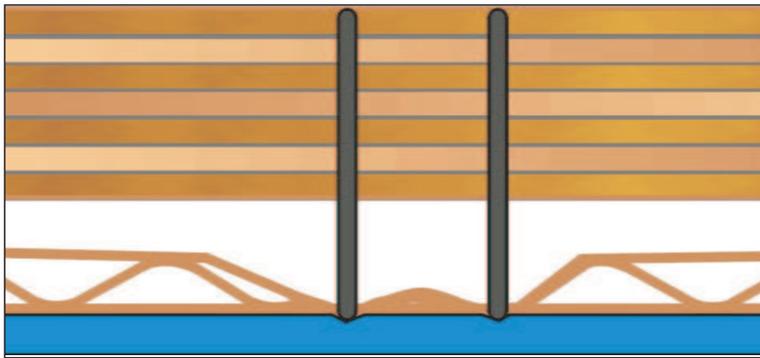


Diagram 16

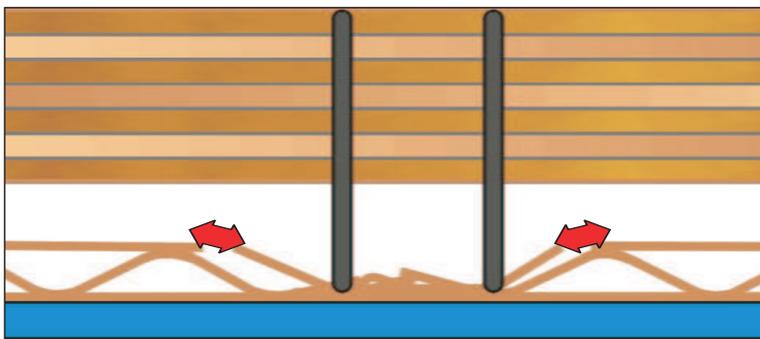


Diagram 17

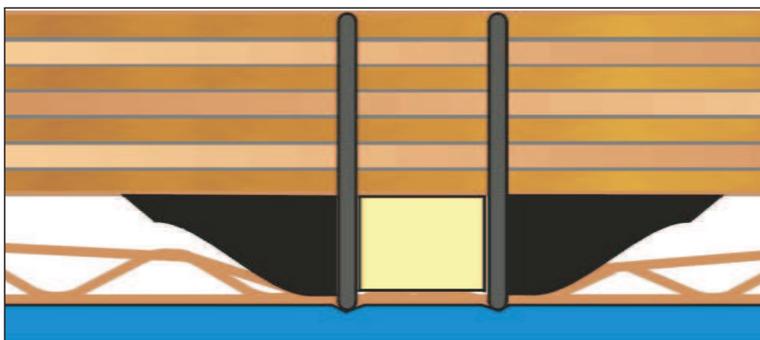


Diagram 18

can be placed next to the scores (see Diagram 18). In essence, this spreads the compression of the fluted material over a much larger area. This keeps the liner from having to stretch as great a distance. Lowering the scores .010" to .020" (.025mm to .508mm) can also help to reduce fracturing. Using a wider scoring rule will help reduce fracturing as well.

### Conclusion

Although the theory of cutting is different between hard anvil (or flat) diecutting and soft anvil (or rotary) diecutting, the basic objective remains the same: to cut with a minimum compression and to create the deepest defined score without fracturing. It is my hope that you will share this article with your employees, whether they are new or current employees, and help teach them about our business. Whether they're sales people, customer service people, or production people, we all need a broader view of converting to help us address the challenges that we face each day.

Guy Earley is the Sales and Marketing Manager for Stafford Cutting Dies, Inc. He has worked in the industry since 2000 and has presented more than 50 in-house training sessions to box plant employees. Guy can be contacted at [guye@gostafford.com](mailto:guye@gostafford.com) or by phone at 1-704-821-6330. For more information, visit [www.gostafford.com](http://www.gostafford.com).

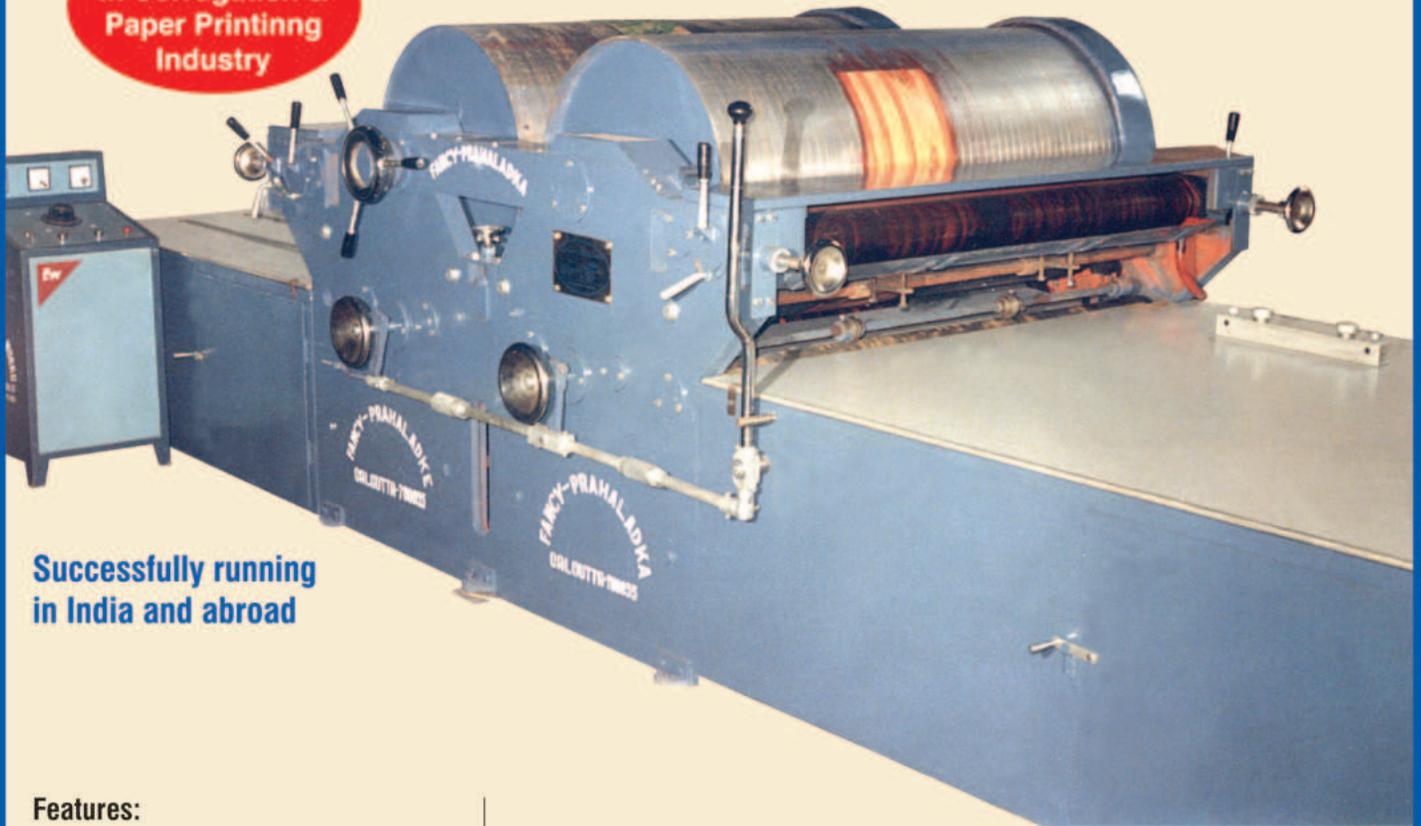
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# Creasing Techniques for Corrugated Platen Diecutting

**Traditional corrugated platen diecutting involves the creasing of corrugated stocks while cutting toward the inside of the part, whether the finished product is a simple creased pad, an RSC (regular slotted container) or even a complex shaped insert component.**

Traditional corrugated platen diecutting involves the creasing of corrugated stocks while cutting toward the inside of the part, whether the finished product is a simple creased pad, an RSC (regular slotted container) or even a complex shaped insert component.

The creasing technique employed in this instance is usually a simple crush of the medium and inner liner with a blunt creasing rule. Four point wide flat-topped creases perform this function very well, especially when creasing across the flutes. When creasing in the corrugation direction, the tendency of the stock to fold on the flute glue lines instead of the intended crease line can be a source of creasing inaccuracies.

For most brown box corrugated applications, outer liner stretch or cracking is not a significant issue. Dry stock can make this form of creasing more difficult. Unlike soft anvil rotary diecutting, the inner liner rarely fractures during Bobst style platen diecutting.

Once graphics are added to the outer liner, the addition of a creasing matrix in conjunction with a slightly reduced crease height can be utilized as a means of reducing outer liner fracturing. The matrix-crease combination creates a pronounced creasing bead on the liner of the box opposite the creasing rule strike. This pronounced bead causes considerable sheet draw and the strips of matrix may leave some unsightly marks on the liner running next to the creases.

For most brown box applications, this technique can act as an effective method to reduce liner cracking while attempting to improve product folding tolerances. This technology dates back to the 1960s and may not produce the kind of folding and gluing characteristics required by the demanding end use applications of today.

Whereas soft anvil rotary diecutting is perfect for high volume brown box production, Bobst-style platen diecutting is the answer when product quality issues arise, such as the requirement of clean outer liner graphics or the need for accurate, high-speed folding for gluing and filling.

## The fluted revolution

Major new markets have emerged in recent years for corrugated materials. A fluted revolution has occurred where the basic brown RSC shipping container has evolved into a folding carton-style package with expensive graphics. However you classify the fluted revolution, it is hot and in demand.

The fluted revolution requires a totally hybrid manufacturing technology that bridges the gap between folding carton and traditional corrugated. Folding carton converters see the small-flute applications as an extension of their current product line.

Folding carton converters have the experience, equipment and organizational structure to succeed in the fluted revolution. The new small-flute boxes are essentially

**Patrick Quinlan,**  
Channel Creasing Matrix,  
Inc./ CCM Die Supply,  
Martinsburg, VA, USA

folding cartons. They know the customers, the designs and the printing, diecutting and gluing processes employed to produce cartons. These converters also use high-speed Bobst SP folding carton cutting presses with tight print-to-cut capabilities. They also have an organizational structure that involves technically sophisticated people in all stages of production planning as well as purchasing.

## Challenges

Folding carton converters entering the fluted market encounter a lack of knowledge and experience with the fluted material itself. Fluted stocks are much thicker with different creasing principles and are prone to warpage.

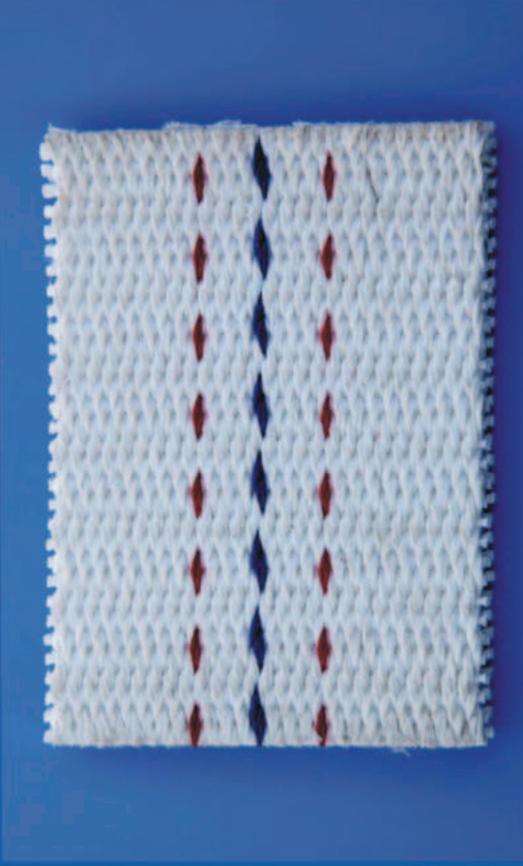
Corrugated manufacturers know how to handle the material but fall short in the other areas of experience, equipment and organizational structure. The users of small-flute packaging are mostly carton-oriented in their designs and modes of purchasing. Corrugated plants run slower, less sophisticated Bobst SPO equipment or highspeed, lower-quality-oriented rotary diecutters. Corrugated plants may not involve technical personnel in making many tooling and production planning decisions. It is common to use CAD designers or customer service staff to specify and order converting tooling.



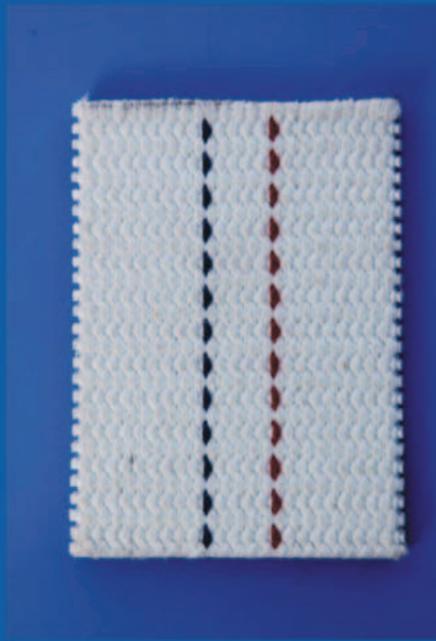
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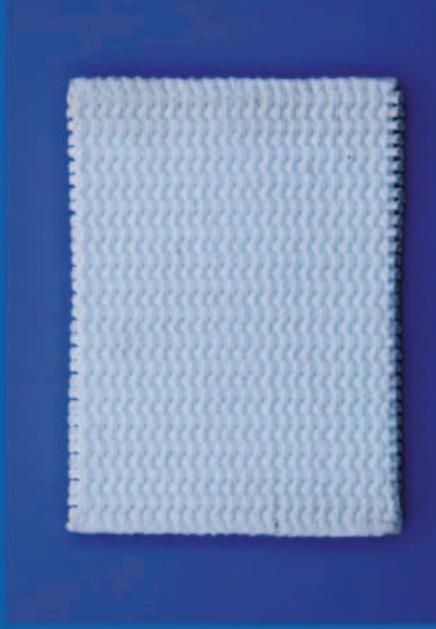
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The most important thing to remember in the fluted revolution is that we are really talking about folding cartons made from fluted materials. In the folding carton market, it is “precise folding for gluing and machine filling” that determines success and market value—not the bursting and stacking strength criteria of traditional brown box corrugated. Creasing and folding are the keys to success in the fluted revolution. Since we have determined that this is a folding carton product, our discussion of corrugated creasing will be limited to Bobst-style platen diecutting applications.

The platen creasing of fluted materials is a much different process than the creasing of traditional corrugated or the creasing of folding carton stocks. Traditional corrugated is creased on the inside of the box while folding carton stocks are creased on the outside with a matching counter.

Conventional corrugated creasing indents the inner liner. When the corrugated is folded, the outer liner is stretched especially when folding across the flute direction. The position of the corrugated flute glue lines affect folding in the flute direction. The locations of these flute glue lines vary from sheet to sheet causing a variation among the diecut boxes, resulting in folding irregularities during gluing and filling operations.

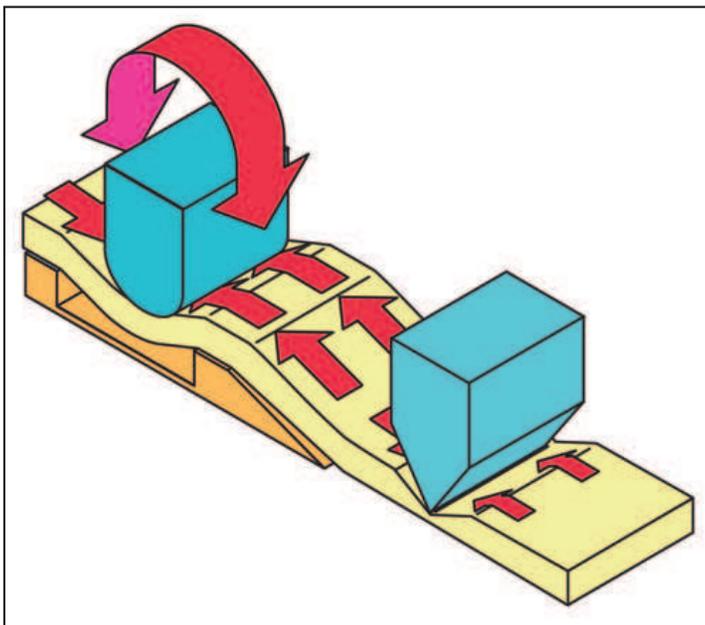


Diagram 1

Folding carton creasing includes the use of a matching creasing counter to form a creasing bead on the inside of the carton. This creasing bead causes a partial delamination of the layers of paper in the carton stock that allows the stock to fold along that delamination in a consistent manner (see Diagram 1).

### Creasing fluted stocks

In fluted creasing, the use of a creasing counter is also desirable, but no delamination of the material takes place. The liner of the fluted material that is struck by the creasing rule receives a single indentation while the liner that is pushed against the creasing counter receives a set of parallel indentations centered under the creasing indentation. The area within the triangle formed by the three indentations must be properly crushed in order to achieve accurate and consistent folding, especially when cutting toward the print side of the sheet. The material within that triangle area is the fluted medium. It is this crushing of the medium that allows the fluted material to be accurately folded (see Diagram 2).

The use of CNC-routed counterplates produces very exact creasing in fluted materials, resulting in excellent folding for gluing and machine filling. All counterplates in a layout are identical so multiple positions on a die all fold exactly

the same every run. Fluted creasing works well when done from either the outside or inside of the box. The combined effect of the inner and outer liner indentations with the medium crush overcome any potential problems of inaccurate folding in the flute direction

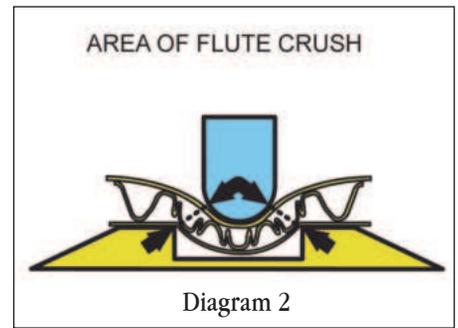


Diagram 2

associated with the flute glue lines. This technology also reduces outer liner fracturing as the crease channels in the box stretch during folding in both the flute and cross flute directions.

Fluted materials are all essentially the same thing—two liners and a medium (see Diagram 3). These components are three sheets of paper and air. Fluted materials are thick, but not dense. They are actually quite spongy and forgiving. Because all fluted materials are three layers of paper, we crease them all the same way no matter the stock type.

### Reducing sheet draw

Sheet draw is also a major cause of crease fracturing and edge chipping during diecutting. Sheet draw is the pull on the sheet caused by the cutting and creasing of a sheet over an uneven cutting surface (see Diagram 4).

Since fluted stocks are thick, they generally have thicker counterplates than folding cartons that can exaggerate the effect of sheet draw. During diecutting, sheet-draw pressure can cause the knives and creases to pull on the fluted material and produce micro-fractures along the creases. These micro-fractures will develop into cracks when the box is folded.

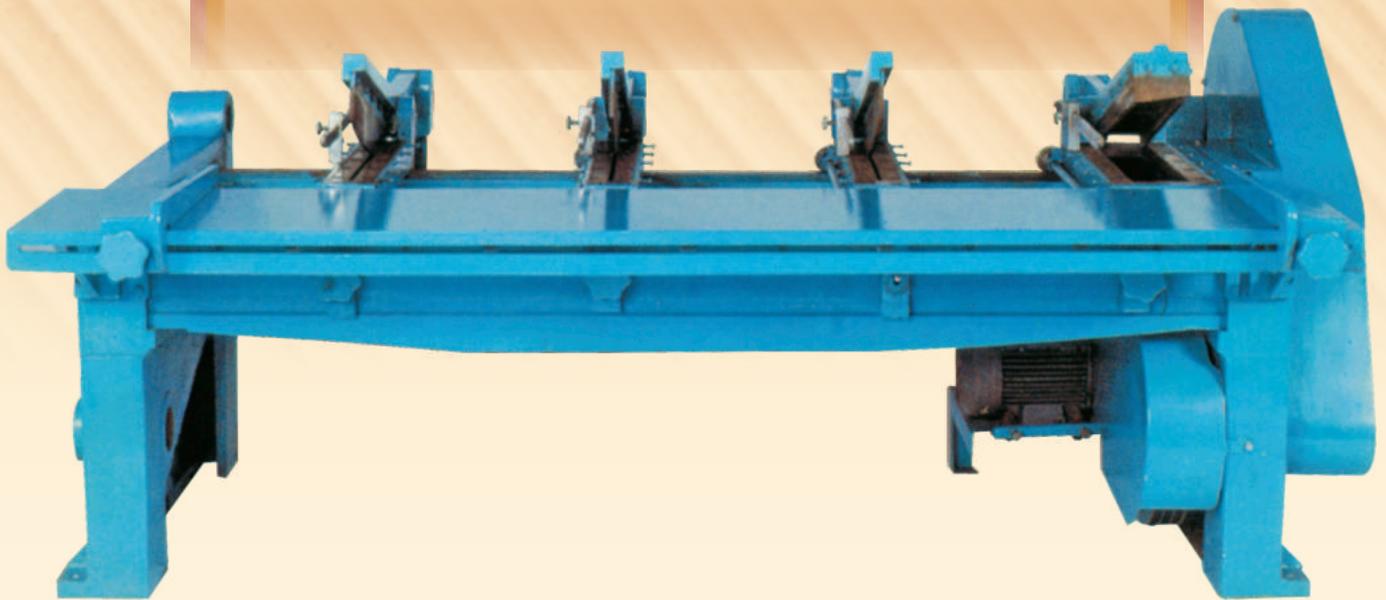
Sheet draw also causes edge chipping—especially when cutting toward the inside of the sheet. Sheet draw pulls on the stock while the cutting knives are striking the inside liner. As the knife is cutting into the sheet, the sheet is being pulled toward nearby creases, causing the top sheet to tear instead of being cleanly cut.

*Cont. on - 78*

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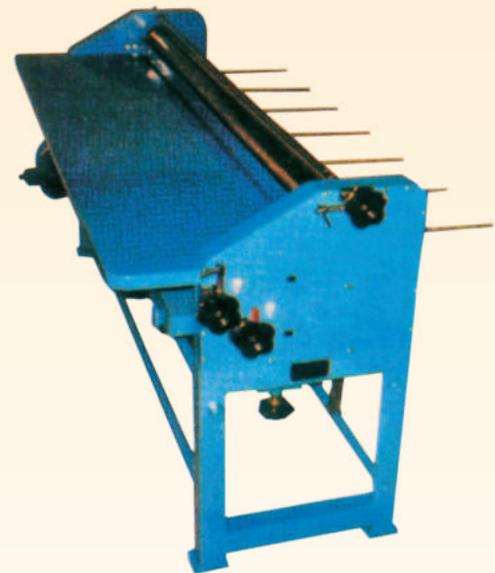
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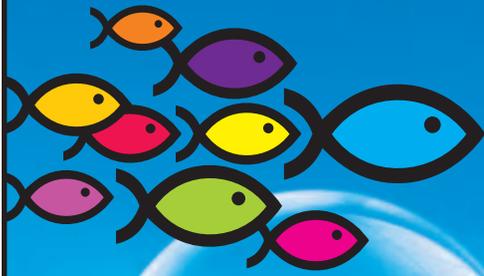
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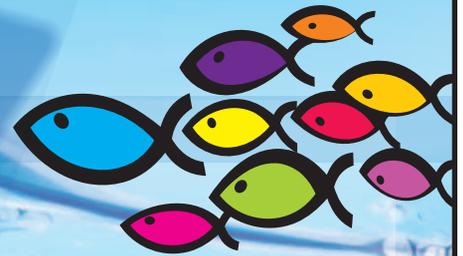


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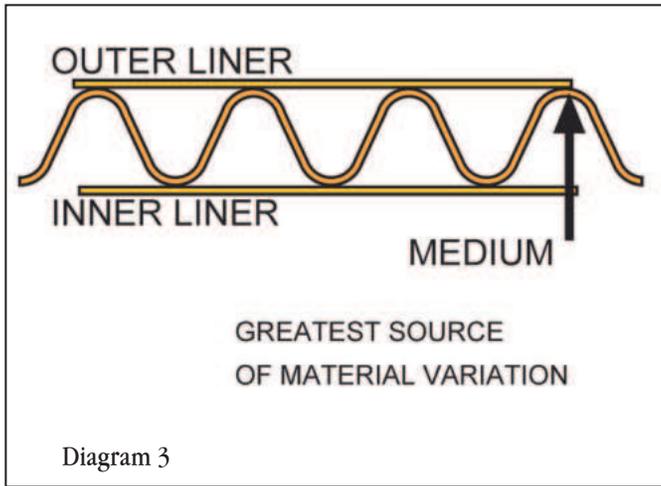


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required amount of medium crush for proper creasing. Thinner counterplates produce the least amount of sheet draw.

Diecutting fluted stocks with an engraved 1 mm (0.039") steel counterplate yields the least amount

Matrix makes this problem even worse since it does not provide a flat creasing surface. The use of matrix strips results in a series of raised creasing channels across the cutting plate. The corrugated stock is stretched and rolled over each row of creasing matrix. Matrix actually produces a more uneven surface than the use of phenolic counterplates that have crease channels milled into a single flat surface. The use of nitrogen-filled, closed-cell rubber in strips (not pieces) next to the die knives will eject fluted stocks while not crushing the flutes or leaving debossing markings from the counterplate on the finished product.

It is best to use the thinnest phenolic counterplate possible to achieve the

of sheet draw and outer liner marking during diecutting such as when cutting B-flute on the inside of the sheet. The engraved steel counterplate is substituted for the blank 1 mm (0.039") thin plate already in use on the Bobst diecutting press to save the plate makeready.

### Other causes of crease fracturing

Materials and machines used in the production of the fluted box also affect crease fracturing on the printed liner. Paper dryness can be an important factor. Inks and coatings used in printing also affect the creasing and folding of fluted materials. Some colors or coatings result in liner fracturing more than others. This is not just true of the darker colors.

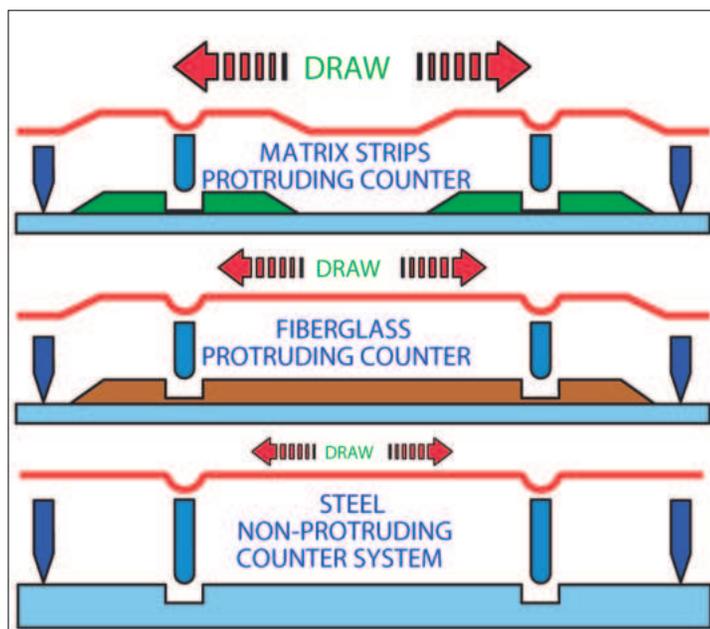


Diagram 4

The inner liner usually is unprinted and not a source of crease-fracturing problems. It is usually quite forgiving. I have experienced situations where the inner liner was so poor that it failed to form a proper creasing bead.

The medium is the source of most variations in the creasing process. Medium variation is not usually a problem when jobs using fluted stock are consistently produced on only one corrugator medium flute roll but is definitely a problem when corrugated sheets including single face come from multiple sources. Medium variation is the reason why different converters run the same job with a variety of creasing specs, each targeted to the specific medium being used.

Most fluted converters think that the outer liner has the greatest impact in determining crease specifications. Remember that corrugated creasing is really a crushing of the flutes that is directly affected by the structure of the fluted medium. Converters of fluted materials should insist that the stock supplied to them be consistently from the same set of flute rolls from the same corrugator every time to reduce medium variations and not necessarily from the cheapest source that can vary from day to day.

### New developments

Narrow-bead creasing is a new development in the diecutting of fluted materials. By narrowing the crease channel and raising the crease height, a creasing bead can be formed on a fluted box while diecutting on the print side that will perform very well. This concept is a dramatic departure from the common practice in corrugated converting of moving to a wider crease whenever there is a creasing problem.

Narrower creasing beads fold more precisely than wider beads. When cutting on the print side of the sheet, the creasing bead is formed on the inside of the box. The smaller that bead, the less likely that the crease will fold on just one side of the bead. Large, pronounced creasing beads on the inside of the box can actually impede the folding process.

Narrow-bead creasing involves the slight crushing of the inside liner and medium on each side of the creasing bead. The greatest obstacle to using this method of creasing on a large scale is the variation caused by

Cont. on - 83

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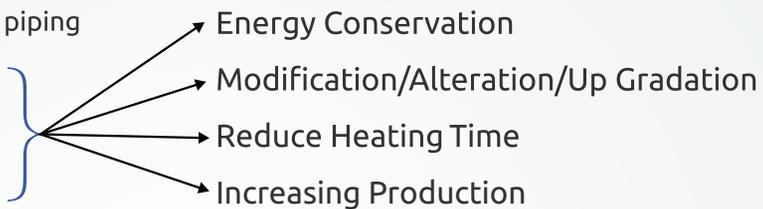
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differences in the medium between fluted stocks produced on various corrugator flute rolls. No single formula works for all situations and it is a process subject to trial and error to yield the best results.

One thing to remember—it is not advisable to diecut any stocks from the print side with mediums greater than 26 lbs (11.79 kg) in weight. Any medium stronger will resist the crush required to fold properly and consistent folding for gluing and filling will be impossible. The reverse logic applies for any B-flute or greater stocks. B-flute cannot be creased from the print side in the corrugated direction consistently because the flutes are too far apart to be properly crushed. Therefore, B-flute is always cut and creased on the inside of the sheet.

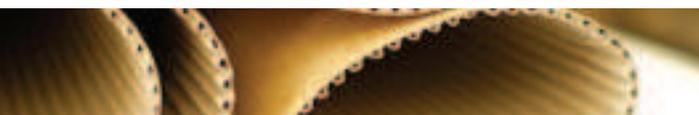
The use of small flutes in folding carton-style applications requires the use of new technologies and is spreading at a rapid pace. The correct creasing of these fluted stocks on Bobst-style platen equipment is the ticket to success in the fluted revolution.

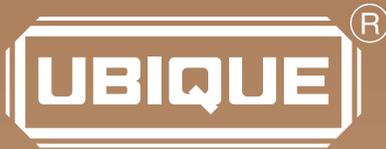
Patrick Quinlan is Technical Sales for Channel Creasing Matrix, Inc./CCM Die Supply. He holds an MBA from the State University of New York at Buffalo and has 51 years of diemaking and diecutting experience in both the folding carton and corrugated industries. Patrick can be reached at 1-304-616-1288 or by email at [pquinlan@ccmdie.com](mailto:pquinlan@ccmdie.com). For more information, visit [www.ccmdie.com](http://www.ccmdie.com).

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# Industry News

## BOBST is celebrating its 125th anniversary

BOBST is embarking on this anniversary with its sights focused firmly on the future. From autumn 2015 to autumn 2016 it will hold a year of events running under the motto "125 YEARS: FOR THE NEXT GENERATION". BOBST has chosen this slogan first of all to thank its customers who have placed their trust in the brand for 125 years.



It is also to pay tribute to its staff, whose enthusiastic work has given the brand's products and services their renowned excellence.

This anniversary is a reminder that everyone has a part to play in laying the foundations that the company intends



to bequeath to future generations, the cornerstone of which resides in customer satisfaction.

### 125-year anniversary website

In addition to the graphic elements which are the visible signs of this anniversary, three key initiatives will punctuate this program of celebrations.

### Customer events

The 125th anniversary will also feature in the company's trade exhibitions, customer

days and open days. In particular, BOBST will be commemorating its anniversary at the **drupa 2016 and K 2016** international shows, which will be held next spring and autumn in Düsseldorf, Germany.

### "BOBST – One Group around the world"

On 23 March 2016 all BOBST staff will join together for a day celebrating BOBST's 125 years. The celebrations will kick off in Japan and will end in Mexico, passing through each of the Group's facilities during the day. This event, which is being organized in all subsidiaries around the world, will also be an opportunity to thank all who work there for their contribution to the success of the business.

### Let us build our future together!

125 years of history and innovation are a great source of inspiration, influencing both the culture of the business and its development by the next generation. The Board of Directors is planning the implementation of collective projects at a local level, coordinated by BOBST staff. These long-term initiatives represent a joint commitment and offer employees the opportunity to build the future together.



Cont. on - 91



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## Corrugated packaging industry 'shows the way forward for UK manufacturing'

During 2015 General Election manufacturing in the UK became a key issue with all the main parties insisting that they will introduce measures to boost productivity and improve the UK's economic performance in this vital sector.

Despite an improving economy, there is still scope for improvement in productivity as Britain is now around a fifth less productive per worker than its main competitors. However, one industry in the UK that has already proven that it is up to the challenge of improving its productivity is corrugated packaging, says the Confederation of Paper Industries (CPI).



Due to forward thinking and innovation, the UK Corrugated Industry has become a leaner manufacturing machine following an efficiency drive that has seen productivity driven up 40% in a decade and almost £500million invested in new machinery and plant over the last two years.

Efficient production – 42% of all paper output from UK mills is turned into packaging – goes hand in hand with sustainability. The introduction of lightweight papers has resulted in a seven per cent decrease in weight, contributing to a reduction in the industry's carbon footprint of 16% between 2005 and 2011.

The UK Corrugated Industry - a major part of the £6.5 billion turnover UK Paper

Industry - is the fifth largest market in Europe and is doing more with less by taking effective steps to hold its own in a fiercely competitive global market.

Corrugated's versatility makes it a vital logistics partner in the 21st Century supply chain. Its importance to many UK food businesses - as shown in a recent survey by CPI - and popularity with consumers for grocery shopping, are further indicators of the material's vital place in today's society.

CPI's Director of Packaging Affairs, Andy Barnetson, says that the Corrugated Industry's innovative packaging solutions, coupled with renowned environmental credentials – corrugated is the most recycled material in the packaging industry – are boosting its appeal.

He explained: "The bottom line is that corrugated is a forward looking industry investing in efficient manufacturing solutions for a sustainable future. Its flexibility and qualities in terms of printing, design, hygiene, logistics and protection give it a significant edge over alternative forms of packaging. Its successful shelf ready packaging and functionality is benefitting brand owners, consumers and the environment alike."

The Corrugated Industry may not have all the answers to the nation's productivity dilemma but its continued investment in, and drive for, innovative and sustainable packaging solutions are making a valuable contribution to the UK's manufacturing base.

### Corrugated Raises the Handle Bar for Bike Packaging

Corrugated's inbuilt versatility and cushioning qualities are providing the optimum protective solution during transit for arguably one of the UK's most used and best-loved folding bicycles, the Brompton.

A one-piece corrugated transit solution has been developed to secure this iconic bike within a compact package by creative use of an extended glue flange and precise



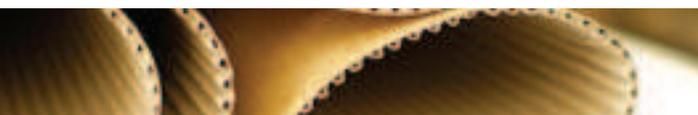
flap arrangements. The internal base flaps fold to form a supportive, cushioning structure which delivers extra protection to vulnerable areas.

The result is that upon opening, the bike is presented to the customer in a logical and pleasing manner that reflects its high profile. The use of locking tabs has enabled Brompton to dispense with tape that previously secured the pack, making the box more aesthetically appealing and simple to recycle.

The Confederation of Paper Industries (CPI) says that this highly innovative solution confirms corrugated board's reputation for being both reliable and simple, and its application can be readily tailored to suit any shape and size.

CPI's Director of Packaging Affairs, Andy Barnetson, said: "Corrugated is the ideal means of protection for such a renowned

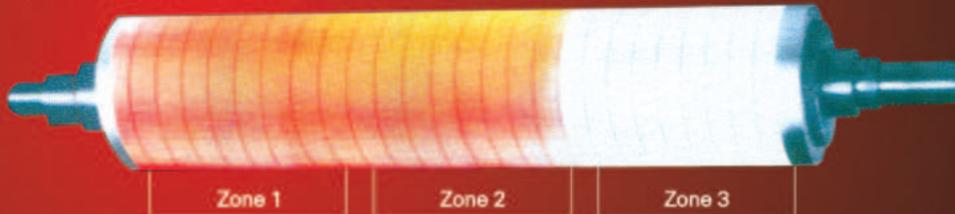
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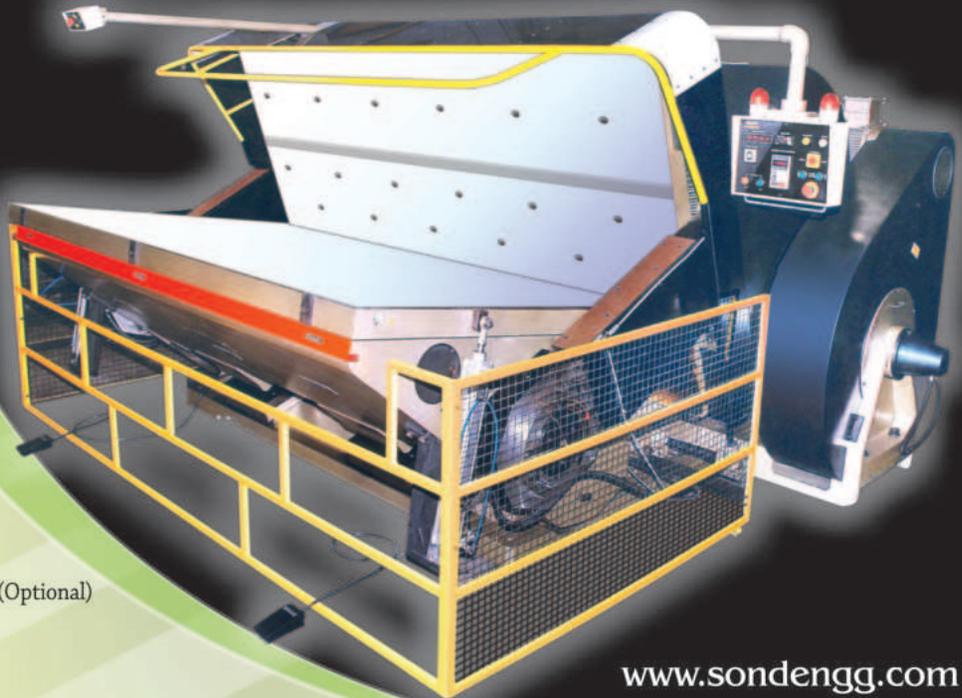
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product. It is the UK's most widely used packaging material for maintaining goods in a safe and secure condition during shipment.

“Advances in corrugated technology are making it ever more possible to deliver complex structures whilst incurring minimal wastage. Its exceptional environmental credentials are a highly compelling attribute within a retail marketing climate that is increasingly demanding greater sustainability.”

Corrugated packaging protects around 75% of goods in transit and has led the way on issues such as lightweight packaging and space efficiency in stores and trucks, which has resulted in a reduction of heavy lorries on the road through the supply chain for consumer goods.

Getting products from A to B efficiently and cost-effectively is no longer solely a matter of logistics; it is increasingly part and parcel of the overall marketing mix. Through various packaging innovations, corrugated is providing creative retail ready packaging opportunities, while still delivering the supply chain with a highly functional solution that enables both suppliers and consumers to benefit from improved product marketing and presentation.

It sets a benchmark for versatility, making it a vital logistics partner for a variety of reasons. It can provide transit protection, display and a storage solution for a huge range of products, from butter to bikes.

Corrugated is already recognised by many British shoppers as the preferred method of packaging for purchases delivered to their home because of its protective qualities, as well as being considered the easiest material to recycle.

Brompton's championing of a more eco-friendly approach to commuter travelling is in sync with corrugated packaging which is, of course, fully recyclable. Its one-piece transit solution has certainly raised the bar for bike packaging.

More info: [www.paper.org.uk](http://www.paper.org.uk)

## World demand for corrugated boxes to approach 260 billion square meters in 2019

World demand for corrugated boxes is expected to increase 3.7% per year through 2019, approaching 260 billion square meters. In developed countries, box demand tends to track overall economic growth and industrial production trends and, as a result, will continue to be relatively slow growing. In developing economies, especially those in Asia and the Africa/Mideast region, growth will be more robust as manufacturers in these areas use corrugated boxes more intensively for product packaging and transportation, in part because boxes are still gaining market share from wood crates and other traditional containers. These and other trends are presented in World Corrugated Boxes, a new study from The Freedonia Group, Inc. ([freedoniagroup.com](http://freedoniagroup.com)), a Cleveland-based industry research firm.

“In nearly all regions, strong growth in e-commerce will drive corrugated box usage, as will the growing popularity of retail-ready packaging,” says analyst Mike Richardson. Retail-ready packaging has become increasingly popular in more affluent countries because of the time and labor cost savings it offers. Corrugated boxes will continue to benefit from their sustainability, good environmental image, and low cost compared to competitive products. In addition, suppliers continue to upgrade their boxes in terms of durability and further enhance their aesthetics through the use of digital printing.

The Asia/Pacific region accounted for half of global corrugated box demand in 2014, with China alone representing almost 30 percent. Growth in the Chinese market is expected to slow going forward as growth in manufacturing activity moderates. Despite this deceleration, China will still post one of the fastest growth rates for box demand worldwide. Other countries in Asia expected to see strong gains include India, the Philippines, Thailand, and Vietnam.

The Africa/Mideast region will offer the fastest growth among the six world regions, but will continue to account for less than five percent of global corrugated box demand. While there are a few appreciable box markets in the region, such as South Africa and Turkey, most countries, including the wealthier nations such as Israel and some of the Gulf states, do not yet have manufacturing sectors large enough to support substantial corrugated box sales.

<http://www.packagingstrategies.com/>

## Digitization in packaging industry is revolution for better opportunities

CPI which is confederation of paper industries has said that the digitization for the packaging industry which is corrugated will be the extreme challenge for over 40 years and should feel embracing to retain its place for corrugated as a superior in its format of packaging for high streets.

The world's favorite form for packaging is corrugate and it has a great worth for the art of industry that covers almost 75 percent of goods for transportation. The packaging industry should hold a strong position in its retailing and for that it has to be get grip on the interactive technology as well multimedia packaging.

The sophisticated printing on the goods is the reason behind the demand from brand owners and is the booster to marketing activities. This in-store activity led management to focus on evolution to corrugated packaging from transport goods conventionally to self advertising channel. This is the channel which has continuous communication with end users and for that reason it is driving demand towards the digital formats.

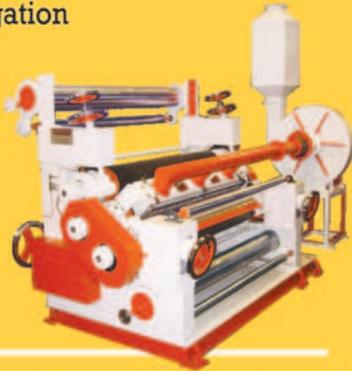
Engaging customers is possible with new marketing techniques and corrugated flat printing creates an ideal mark in printing for Smartphone apps and QR codes. With the advent help of specialists in digital printing, the corrugated industry can able

Cont. on - 99



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to develop the latest designs and trends with the help of effective technologies which are most precise for handling interactive tools will meet appetite which is growing to access information about product instantly.

Interactive and multimedia development in packaging will serve customer loyalty by allowing consumers to interact and offer their plethora of requirements through their mobile devices. The revolution in the digitization can get bigger change in corrugated industry.

This will need a lot of investment whereas corrugated industry is helping to create the basis to get benefits in future innovations, particularly when intelligent packing probably reduces. In 21st century corrugated industry has proved its standard as bulk carrier for supermarkets. Digital technology has enabled another opportunity to the industrial growth.

Corrugated industry has proven its level of market by the digitization and given a huge scope for the quality in products. This has been changed to solution for three-in-one packaging and comprises protection to products and given opportunity to build a platform for merchandiser to advertise. Corrugated industries persistently look into future and should be quick to adopt with latest technologies in digital media to stand up at the top of retail packaging.

Whereas, the corrugated industry advanced with the digital technology and it is possible with the packaging industry when it has fetched digital technologies involved in packaging and printing. It has captured the market and customers are much interested to connect with industry with their medium devices.

SOURCE: <http://www.packaging-labelling.com/articles/id/digitization>

## Real Innovations going to be revealed at Drupa 2016

Ink researchers find magic in algae

There has been a lot of talk about sustainable ink lately, which mostly mean



soy-based inks. Now, a start-up called Living Ink from Fort Collins, Colorado, the US, is taking a radically different approach. Its inks are made from algae. And, some of the inks disappear and reappear when exposed to sunlight, allowing for designs with a touch of magic.

During his research on algae, Scott Fulbright, co-founder and CEO of Living Ink, found that algae had many characteristics that would make them well suited for ink. There are naturally occurring strains of algae with different colours, such as yellow, red, orange and blue. Additionally, algae can be coaxed into changing colors either by exposing them to environmental stresses or through bioengineering. Since algae grow fast, they are renewable and they do not compete with food, which is the case, for example, with soy. Since the algae cells used by Fulbright and co-founder Steve Albers are small, they are well suited for printing.

Living Ink is currently working on methods to print algae cells with traditional printers; the algae specialists are also teaming up with a company to develop sustainable packaging inks using algae cells.

## India a challenging market but offers rich rewards, says Singapore media

Corporates here see a bright spot in India with Singapore's direct investments in the country crossing SGD 15.24 billion, despite

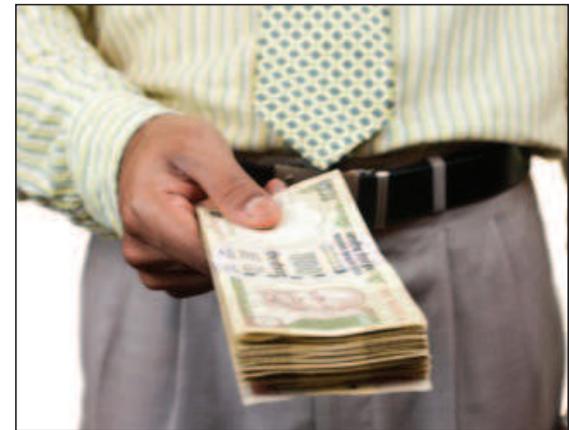
a generally weak economic outlook for most of Asia, a media report said.

Singapore's direct investments in India went up from SGD 9.56 bn in 2009 to SGD 15.24 bn in 2013

Investment by firms in India is on the rise, and companies with a presence there say the region's second-largest economy is a challenging market to break into but offers rich rewards. India's gross domestic product exceeded \$2 trillion in 2014, according to World Bank data.

After taking 60 years to reach the \$1 trillion mark, the Indian economy added the next trillion in just seven years, the Straits Times reported. Singapore's direct investments in India have been rising steadily every year, going up from SGD 9.56 billion in 2009 to SGD 15.24 billion in 2013.

Firms in the construction and wholesale and retail trade sectors contributed most to the increase, said national trade promotion agency International Enterprise Singapore.



Manufacturing, financial and insurance services, as well as professional, scientific and technical administrative and support services firms, have also been taking big strides into the Indian market. Singapore and India have been strengthening their economic links in recent years.

Small and medium-sized enterprises (SMEs) with operations in India are optimistic that its economy is on the brink of lift-off, even as Asia remains mired in a slowdown.

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# Shear LINE



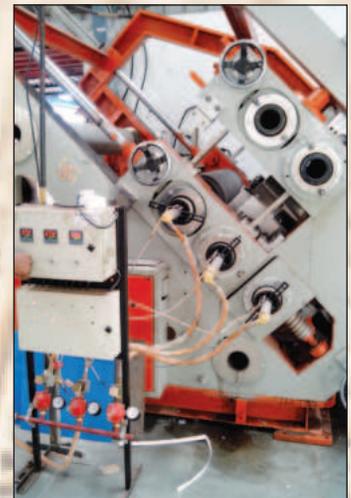
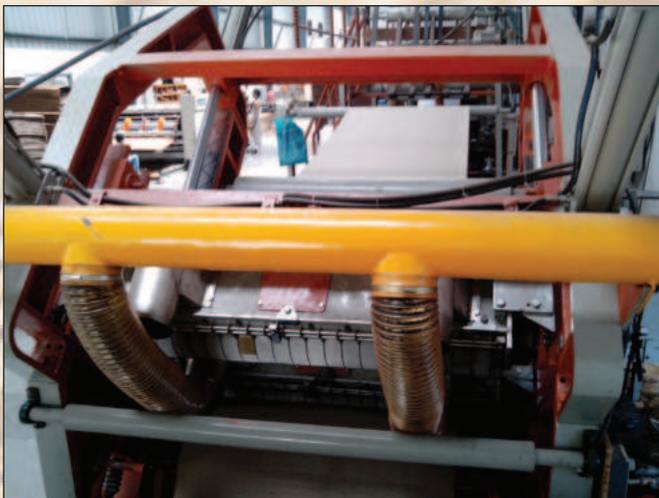
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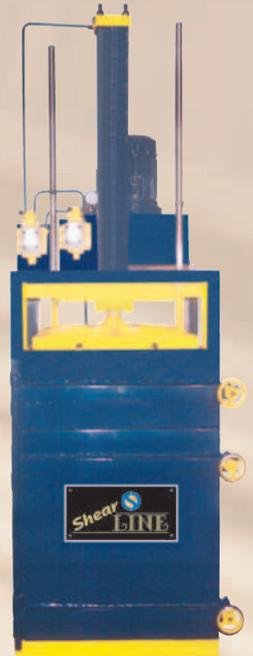
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## Japan introduces new technology for bath interiors, packaging

Recently, Rinnai, a Japanese company has developed “ECO ONE”, a hybrid hot water dispenser. Which helps to warm up the body. These tubs requires sturdy boxes for transportation.

“What is unique about this hybrid hot water dispenser is that it combines the advantages of electricity and gas.

It has sauna functionality and floor heating system in the bathroom.

Corrugated carton boxes have a unique feature for packaging any material. Though inexpensive and flexible, it is helpful for the transportation of goods.

Mitsubishi produces a series of fine machineries for corrugated board manufacturing and carton box making machine. Their machines are installed in countries all over the world and have a high regard for the performance and board and box quality.

“Corrugated carton boxes are a hidden infrastructure. When you buy various goods from stores they are all in the boxes like these. Foods, beverages, computers, pizza and even hamburgers, all of them are coming to your place in carton boxes,” said President, Mitsubishi Heavy Industries Printing and Packaging Machinery, Ltd.

“Demand for such carton boxes are increasing globally especially in growing Asian countries. Mitsubishi is serving for such demands by providing a fine series machineries in various locations in Asia,” said Shimizu.

Source: <http://zeenews.india.com/>

## World Demand for Corrugated Boxes Expected to Increase 3.7 Percent per Year thru 2019

“In nearly all regions, strong growth in e-commerce will drive corrugated box usage, as will the growing popularity of

retail-ready packaging.” Mike Richardson, analyst.

World demand for corrugated boxes is expected to increase 3.7 percent per year through 2019, approaching 260 billion square meters. In developed countries, box demand tends to track overall economic growth and industrial production trends and, as a result, will continue to be relatively slow growing. In developing economies, especially those in Asia and the Africa/Mideast region, growth will be more robust as manufacturers in these areas use corrugated boxes more intensively for product packaging and transportation, in part because boxes are still gaining market share from wood crates and other traditional containers. These and other trends are presented in World Corrugated Boxes, a new study from The Freedonia Group, Inc., a Cleveland-based industry research firm.



“In nearly all regions, strong growth in e-commerce will drive corrugated box usage, as will the growing popularity of retail-ready packaging,” notes analyst Mike Richardson. Retail-ready packaging has become increasingly popular in more affluent countries because of the time and labor cost savings it offers. Corrugated boxes will continue to benefit from their sustainability, good environmental image, and low cost compared to competitive products. In addition, suppliers continue to upgrade their boxes in terms of durability and further enhance their aesthetics through the use of digital printing.

The Asia/Pacific region accounted for half of global corrugated box demand in 2014, with China alone representing almost 30

percent. Growth in the Chinese market is expected to slow going forward as growth in manufacturing activity moderates. Despite this deceleration, China will still post one of the fastest growth rates for box demand worldwide. Other countries in Asia expected to see strong gains include India, the Philippines, Thailand, and Vietnam.

The Africa/Mideast region will offer the fastest growth among the six world regions, but will continue to account for less than five percent of global corrugated box demand. While there are a few appreciable box markets in the region, such as South Africa and Turkey, most countries, including the wealthier nations such as Israel and some of the Gulf states, do not yet have manufacturing sectors large enough to support substantial corrugated box sales.

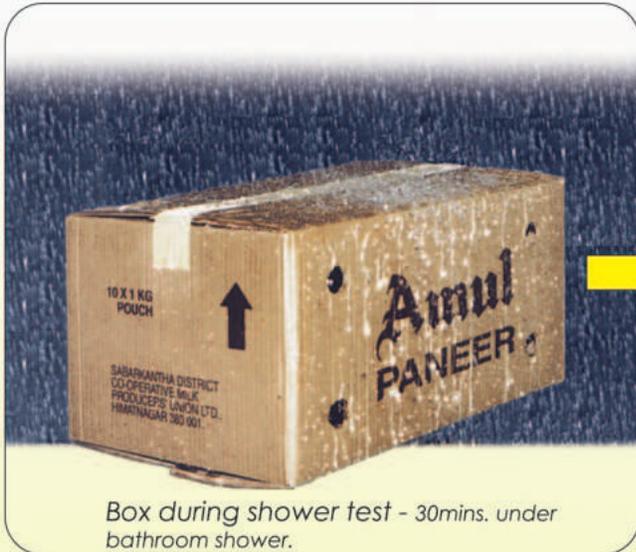
## Paper Packaging & Paperboard Packaging Market by Grade, Application, & by Type - Trends & Forecast to 2020

The demand for paper & paperboard packaging solutions has attracted significant demand that has led to paper & paperboard packaging solutions being widely adopted by manufacturers worldwide to provide packaging solutions to their consumers. It is expected that paper & paperboard packaging solutions will soon become the most widely used packaging solution and should surpass plastic packaging solutions. Paper & paperboard packaging solutions are more suitable and inclusive in the ecosystem compared to any other type of packaging form. It also has an increased interest amongst eco-friendly consumers who have a strong opposition towards plastic packaging products due to its negative environmental properties. Paper & paperboard packaging products are considered better in terms of recycling.

Paper & paperboard packaging solutions have an extensive usage across industries. This packaging is widely used in the food, beverages, healthcare, personal & home care, and other sectors such as education &

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**META-CHEM** brings you the import substitute paper water-proof chemical, for the first time in the country. It performs even better than the imported chemical, resulting in far higher water resistance and increase in burst strength of the coated paper, **AT ONLY A FRACTION OF THE COST.**



Box during shower test - 30mins. under bathroom shower.



Box after shower test.

## Special features:

- The chemical can be supplied transparent or lightly coloured in various shades as per requirement.
- Application is simple
- High coverage
- Superior water-proofing properties
- **Non toxic, food grade**
- No change of properties between (-)45 deg. C to 150 deg. C.
- **Environment friendly - The coating is bio-degradable and coated paper can be recycled directly**
- Coating is flexible - does not crack on folding

## Comparative Properties:

	Plain paper	coating - ml/sq. mtr.			
		10	15	20	30
B/F	14.9	16.5	17.6	18.2	19.47
Cobb value	35.0	19.0	15.5	8.5	2.5
Gloss	18.36	18.26	18.17	18.2	18.28
GSM	147.5	148.5	149.0	149.5	149.5

## Applications:

- Water proofing of corrugated boxes for packing of :
  - Fruits, vegetables, flowers
  - Tea, ice cream, butter, milk powder, paneer, cheese, Dahi.
  - Bidi, cigarette, tobacco, soap
  - Garments, fabrics, yarns
  - Fish, meat and other frozen food exports
  - Electronic and electrical goods
  - Any other moisture sensitive product
- Multi-wall paper bags for packing of moisture sensitive products
- Electrical insulation paper coating
- Anti-fungal coating for soap wrapper
- Export packing requiring recyclable water proof coating
- Fabric coating for Raincoat, Tarpaulin, Car cover, etc.

**We also manufacture and supply Oil & Grease Resistant Paper Coating chemical with "Bio-degradable & Recyclable Food Grade" property.**



## Meta-Chem Chemical Industries

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Tel: (0253) 6603493; Telefax: (0253) 2353327;  
E-mail: metachem1@bsnl.in; info@metachempaints.com

stationary, freight, and construction. Paper & paperboard is used to make cartons, boxes, liquid packaging products, labels, and many more packaging products. Consulting services are also provided by manufactures to help consumers choose the most effective packaging solution.

The bigger players in the market have a diversified packaging solutions portfolio, capital available for extensive research & development and the financial strength to sustain them. For the paper & paperboard packaging industry, it is essential to have a strong research & development team providing innovative packaging solutions that would meet customer requirements, case by case. New entrants find it difficult to compete against established players in this regard as they lack the capital required and skilled manpower to match the established competitors.

In this industry, the switching costs for the consumers are not very high.

Due to this, the market is filled with intense competition. New product launches, mergers & acquisitions, and partnerships and expansions are the key strategies adopted by market players to ensure their growth in the market.

The key players adopted both organic and inorganic growth strategies of development, but inorganic growth strategies were more widely adopted such as acquisitions and partnerships & agreements to increase their scope in the market. These companies aimed at strengthening their position in the developed markets of Europe and North America and also develop a strong foothold in the ever growing paper & paperboard packaging markets of the Asia-Pacific region and the Middle East. The companies invested considerably to acquire paper & paperboard mills and businesses of local as well as established market players to reinforce their market position in the particular region.

The paper & paperboard packaging solutions have varied applications. They are used across industries such as food, beverage, healthcare, personal & home care, education & stationary, construction, and electronics. In the food industry, it is used to package fruits, vegetables, meat, and ice cream. The beverage industry involves packaging of milk and juices. For the healthcare industry, it is used to package pharmaceutical products and medicines.

The key players in the market are Amcor Limited (Australia), ITC Limited (India), Cascades Inc. (Canada), RockTenn Company (U.S.), Clearwater Paper Corporation (U.S.), Packaging Corporation of America (U.S.), DS Smith PLC (U.K.), Mondi Group (South Africa), Metsa Group (Finland) and International Paper (U.S.). In this report, the global paper & paperboard packaging market is segmented into grade, application, type, and geography.

Source: <http://www.reportbuyer.com>

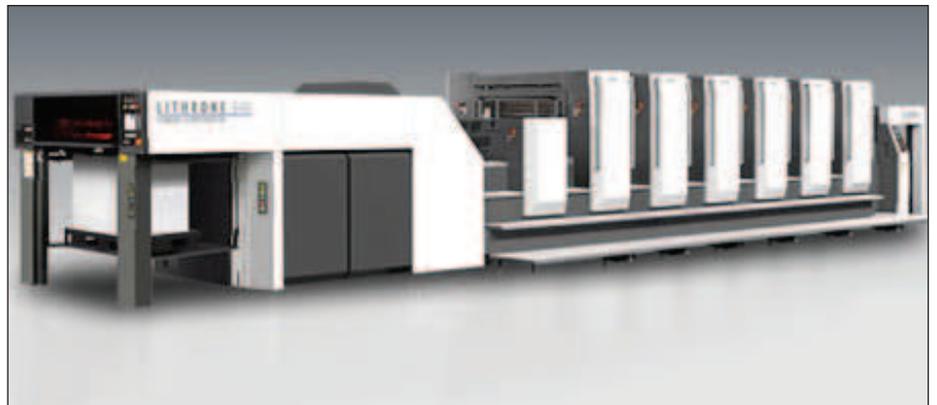
## Our Chief Editor featured in

### PrintWeek

Noida-based International Print O Pac (IPP) and Kochi-based ST Reddiar will install high-end Komori presses. Both presses are enroute and should be installed and up-and-running by Drupa.

IPP's Lithrone GL640-C is equipped with UV-IR is optimised for packaging and special printing applications.

ST Reddiar & Sons is one of the pioneers in the field of printing with a reputation of over 129 years and has won many national and international awards for excellence in printing since 1967. The company plans to install a six-colour Komori Lithrone LS 29 UV press fitted with the IR from Komori Drying System (KDS) at their production unit in Kochi. ST Reddiar's Lithrone LS 629+C UV-IR PDC-SX has a similar configuration with full automation but has a smaller size.



Rishabh Singhvi of International Print O Pac



ST Reddiar's Suresh Reddiar

# GUM POWDER PLANT FOR PASTING & DEXTRINE

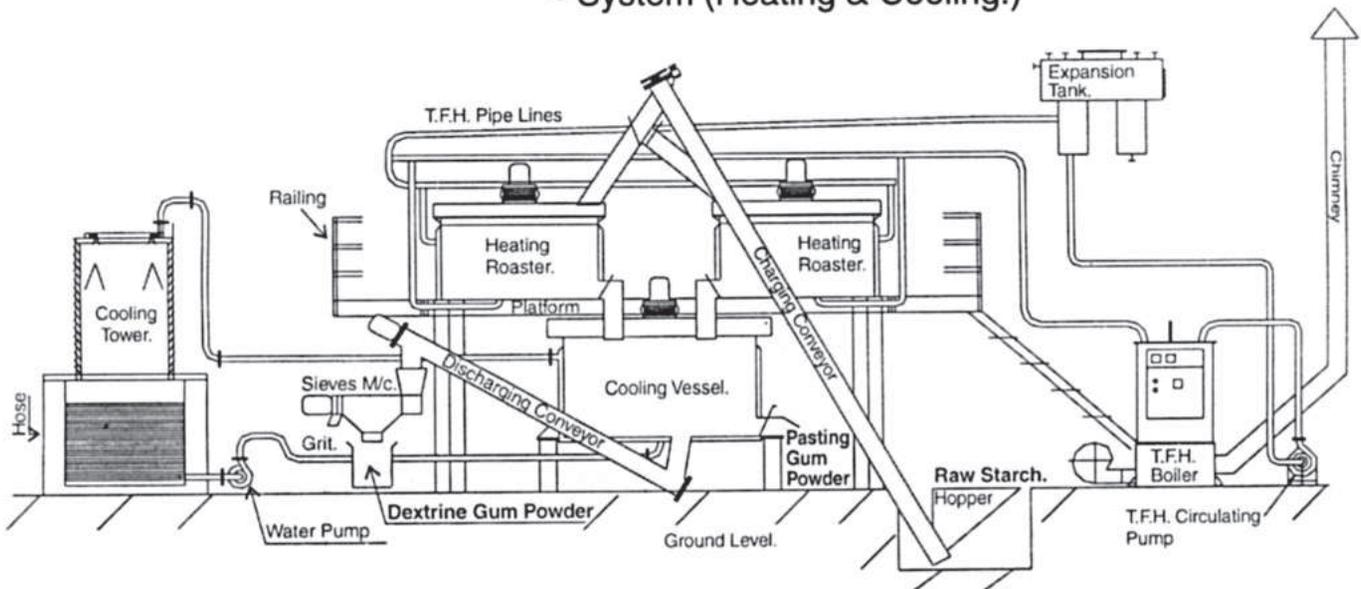
PLANT CAPACITY : 2 Tones / 4 Tones Per Shift

## Feature:

- Increases Production Capacity.
- Decreases Fuel Consumption.
- High Mixing & Roasting Capacity.
- No Explosion Hazards.
- Controls Dusting Of Powder
- low labour Cost.
- Fast & Easy
- Charging & Bag
- Filling System
- Immediate Transferring
- System (Heating & Cooling.)

## OTHER PRODUCTS.

- Liquid Gum mfg. Plant
- Gum Cooking Vessel.
- Synthetic Resin Plants.
- Fast Cooling System.



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Total solution For Cooking the Gum from powder Adhesives

- APPLICATION :**
- To boil Glue
  - To Cook Gum / starch
- ADVANTAGES :**
- Easy to operate.(Unskilled person can operate)
  - Lower Labour cost / maximum time saving.
  - Produces best quality products.
  - Reduces consumption of gum.
  - No pollution.
  - Low wastage of Raw Material and product.
  - Reduces cost of Inventories.
  - Minimize the cost of production.
- FEATURES :**
- Compact Unit.
  - Long Life
  - Lowest Maintenance.
  - No consumption of heating oil.
  - No electrical Hazards.
  - Highly Homogeneous Mixing Efficiency.



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E-MAIL : npmegum@yahoo.co.in npmachinery@sancharnet.in



# Product Profile

## Mumbai-based Srinivas Papers launches a new durable paper, PaperTyger, in the Indian market.

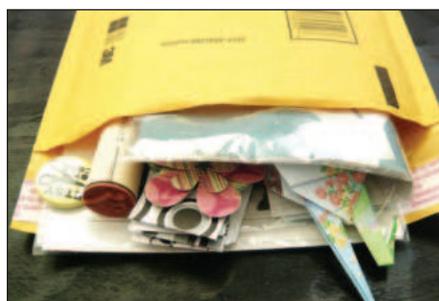
The aptly-named Defender, from PaperTyger's stable, is "easily printable" and unsurprisingly, aims to protect personal information on contactless credit cards and similar accessories.

Mumbai-based Srinivas Papers launched the PaperTyger range of durable papers, manufactured by Chase Durable Paper Products, in India at the PrintWeek India roundtable, powered by Srinivas Papers and PaperTyger, on the eve of the PrintWeek India Awards.

Defender is a unique four-ply laminate, comprising paper/film/foil/paper. "The film provides structural reinforcement to maintain the integrity of the foil shielding layer during conversion and use.

### Fields of Application:

- Tags and labels
- Visual communications
- Map publishers
- Envelopes and mailing solutions
- General graphics
- Marketing and promotions
- RFID shielding



## New Rotogrip Rotation Chucks

The new Rotogrip rotation chucks, introduced by Re Spa – an Italian Company use the movement of the reel to expand the sector element in order to block and centre the reel core automatically. This solution ensures maximum control of the reel and reduces damages to the cardboard cores, which can therefore be used again with considerable savings.



The Rotogrip chucks are available in various dimensions both single and double diameters, and with knurled sector elements to increase the locking force or smooth, for cores made of materials other than cardboard. Our wide range allows clients to select, with the help of our sales office if necessary, the most suitable chuck for their application.

Cont. on - 111

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Single facers also available in finger type economic models from 1200 upto 2500mm widths in electric, hot oil and steam heating system.

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Our excellent infrastructure available at the Navi Mumbai facility, an emphasis to offer only good quality machines to our customers backed up by vast experienced technical support team to deliver efficient and prompt after sales service and maintaining adequate essential spares for all machines that we offer, helps us in serving our domestic and international customers in a better way.

### Other products:

- Auto and semi auto folder gluer machine.
- Auto and semi auto flute laminator machine.
- Semi auto 1- piece and 2-piece box stitching machine.
- Lead edge feed, kicker feed and chain feed rotary slotting, creasing and slitting machine.
- Lead edge feed, kicker feed and chain feed rotary die cutting machine.
- Thin blade slitter, scorer machine.
- Pasting machine.
- Platen punching Machines.
- Sheet pressing machine.
- Manual stitching machine.
- Auto bundling machine.
- Heating systems for automatic paperboard production lines and single facers.

### Semi Auto Flute Laminating Machine



Semi Auto Folder Gluer Machine



Semi auto box stitching machine  
(Single piece & Two piece)



Finger Type Single Facer



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Experience, Research, Passion, Technological Excellence  
and True Partnership with customer



Single Facer Paper  
Corrugating Machine with  
Twin Flute



Sheet Pasting  
(4 Roller) Machine



Rotary Sheet Cutter



Oblique Type Single Phase  
Paper Corrugating Machine



4 Bar Rotary Cutting  
& Creasing Machine



3 Col Auto Feeder Flexo  
Printer Slotter Creaser with Stacker



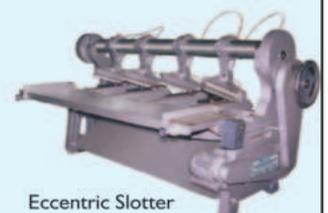
Two Colour Board Printing Machine



Regular Sticking Machine



Single Colour Craft  
Paper Printing Machine



Eccentric Slotter



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The simple installation and maintenance as well as the minimal costs will allow clients to renew their entire set of chucks with a smaller investment.

### Reel Control

Re Controlli mechanical core chucks have been designed to deliver a perfect grip on the reel core. This guarantees reliable control of web tension, so that damage to the reel core can be avoided. As a result maintenance costs are reduced high performance is achieved. All Re chucks are 100 per cent built in Italy, using sturdy and quality materials to deliver high performance and almost zero maintenance costs.

During the entire production and manufacturing attention is paid to details and the product undergoes checks to guarantee long life and durability.

### Smurfit Kappa wins gold Superstar Award

Smurfit Kappa has been awarded for its collaborative work with customer Unilever at the prestigious Superstar Awards. The paper-based packaging solutions company was presented with the award at the Viscom trade fair in Düsseldorf for an innovative display developed for the Rama frying and roasting product line.

Smurfit Kappa developed the Unilever display using its revolutionary Shelf Smart process. The Shelf Smart service is a marketing tool for shelf-ready packaging and displays, with the visibility and perception of the brand being the central focus. This was the main concern for Unilever when developing their display.

On the innovative Rama display, the consumer can see the product from far away, with the products placed in the foreground and plenty of space to communicate the brand. It is a simple structure that is quick to set up and easily fits in to the existing supply chain.

The display is being used to showcase the Rama range in retail outlets in Germany,



Austria and the Netherlands to promote Unilever's new product.

Erik Bunge, CEO of Smurfit Kappa Benelux, said, "We are pleased that we have won this prestigious award and that the way we work with Unilever to place their new frying and roasting product line in the market has been acknowledged."

The Superstar Awards take place every year at Viscom in cooperation with the Display Publishing House to encourage and reward the creativity of the exhibitors at the fair.

Source: <http://www.pulpapernews.com/>

### Solutions for flexo applications

TRESU is the world's leading supplier of chamber doctor blade systems, along with a wide range of ancillary products including ink and coating systems, drying systems, and printing plate cleaning systems.

With constant focus on innovation, cutting-edge technology, design, performance, and optimization of the printing process, TRESU Ancillary products set the benchmark by meeting the demands of all market segments within the flexo printing industry.

We offer know-how and experience to meet the specific requirements of flexo and coating machine manufacturers, print companies and individual customers worldwide.

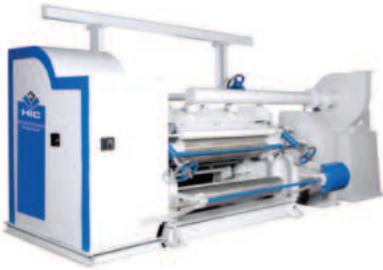
### TRESU UniPrint Combi · Chamber doctor blade system

- New pressure control technology for foam elimination of sensitive coatings
- Streamlined and compact design for perfect handling
- For water-, UV- and solvent based inks and coatings
- Patented TRESU seals guaranteeing authentic quality
- Patented TRESU E-Line clamping system for fast doctor blade change and high quality doctoring
- Anilox width: up to 1200mm. - Anilox Ø: 80 - 250mm.





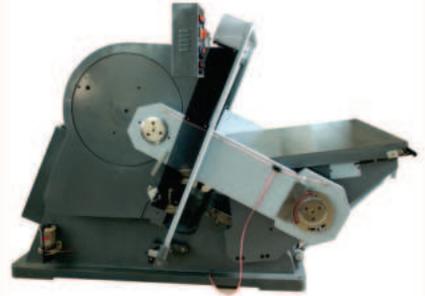
*Innovative, Economic Solutions...*



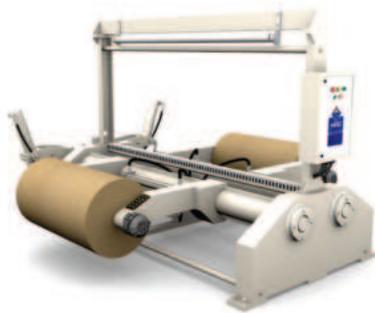
FINGER LESS SINGLE FACER



DOUBLE FACER

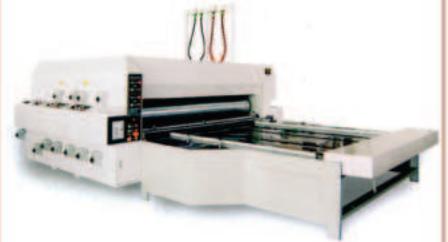


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Board  
& Box Making  
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### TRESU FlexiPrint · Chamber doctor blade system

- Mechanical loading system
- Patented TRESU E-Line clamping system for fast doctor blade change and high quality doctoring
- Standardized, compact construction with excellent price/performance ratio
- For water-, UV- and solvent based ink and coatings
- Patented TRESU seals guaranteeing authentic quality



### TRESU FlexiPrint Reservoir · Chamber doctor blade system

- Mechanical loading system
- No circulation pump necessary ink is kept in the chamber reservoir
- For UV-ink and -coating applications
- Less ink consumption and fast job change
- Patented TRESU E-Line clamping system for fast doctor blade change and high quality doctoring
- Patented TRESU seals guaranteeing authentic quality



### Ink supply systems

TRESU Ink supply systems can be used for all CI, stack and line or stand alone machines.

The F1 Basic is an ink pump for customized solutions - integrated or as a stand-alone unit.

The TRESU F10 ink supply system has integrated PLC operation and a high pressure cleaning module and is the ideal solution for optimized production flow and fast job changes.



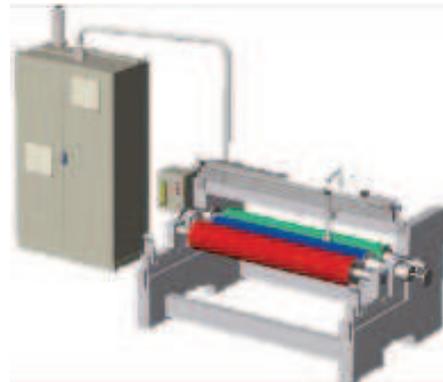
### TRESU F1 Basic ink supply system

- For TRESU Flexi-, Uni-, and MaxiPrint chamber doctor blade systems
- Basic Ink supply system
- Flow wash cleaning procedure
- Stand-alone/integrated or OEM/ customised or retrofitted
- Easy to install and maintain
- For flexo printing applications, water-, and UV-based inks and coatings



### TRESU F10 ink supply system

- Stand alone ink supply system with integrated PLC and high pressure cleaning module
- For TRESU Flexi-, Uni-, and MaxiPrint chamber doctor blade systems
- Fully automatic cleaning procedure and quick job change
- Intensive wash program. Detergent is optional
- Peristaltic- or diaphragm pump solution



### Printing Plate Cleaner

The fully automatic, contact free, in-line cleaning system for flexo printing plates.

It is the only system in the world that cleans the printing plate during production, or performs an intensive post-production cleaning process. The PPC module is developed to dramatically improve the print quality in the 'dirty' environments of tissue- and napkin printing productions.

- The PPC base module contains a high pressure pump, a vacuum pump with cyclone and control for individual adjustment and observation of the printing stations

### TRESU Printing Plate Cleaner:

- Standard- and turbo cleaning
- No damages to the printing plates
- High and consistent print quality
- No production downtime due to printing plate cleaning
- No manual cleaning. Safe operation by remote control
- Less production waste

*For More Details visit: [www.tresu.com](http://www.tresu.com)*



## SCA Forest Products: Round Corrugated Board

Arcwise round corrugated board packaging offers unique design and reduces packaging weight by 30%.

SCA has developed a new technique for producing round corrugated board packaging. It offers totally new design possibilities while reducing packaging weight by 30%, thereby improving environmental performance.

Arcwise® can be deployed in standard corrugated board production facilities.

The combination of nature's robust round geometries and the high rigidity of corrugated board gives unique stability to these packaging solutions. Transport packaging, retail-ready packaging, consumer packaging and store displays are examples of application areas.

Round packaging offers eye-catching and consumer appeal in the retail environment. The new technique is protected by international patents. SCA offers the technique to packaging manufacturers under license.



“The technique opens up totally new possibilities for packaging designs that are attractive to customers and consumers,” says Rickard Hägglund, Business Manager for Arcwise®.

“Surveys show that we generally prefer rounded shapes to angular ones. Round packaging is eye-catching and attracts consumer attention in the retail environment. We think both designers and brand owners will find these opportunities very interesting.”

*Source: [www.packworld.com](http://www.packworld.com)*



## FCBM - A Bridge between India and China:

### Looking Forward to the Upcoming 4-in-1 Mega Expo for the Whole Packaging Industry Chain

Reed Exhibitions, the organizer of SinoCorrugated & SinoFoldingCarton, would like to congratulate the grand success of holding the 44th Annual Conference of the Federation of Corrugated Box Manufacturers of India (FCBM) in Cochin, and to also congratulate Mr. N.X. George as having been elected as the President of FCBM 2016.

As the world's leading corrugated and folding carton manufacturing show, SinoCorrugated & SinoFoldingCarton keep working to serve the paper packaging industry chain and provide the necessary networking platform among countries and experts.

Over the years, the exhibition has remained in close cooperation with partners, especially maintaining long-term strategic cooperation with FCBM which is devoted to promoting technology and academic exchanges between China and India. In addition to being thankful for all of the support from the association management team in every session, Reed Exhibitions would also like to extend heartfelt gratitude to Mr. R. Suresh (General Secretary of FAPGA) and Mr. P.S. Sash (former President of FCBM) who play important roles between China and India in the packaging and printing industries.

**FCBM is not only a partner, but also a friend to the Chinese corrugated industry.**

During years of deep cooperation with FCBM, we have learned that India is one of the fastest growing markets in the world, especially in manufacturing industries. In 2015, there were more than 10,000 corrugated manufacturers in India, with an output of 7,205 million square metre. In addition, there are more than 250,000 large and small printing enterprises in India with an investment of more than two billion dollars. Even more, the Indian market is still in its rapid growth period. In 2012 there were only 150 manufacturers which had auto-corrugated machines. This number rose to over 500 in 2015, a tremendous growth rate of 200%. Additionally, 85% of Indian printing enterprises are still using monochromatic or two-tone machines. With the increasing demand for four-colour printing machines, the market potential of the Indian corrugated industry remains attractive.

The 44th Conference of Federation of Corrugated Box Manufacturers of India (FCBM) took place in Kochi from November 20 - 22. KECBMA conducted an exhibition as part of the conference at the Hotel Le-Meridian. Kochi's water views and lush green scenery merged packaging technology with beautiful

and breathtaking nature under the theme "EMPOWERING THE FUTURE."

Seminars, packaging award evenings, buyer-seller meetings, family time, gala dinners and a host of cultural programs were highlights of the conference. It was an ideal platform to learn about trends in the packaging industry and promote the industry going forward. Reed Exhibitions, as the partner of FCBM, were pleased to participate in the conference and witness its grand success.

As always, FCBM supports SinoCorrugated South 2016 & SinoFoldingCarton 2016, being held at the GD Modern International Exhibition Center, Houjie, Dongguan, from April 14-16, 2016. FCBM will also organize local Indian corrugated packaging enterprises to visit the show.

Let us share our best wishes to FCBM, and may FCBM continue to make outstanding contributions to the Indian corrugated industry.

**For press information,  
please contact:**

**Sinsia Xing**  
[sinsia.xing@reedexpo.com.cn](mailto:sinsia.xing@reedexpo.com.cn)



# The 4-in-1 Mega Expo for the Whole Packaging Industry Chain

Organizer

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励展博览集团

April 14~16, 2016  
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Natrisha (Miss)

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## SinoFolding Carton 2016

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## INDUSTRIES



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(PLS-01)  
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### Flat Bed Die Punching Machine

(PLF-99)

Size - 50"x80" / 60"x90"  
70"x120" / 80"x130"



### Flexo Printing Machine

(PLF-02)

Size - 50" x 60" / 52" x 72"  
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### Side Flap Gluing Machine

(PFG-11)

Size - 75" / 85" / 95" / 105" / 110" / 120" / 130"



### We Can Offer

- Eccentric Slotter Machine
- 4-bar Rotary Creasing & Cutting Machine
- Double colour printing machine
- Box Stitching Machine Angular / Straight

For further information please contact :  
**SATPAL S. BHURJEE / PARMINDER S. BHURJEE**

*Due to continuous innovation, specifications are subject to change.*

**PACKLINK<sup>TM</sup>**  
INDUSTRIES

D-6, Bhaichand Textile Mill Compound, L.B.S. Marg, Near SBI Bank,  
Bhandup (West), Mumbai - 400 078.

Phone : 022 - 25941376 • Mobile : +91 9821441671/+91 9870241186

Email : enquiry@packlinkindustries.com • Website : www.packlinkindustries.com

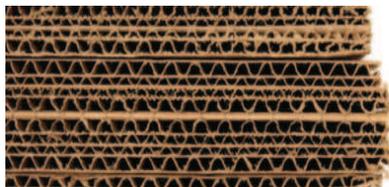
# Forthcoming Events

14-16 April 2016



**Venue: GD Modern International Exhibition Center, Houjie, Dongguan City, China**

SinoCorrugated South is the most prominent event in Asia-Pacific's corrugated manufacturing industry. It showcases the latest corrugated box equipment, consumables and advanced technologies. This trade show not only features the industry's latest trends and developments, it also provides numerous opportunities for exhibitors to interact directly with key manufacturers and buyers of corrugated cardboard products. As an organizer of internationally renowned events, Reed Exhibitions excels at satisfying exhibitors' needs by offering multiple channels through which to secure exceptional business deals.



## Co-located Shows

**SINO FOLDING CARTON 2016**

**SINOFLEXO GRAPHY 2016**

**PACKCON**

31 May - 10 June 2016



**Drupa 2016**

**Messe Düsseldorf, Germany**

The print and media industry is changing. New technologies are establishing themselves. With the highlight themes of print, functional printing, packaging production, multichannel, 3D printing and green printing, we are responding to this change and are opening up new visitor target groups with state-of-the-art technologies and new solutions.

[www.drupa.com/](http://www.drupa.com/)

14-16 June 2016



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15-18 June 2016



**BITEC, Bangkok, Thailand**

ProPak Asia goes from strength to strength as Asia's No. 1 international processing and packaging event for Asia's rapidly expanding food, drink, pharmaceutical and FMCG markets.

With a backdrop of growing consumer demand, high GDP growth rates, increasing exports, the formation of the ASEAN Economic Community (AEC) and a 23 year history, ProPak Asia provides the not-to-be-missed annual meeting point for the industry across Asia.

ProPak Asia 2015 was the biggest and best edition so far, breaking all previous records in terms of show size and visitor numbers with a significant increase in regional visitorship.

27 - 30 July 2016



**Pragati Maidan, New Delhi**

**The Total Packaging, Processing and Supply Chain Event**

PackPlus is the premier packaging exhibition that explores the markets of India in depth and provides a platform for Indian and International suppliers to meet industrial customers with needs across the supply chain



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(Corrugated Division of B.K Gears Pvt Ltd)

Make In India - Made In India



*We Preliminary Test and Certify our Products.*



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ROBOTIC TUNGSTEN  
COATING (GRADE - 4)**

**COATING  
THICKNESS  
(Microns)**

**55 - 65 Microns**

**LIFE OR  
PRODUCTION  
QUANTITY  
(Million Meters)**

**28 - 36 Linear**

For More Details: Please feel free to contact, we will be happy to help you:

Mr. Raghav Thapar @ +91-98116-68695

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Web Page: [www.bkgcorrugated.com](http://www.bkgcorrugated.com)

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SinoCorrugated South 2016  
Booth: 2E27-29  
Date: 14-16 April 2016  
Venue: GD Modern International Exhibition Center