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# The Corrugator

OFFICIAL MAGAZINE OF FEDERATION OF CORRUGATED BOX MANUFACTURERS OF INDIA

APRIL - JUNE 2024



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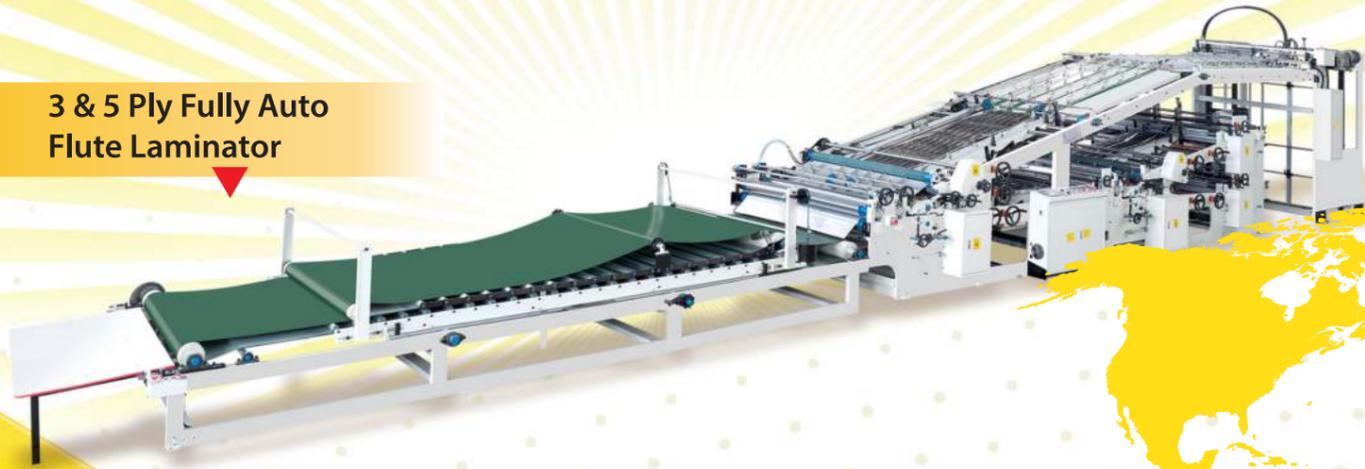
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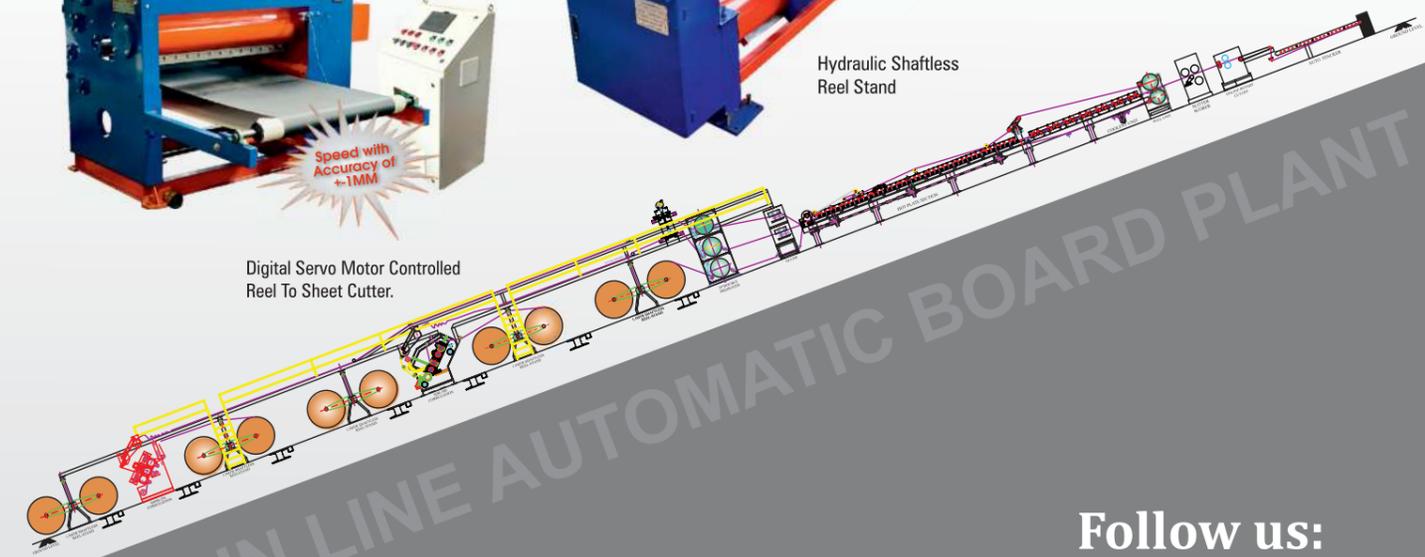
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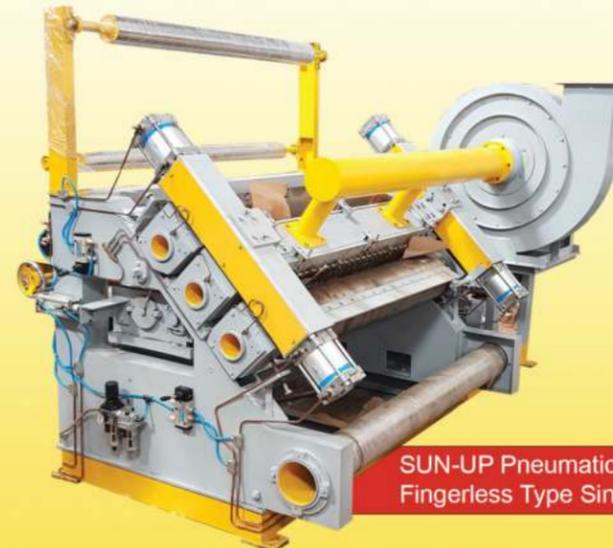
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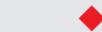
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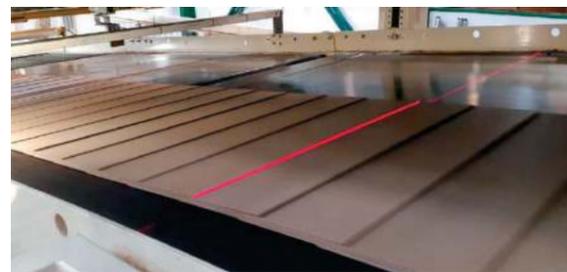
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# The Editor's Page



Shlok Kedia  
Editor



Pulkit Shah  
Co-Editor

*In the ever-evolving landscape of packaging solutions, the corrugated box industry stands as a cornerstone of commerce, facilitating the safe and efficient transport of goods across the globe. As we navigate through 2024, it is crucial for us, the manufacturers of these essential products, to reflect on our journey, celebrate our advancements, and look ahead to the future with a focus on innovation and sustainability.*

*Over the past few years, the demand for corrugated packaging has surged, driven by the boom in e-commerce and the increasing emphasis on environmentally friendly packaging solutions. Our industry has risen to the occasion, delivering robust, versatile, and recyclable packaging that meets the needs of businesses and consumers alike. However, the journey does not end here. The future of corrugated box manufacturing lies continuous innovation and adopt sustainable practices.*

*Inside this Issue: Insights and Opportunities for Growth:*

*This edition is packed with articles designed to provide valuable insights and practical knowledge to enhance your business operations. Here's a glimpse of what you can expect:*

- *Relief in Taxation: The reduction of GST from 18% to 12% has been a significant relief for our industry. In an elaborate article by Alok Gupta, Taxation Committee Chairman of FCBM, you will find an in-depth analysis of this change and its implications for your business.*
- *Empowering Rural Artisans: Learn about the joint session conducted by the EICMA New Market Development Committee (NMDC), NABARD, and the Indian Institute of Packaging (IIP).*
- *KACBMA's Informative Sessions: Discover the key takeaways from the of KACBMA's 2nd GM held in May 2024.*
- *Lean Manufacturing Seminar: The Kanpur chapter of UPCBMA, in collaboration with the Bureau of Indian Standards (BIS) and the Skill Development Sub-Committee, organized a seminar on Lean Manufacturing Practices in June 2024.*
- *SICBMA's 50th AGM: Celebrate the milestone of SICBMA's 50th Annual General Meeting (AGM) held in June 2024.*
- *55th Annual FCBM Conference: Mark your calendars for the annual 55th FCBM conference scheduled for December 20-22, 2024, at the Sheraton Grand in Whitefield, Bengaluru, India carrying the theme, "RRR: Rethink-Reinvent-Resurge" exemplifies the spirit of innovation and resilience within our community. Don't miss this opportunity to network, learn, and grow with industry leaders.*

*Each article in this issue is crafted to provide you with actionable knowledge and inspire you to embrace the opportunities ahead. Together, let us drive our industry forward, fostering innovation, sustainability, and growth.*

*Happy Reading-Learning-Growing !*



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# President's Desk



*Dear Respected Members,*

*I am thrilled to once again engage with you through this platform and delighted to announce that this quarter brings a wealth of positive developments, opportunities, and advantages for our industry. We express our gratitude to the Government of India for the reduction in GST rate and the additional benefits extended to MSMEs in the Union Budget 2024.*

*To begin with the good news, the 53rd GST Council meeting took place on June 22, 2024, in New Delhi. During this meeting, the GST Council declared several revisions to the GST rates, including the reduction of the GST rate on 'carton, boxes, and cases of both corrugated and non-corrugated paper or paper-board' (HS 4819 10; 4819 20) from 18% to 12%. Notification No. 02/2024-Central Tax (Rate), dated 12th July 2024, was issued to implement the reduction of the GST rate on boxes. This reduced rate will come into effect from 15th July 2024. Thanks to Shri Alok Gupta, Chairman - Taxation sub-committee, for his prompt response to the queries of our members pertaining to this subject.*

*In the Union Budget 2024, the government placed special emphasis on MSMEs and labour-intensive manufacturing, with a focus on employment, skilling, and the middle class. Various schemes and incentives have been provided to assist them in maintaining their business operations without any disruptions.*

*As domestic and global competitiveness intensifies, MSMEs need to adapt to a new business environment. Therefore, the Ministry of MSME, Government of India, aims to introduce the MSME Competitive (Lean) Scheme for MSMEs, with the objective of enhancing their productivity, efficiency, and competitiveness by reducing wastages in processes, inventory management, space management, energy consumption, and other lean techniques. We are also enthusiastic about Lean and have organized two seminars on Lean Manufacturing in UPCBMA and SICBMA of FCBM.*

*On July 6, 2024, in Chennai, a significant milestone was achieved by FCBM as we formalized a memorandum of understanding (MoU) with the National Productivity Council (NPC). This MoU, part of the "MSME Competitive (Lean) scheme" by the Ministry of MSME, was signed in the presence of Shri S Gopalkrishnan, Director-General - NPC. We are confident that this collaboration will bring about positive outcomes for 2,700+ FCBM members in the coming days. Special thanks to Shri K. P. Singh, Chairman - BIS & Skill Development Committee for his proactive role in this initiative.*

*The 52nd FCBM conference, hosted by KCBMA, is scheduled to take place from the 20th- 22nd of December, 2024, in Bengaluru. I urge all FCBM members to complete their registration along with their families at the earliest by accessing the portal.*

*Warm Regards,*

A handwritten signature in black ink, appearing to read 'Dharmendra Pandya'.

**DHARMENDRA PANDYA**  
PRESIDENT

# Paving the road for corrugator: Easing the taxation game

Author: Alok Gupta, Taxation Committee Chairman - FCBM

**N**owadays Goods & Service Tax (GST) is a life line of a business, despite the completion of seven years of GST implementation, there is a lot of room for improvements and currently the government is on it, out of which some of the systems that have changed at present and directly affect our corrugation Industry.

The first among them is the reduction of GST rate on corrugated boxes from 18% to 12%, this will give the biggest relief to our farmer brothers. Because whether it is agricultural production of fruits or vegetables, boxes are used for transportation of everything. And the farmer does not get any benefit of that GST, this decision will now reduce his cost by 6%. In the same manner book publishing is a large consumer of corrugated boxes and they don't have the facility of GST input, they will also beneficiary of this rate reduction. Few other industries from different categories will also feel relieved. Corrugators will get relief in terms of our capital investment as the corrugated boxes are supplied on long credit terms.

Apart from the changes in GST rates, the Government has also paid heed to following legitimate demands and provided relief in them:

- Waiver of interest and penalty on demand notices issued under section 73 for FY 17-18, 18-19 and 19-20. Applicable in cases where tax is paid entirely by March 2025.
- Time limit to avail ITC u/s16(4) filed till 30th Nov 2021 instead of Oct for FY 17-18, 18-19, 19-20, and 20-21.
- Monetary limit reduced for filing appeal by tax dept. of 20 lakh for tribunal; 1 crore for HC and 2 crores for SC.



**Alok Gupta**

*Taxation Committee Chairman  
FCBM aka 'Taxman for Corrugators'*

- Maximum amount of pre-deposit for filing appeal before appellate authority reduced from 25 crores to 20 crores each for CGST and SGST.
- Amendment in law for providing that time limit for filing appeal before tribunal will start from the date the government notifies.
- Extension of time limit to file GSTR 4 till 30 June 2024.
- Interest won't be charged for amount available in cash ledger at time of filing 3B.
- Insertion of new Form GSTR 1A to allow correction in GSTR 1. It will be allowed to file it before filing 3B of that period.
- Biometric based Aadhaar authentication on PAN India basis in a phased manner.
- Insertion of Section 128A in CGST Act, to provide for conditional waiver of interest or penalty or both, relating to demands raised under Section 73, for FY 2017-18 to FY 2019-20:

Considering the difficulties faced by the taxpayers, during the initial years of implementation of GST,

## Paving the road for corrugator: Easing the taxation game

the GST Council recommended, waiving interest and penalties for demand notices issued under Section 73 of the CGST Act for the fiscal years 2017-18, 2018-19 and 2019-20, in cases where the taxpayer pays the full amount of tax demanded in the notice up to 31.03.2025. The waiver does not cover the demand of erroneous refunds. To implement this, the GST Council has recommended insertion of Section 128A in CGST Act, 2017.

- The GST Council recommended reducing the amount of pre-deposit for filing of appeals under GST to ease cash flow and working capital blockage for the taxpayers. The maximum amount for filing an appeal with the appellate authority has been reduced from Rs. 25 crores CGST and Rs. 25 crores SGST to Rs. 20 crores CGST and Rs. 20 crores SGST. Further, the amount of pre-deposit for filing appeal with the Appellate Tribunal has been reduced from 20% with a maximum amount of Rs. 50 crores CGST and Rs. 50 crores SGST to 10 % with a maximum of Rs. 20 crores CGST and Rs. 20 crores SGST.
- The GST council recommended to clarify that in cases of supplies received from unregistered suppliers, where tax has to be paid by the recipient under Reverse Charge Mechanism (RCM) and invoice is to be issued by the recipient only, the relevant financial year for calculation of time limit for availing the input tax credit under the provisions of section 16(4) of CGST Act is the financial year

in which the invoice has been issued by the recipient.

- Amendments in Section 73 and Section 74 of CGST Act, 2017 and insertion of a new Section 74A in CGST Act, to provide for common time limit for issuance of demand notices and orders irrespective of whether case involves fraud, suppression, wilful misstatement etc., or not: Presently, there is a different time limit for issuing demand notices and demand orders, in cases where charges of fraud, suppression, wilful misstatement etc., are not involved, and in cases where those charges are involved. In order to simplify the implementation of those provisions, the GST Council recommended to provide for a common time limit for issuance of demand notices and orders in respect of demands for FY 2024-25 onwards, in cases involving charges of fraud or wilful misstatement and not involving the charges of fraud or wilful misstatement etc. Additionally, the time limit for the taxpayers to avail the benefit of reduced penalty, by paying the tax demanded along with interest, has been recommended to be increased from 30 to 60 days.

These changes demonstrate the government's commitment to improving the ease of doing business. By addressing industry concerns, these measures pave the way for achieving the "Make in India" and "5 Trillion dollar economy" goals.





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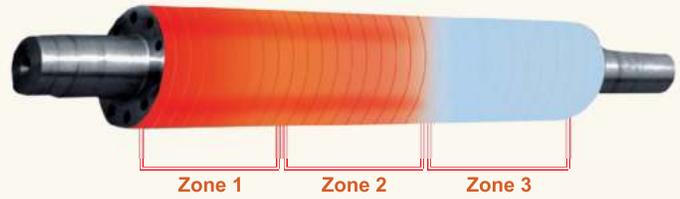
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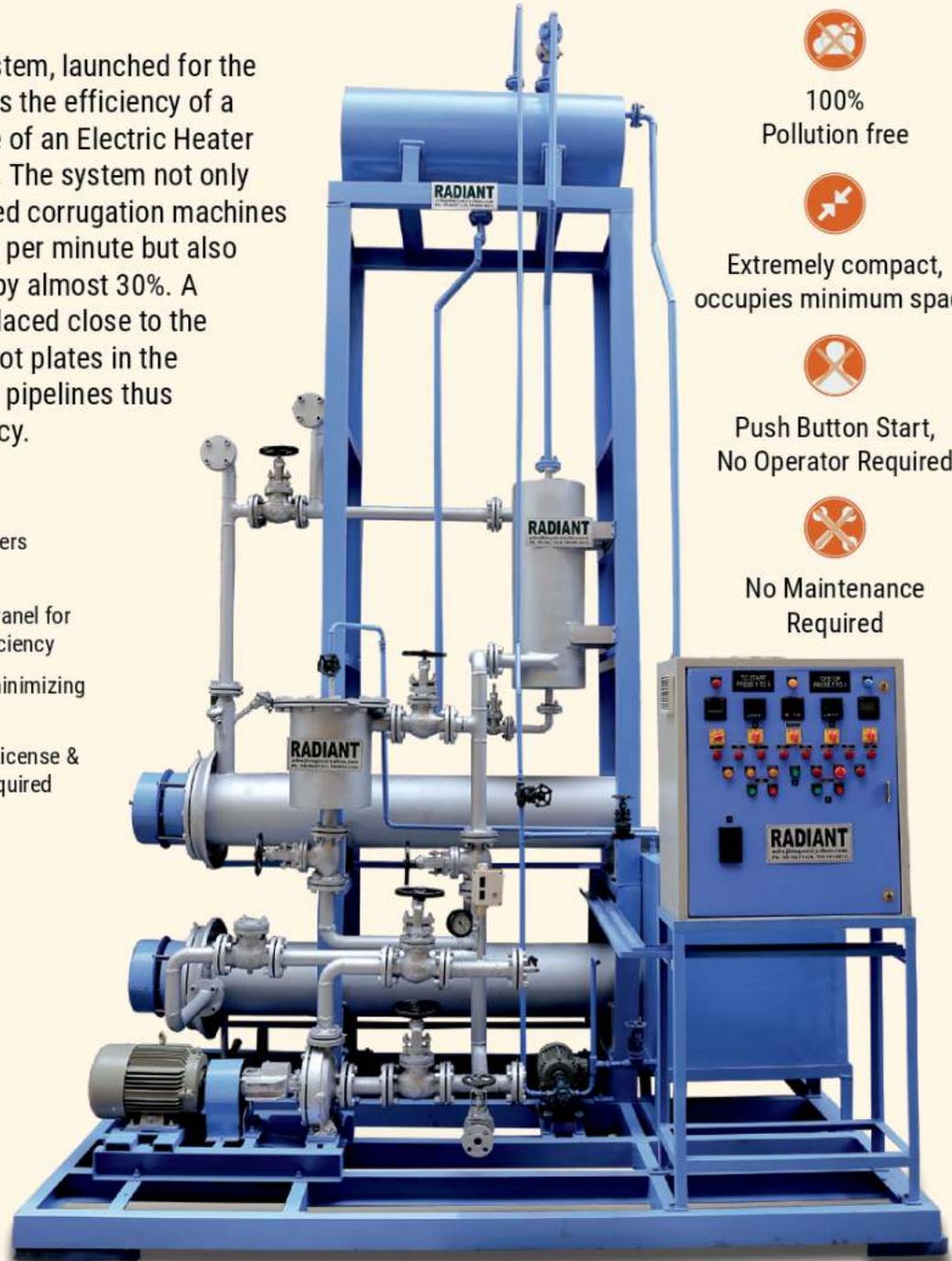
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# Emerging Trends in the Corrugated Box Industry

By Anand Singhal, Director - Maruti Group

**A**s we navigated through half of the year 2024, the corrugated box industry stands at the intersection of innovation, sustainability, and digital transformation. With brand owners and converters under increasing pressure to meet the demands for design excellence, environmental responsibility, and operational efficiency, the industry is witnessing a shift towards more agile, smart, and sustainable packaging solutions. Here's an overview of the key trends shaping the future of the corrugated box industry.

## Enhanced Digital Printing Technologies

Digital printing is making significant strides, offering unprecedented customization and quality in corrugated box production. This technology allows for vibrant, high-definition

equipped with advanced technologies such as IoT (Internet of Things) devices, automation, and data analytics, enabling real-time monitoring and optimization of the production process. Smart factories offer

enhanced efficiency, reduced waste, and the ability to quickly adapt to changing market demands, setting a new standard for manufacturing in the packaging sector.

## Sustainability Takes Center Stage



graphics and shorter production runs, making it easier for brands to engage consumers with personalized packaging designs. As digital printing becomes more accessible and cost-effective, we can expect a surge in demand for unique packaging that stands out on the shelves.

## The Rise of Smart Factories

The principles of Industry 4.0 are making their way into the corrugated box industry, heralding the era of smart factories. These facilities are

Sustainability is no longer just a buzzword but a critical factor driving innovation in the corrugated box industry. There's a growing emphasis on using recyclable and compostable materials, reducing carbon footprints, and implementing circular economy principles. Innovations in eco-friendly coatings, adhesives, and printing inks are also contributing to the development of sustainable packaging solutions that do not compromise on performance or aesthetic appeal.

Emerging Trends in the Corrugated Box Industry

**Automation and Robotics for Efficiency**

Automation and robotics are transforming the corrugated box manufacturing process, from assembly to quality control. These technologies enhance precision, speed up production, and minimize human error, resulting in higher productivity and lower costs. As robotics become more sophisticated, we can anticipate more versatile and intelligent systems capable of handling complex tasks and providing greater flexibility in packaging design and production.

**Enhancing Supply Chain Transparency**

Advanced tracking and logistics solutions are improving supply chain transparency, enabling companies to monitor the journey of their products from production to delivery. This increased visibility helps in optimizing inventory management, reducing lead times, and ensuring the integrity of the supply chain. For the

corrugated box industry, this means the ability to provide more reliable and efficient service to customers, further enhancing the value proposition of corrugated packaging.

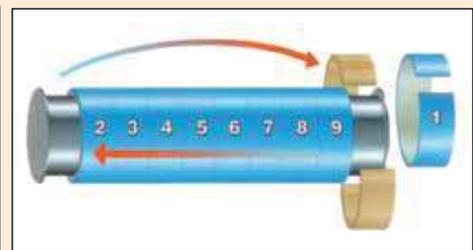
**Conclusion**

The trends shaping the corrugated box industry in 2024 reflect a dynamic and rapidly evolving sector that is responding to the challenges and opportunities of the modern marketplace. From digital printing to smart manufacturing and sustainability, these developments are setting the stage for a future where corrugated packaging is not only functional but also environmentally responsible and closely aligned with consumer preferences. As the industry continues to innovate, it's clear that the future of packaging is bright, with endless possibilities for creativity, efficiency, and sustainability.



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# Automation for Managing Warp and Waste

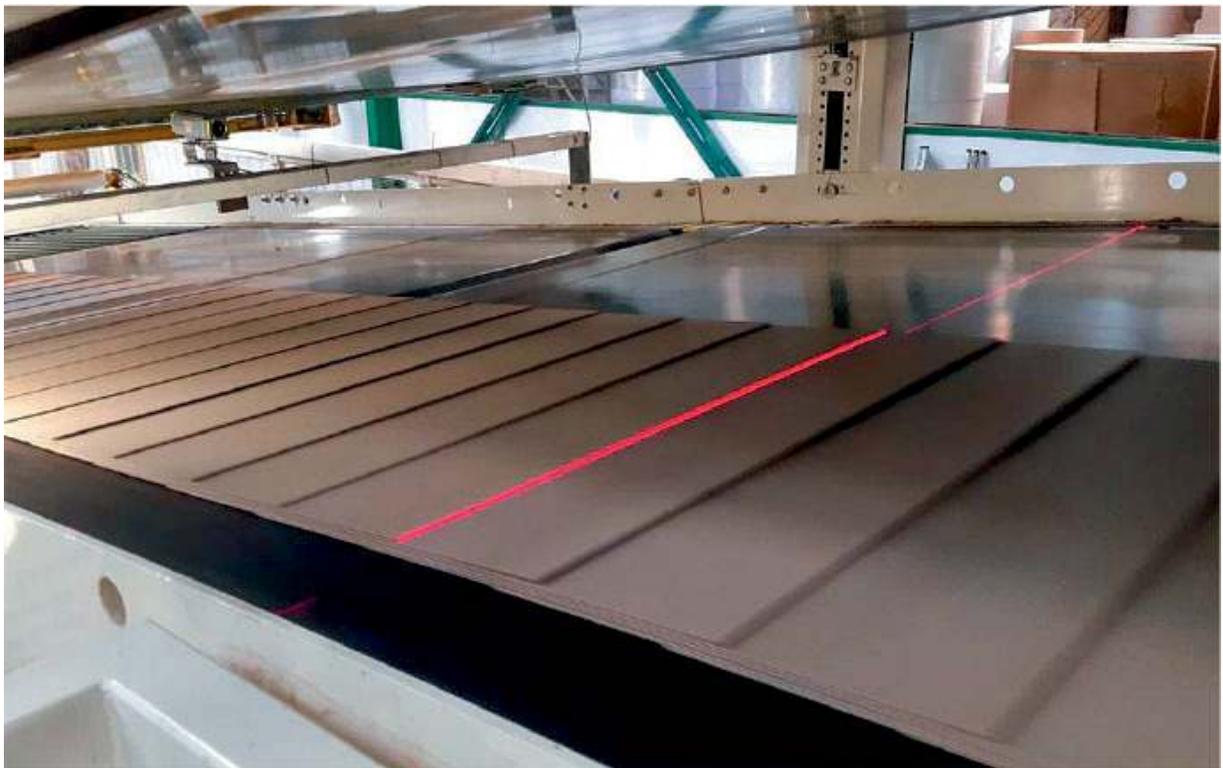
**E**very corrugated mill is different—so why are so many plagued by the same problem? Cross-direction (CD) warp is a common issue that can cause an incredible amount of wasted time, energy, and product.

Multiple drying and rewetting cycles throughout the process create multiple opportunities to introduce the potential for warp. The fluctuations in CD moisture and temperature variation causing sheet warping seem impossible to correct with

## P360: Why is warp so challenging to address?

Maddux: Cross-direction warp is caused by uneven tension, because of moisture changes during the process, between the different layers in corrugated board - especially in the inner and external liners. Our system addresses that moisture imbalance.

Speed changes, paper quality parameters, variations inside the reel—especially in splicing



standard corrugator controls. In the words of Dave Maddux, IQ corrugator solution manager, North America for Valmet, “Paper machines use moisture control ... why not do that on the corrugator?”

The Valmet IQ system for corrugators combines precise online moisture, temperature, and warp measurements with reliable closed-loop controls and moisturizers (see sidebar). In this exclusive Paper360° interview, Maddux tells us why he's excited to bring this technology to the North American corrugated industry.

from one reel to another—all make the process inconsistent in the heating and rewetting. In order to control, you must have a measurement, right? Well, right now most corrugators don't have that important data.

Were there specific “pain points” you were trying to address for corrugated industry customers?

If you need to make it twice, you're costing yourself money. We help reduce waste, and help the corrugators produce a flat sheet, a flat board, with the correct moisture content. What makes us

# Kalka®

## Industrial Heater Solution

# THE HEATING EXPERT'S



## Leading Manufacturer of **CORRUGATION HEATER & BOX DRYING CONVEYOR**

### Q Let's begin with a glimpse of your company's presence and offerings in India?

Kalka Engg works also known as Kalka Heaters, was established in 1981. We have 40 + Years of Experience in redefining the Heating Solution for the Industry. We manufacture entire range of Industrial Heating Element including:

- Corrugation Tubular Heaters
- Zone Heating System
- High Speed Corrugation Tubular Heaters
- Temperature Controller Panel
- Automatic LPG Heating System
- Smallest Box Drying Conveyor
- Electric Heating System for 3/5 Ply Plant
- Gas Heating System for 3/5 Ply Plant

### Q What are the future plans of company?

Our future plan is to make Kalka Engineers a preferred brand in heating industry at domestic & global level. To achieve this target, we are indulging in various types of testing & experiment.

### Mr. Rahul Tyagi

MANAGING DIRECTOR  
KALKA ENGINEERING WORKS.,  
DELHI



### Q Describe your new initiatives?

Recently we Developed Smallest Box Drying Machine in India ( 8 FT Only) for Corrugation Industry.

### Q Describe in detail the features of this Box drying machine? And the technology used in machine?

The size of this Smallest Box Drying Machine is very compact with these specifications:

Total Length – 10 ft

Heating Length – 8 ft

Width – 6.25 ft

In this we use Nitrogen filled infrared heating technology which reduce the Moisture of the box by 10- 15% and its Total load is 15 KW only, hence its cost efficient as well.

### Q What is the key competitive advantages for your customers who choose to buy your products?

The key competitive advantages for our customers are:

- We always endeavor to change and modernize the Machinery and equipment as per the current technology, to increase the product Quality and efficiency
- Regular training of personnel is always undertaken to enhance their knowledge
- We have most modern machinery and equipment along with experienced engineers and staff to give best quality and On Time Delivery.
- We have service centers at Kerala, vapi, Kolkata, Chennai to give on time service.

The wide portfolio of our products gives us edge for our customers to choose as per their requirement. In Past one Year 40+ Machines has been installed with 100% success rate and zero Complaints.

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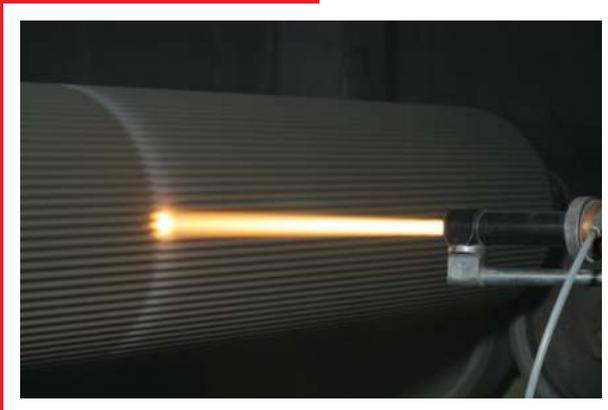
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## Automation for Managing Warp and Waste

different is that we're also controlling, to a minimum temperature, for bonding.

The system can control the moisture on each layer. We have a sensor that reads each layer of the sheet, and thus we can control the moisture and get that balance. We're gluing at the right temperature, and at the right moisture level, so when the sheet comes out the other end you're not getting warp. We want the production team on the corrugator to be able to see the online moisture and temperature on different parts of the machine. It's a closed-loop control, which is not unusual in the paper industry but is unusual in the corrugator industry.

When considering a range of automation solutions, how can mill managers decide what is the best option for their plant?

Corrugators are very unique; they're all somewhat different. We can go out to the plant and do an audit; we'll look for bottlenecks on the corrugator machine to find the correct solutions for that plant's needs. We can break up the system according to the needs of the customer, providing only the parts they need.

Today's "state of the art" is always a building block for what comes next. Any predictions about the next level of technology for the corrugated industry?

Digitalization will continue, and the systems will be more connected. One thing we're working on with customers in Europe is passing the data from the papermaker to the corrugator—taking quality information into account when running certain rolls together, then passing information back. I see that in the future: we'll be transferring data in both directions, to improve efficiency. AI will help us automatically choose the correct reels for the right job on the corrugator.

We're all trying to go carbon-neutral, and Valmet is a big proponent of that. The IQ System can help in two ways; the big one is by decreasing waste, the other is by decreasing energy, because you're not over-heating the sheet.

Generally, our ROI is less than a year. We usually see about a 40 percent reduction in waste. Plus, using less heat means using less energy. We are looking for our first installation in North America; we have more than 40 installations in Europe. I've been to visit some of those installations in Europe and that's why I'm so passionate about this product—because I've seen it work.

“*The Valmet IQ system for corrugators combines precise online moisture, temperature, and warp measurements with reliable closed-loop controls and moisturizers (see sidebar). In this exclusive Paper360° interview, Maddux tells us why he's excited to bring this technology to the North American corrugated industry.*

Dave, I know you're also passionate about helping young people discover automation careers. Any advice for helping corrugating manufacturers attract the next generation of engineers?

To attract engineers at that professional level, corrugators need to make it clear that they're on the edge of some interesting technologies. They're being asked to do more with less. It's an opportunity for young engineers to be part of the changes that are coming for the corrugated world. If an engineer is a true problem-solver, this is an opportunity for them to be on the ground floor of some interesting changes.

**Source:** Paper 360



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# Corrugation Industry: Market Dynamics, ESG, Supply Chain intricacies and Beyond

Shri. Dharmendra Pandya, President - FCBM sheds light on some key aspects concerning Indian Corrugation industry

In the light of recent disruption in the corrugation box industry with the surplus capacity, Shri Dharmendraji quoted 'The presence of surplus capacity in corrugated boxes along with industry fragmentation has diminished the sector's overall value'. The growth of 8% to 10% in the fiscal year 2023- 2024 is attributed to the expanding FMCG industry, growing retail sector, and exponentially growing e-commerce to name a few.

The corrugated box industry is witnessing major changes, either corrugation plants are establishing their own paper mills or paper mills are installing their own corrugation units. However, this will not have much impact on the middle and lower segments of the industry.

With growing awareness among consumers for environment friendly packaging, the demand for sustainable packaging is substantially increased. Companies offering sustainable packaging not only improves their brand image but also attract conscious consumers, eventually helps the company stand out in the competition. However, companies need to tackle the challenges of insufficient recycling capacity, waste management, and more. Corrugated packaging with its innovative thought process is now offering better packaging with better aesthetics, branding option still being cost-effective.

*The presence of surplus capacity in corrugated boxes along with industry fragmentation has diminished the sector's overall value.*

## Environmental, Social, and Governance (ESG)

FCBM completely believes in and practices the Environmental, Social, and Governance (ESG) principles for safeguarding our environment as well as always offering innovative product



packaging for consumers. We also promote renewable clean energy, machine optimization and waste reduction to safeguard our environment thereby keeping a tab on the carbon footprint.

With various regular technical training programs for our members, we try to align our production and operation approaches with the evolving ESG standards.

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corrugated box manufacturers are seriously looking into it. The process of identifying a suitable Kraft paper supplier goes through assessment based on RCT, BF, liner meter rage, and bad odour. Higher RCT is very critical which boosts corrugated box's strength by providing higher resistance to being crushed, specially to ensure product safety while transportation. Paper mills have been evolving their processes to ensure their kraft paper meets these requirements for offering better packaging for end users.

practices for well-being of our employees with fair wages, workplace safety, skill development and extending these to social causes like community engagement, charity work and more.

### Supply Chain Dynamics

The Indian corrugated box sector is encountering difficulties due to surplus capacity, with the main weakness being the excess supply capacity. This oversupply has resulted in decreased pricing leverage for corrugated products. The presence of surplus capacity along with industry fragmentation has diminished the sector's overall value.

In the last decade even with the advent of the alternate to plastic packaging like biodegradable or compostable plastic-based or wood-based, still corrugated box packaging comes out as a clear winner. Corrugated box stands out with its invincible qualities of 100% recyclability, strength-based thickness options for cushioning and temperature control, hygroscopic ability, and much more. In addition to these outstanding qualities, it also offers an excellent medium for branding easy printability.

### Assessment for the right Kraft Paper

For delivering best quality corrugation boxes, a reliable and quality paper supplier is critical which comes through certain evaluation. While Ring Crush Test (RCT) is gaining popularity, Indian

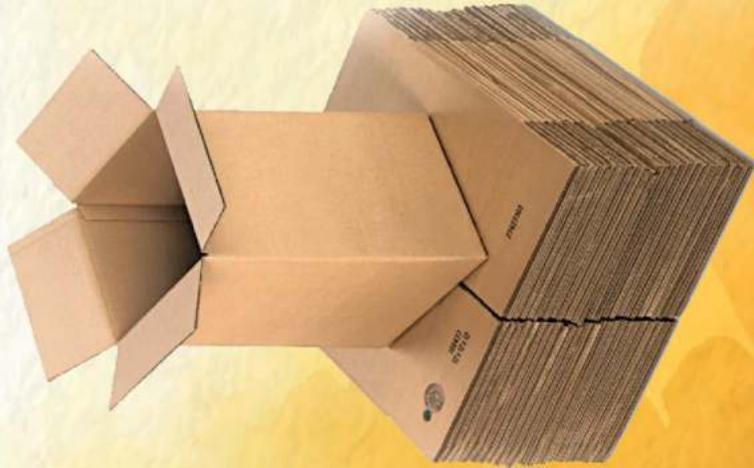
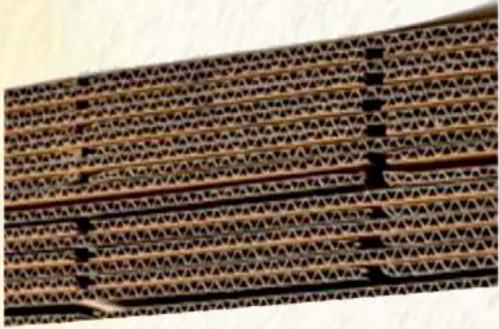
### Innovation in Corrugation Industry



In the last two decades corrugated box manufacturers with their innate creativity product some of the most unique products specially for direct consumer daily use like furniture. Now well-known, the corrugated beds our entire nation had deployed for ensuring safety during the covid



pandemic was the ingenious product development from the Indian corrugation industry. FCBM have also published an online reference literature called "Beyond Packaging," showcasing various furniture and non-packaging article designs created by our members.



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# Bureau of Indian Standards (BIS): Overview

BIS is the National Standard Body of India established under the BIS Act 2016 for the harmonious development of the activities of standardization, marking and quality certification of goods and for matters connected therewith or incidental thereto. BIS has been providing traceability and tangibility benefits to the national economy in a number of ways – providing safe reliable quality goods; minimizing health hazard to consumers ; promoting exports and imports substitute ; control over of varieties etc. through standardization , certification and testing.

## Origin of BIS – from Indian Standards Institution (BIS)

In the twilight years of British rule in India, when the country was faced with the gigantic task of building up the industrial infrastructure, it was the Institution of Engineers (India), which prepared the first draft of the Constitution of an Institution which could take up the task of formulation of National Standards. This led to the Department of industries and Supplies issuing a memorandum on 03 September 1946, formally announcing the setting of an organization called the "Indian Standards Institution ". The Indian Standards Institution (ISI) came into begin on the 06 January 1947 and in June 1947 Dr. Lal C. Verman took over as its first Director. In the initial years , In the initial years, the organization concentrated on standardization activity.

## ISI to BIS-BIS Act 1986

Bureau of Indian standards (BIS) came into existence, through an act of parliament dated 26

November 1986, on 1 April 1987, with a broadened scope and more power taking over the staff assets, liabilities and functions of erstwhile ISI. Through this change over, the government envisaged building a climate for quality culture and consciousness and greater participations of consumer in formulation and implementation of national standards.



*KP Singh, Chairman,  
BIS & Skill Development  
FCBM Sub-Committee*

## BIS Act 2016

A new act (to replace the BIS Act of 1986) was introduced in the Lok Sabha in 2015, which was subsequently passed by both houses of the Parliament. The Bureau of Indian Standards Act, 2016 provides for the establishment of the Indian Standards (BIS) as the National Standards Body of India.

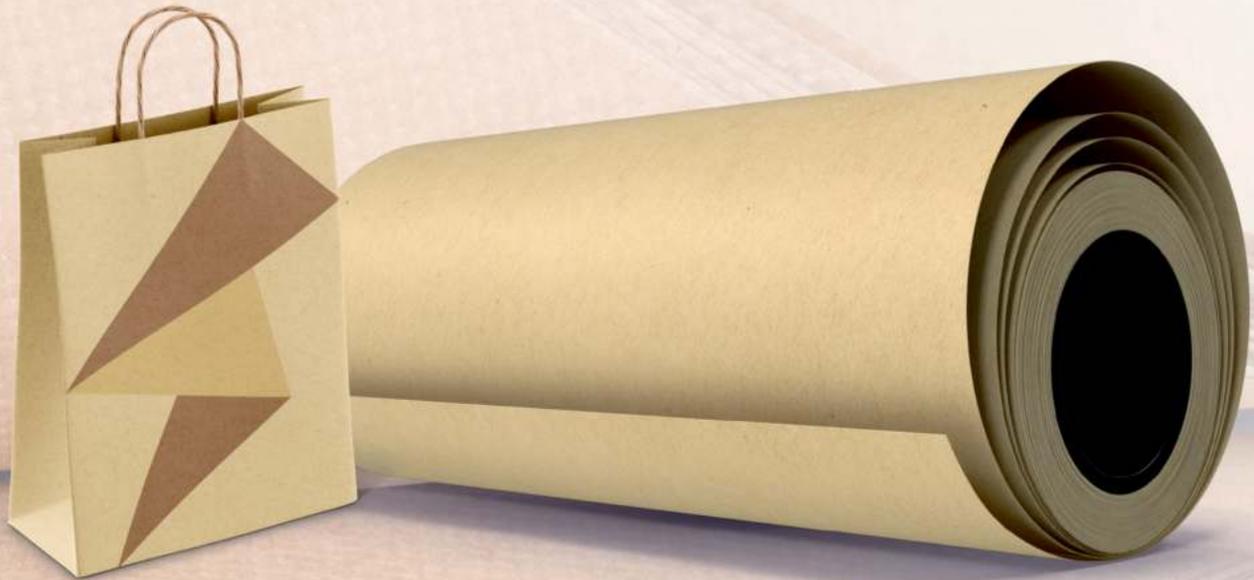


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## Bureau of Indian Standards (BIS): Overview

Keeping in view, the interests of consumer as well as the industry, BIS is involved in various activities such as:

- a) Standards Formulation
- b) Product Certification Scheme
- c) Compulsory Registration Scheme
- d) Foreign Manufactures Certification Scheme
- e) Hall Marking Scheme
- f) Laboratory Scheme
- g) Laboratory Recognition Scheme
- h) Sale of Indian Standards
- i) Consumer Affairs Activities
- j) Standards Promotional Activities
- k) Training Services, National & International level
- l) Information services

BIS has its Headquarters at New Delhi and its 05 Regional Offices (ROs) are at Kolkata (Eastern), Chennai (Southern), Mumbai (Western), Chandigarh (Northern) and Delhi (Central).

Under the Regional Officers are the Branch Officers. BIS also has 8 laboratories.

Information about the Branch Officers & labs can be obtained through the link

[www.bisgov.in/bo-lab-webpage/](http://www.bisgov.in/bo-lab-webpage/)

BIS website [www.bis.gov.in](http://www.bis.gov.in)

### STANDARDS FORMULATION

For formulation of Indian Standards, BIS through the technical committee structure comprising Sectional Committees under respective Division Councils set up for specific technologies and economic sector. The Sectional Committees may be supported by Subcommittees, Panel and working Groups which may be set up for dealing with specific group of subjects. The committee structure of BIS seeks to bring together all stakeholders' interest in relevant standardization areas, so that standards are

developed keeping in view national interests and after taking into consideration all significant viewpoint through a process of consultation. Decisions in BIS technical committees are reached through a process of consensus. This activity is centred at BIS Hqs.

### Technical departments

Sl No.	Technical Department	No. Technical Committee	No. of sub Committee
1	Ayush Department (AYD)	8	0
2	Civil Engineering Department (CED)	39	30
3	Chemical Department (CHD)	26	24
4	Electronics and Information Technology Department (LITD)	35	3
5	Electrotechnical Department (ETD)	45	3
6	Food and Agriculture Department (FAD)	31	1
7	Management and System Department (MSD)	14	28
8	Mechanical Engineering Department (MED)	29	12
9	Medical Equipment and Hospital Planning Department (MHD)	21	3
10	Metallurgical Engineering Department (MTD)	21	4
11	Petroleum, Coal and Related Products Department (PCD)	16	36
12	Production and General Engineering Department (PGD)	28	17
13	Service Sector Department (SSD)	22	33
14	Textiles Department (TXD)	27	0
15	Transport Engineering Department (TED)	22	6
16	Water Resources Department (WRD)	18	2

### Content and Drafting of Standards

It is very important that standard is drafted in such a manner that it fulfils the purpose and it provides the same interpretation and understanding of its provisions across all uses of the standard. For this, the standard should be well drafted in clear and unambiguous manner with appropriate content and language for its intended use, comprehensively addressing all details relevant to its scope and application, containing provisions that are not unduly

## Bureau of Indian Standards (BIS): Overview

restrictive and that are able to support any claims of compliance, and consistent with relevant legal and statutory provisions. The rules drafting are governed by the provision of IS 12 which comprehensively addresses the form, structure and convention to be followed.

The Secretariats of Sectional Committee is responsible the management of all standards development work identified in the work programme of that Sectional Committee, including monitoring of their progress against the agreed target dates. The following table shows the sequence of stages through which the technical work is carried out and a standard is developed along with the name of the document associate with each stage.

Under specific situation encountered during the development process of a standard as given below, it is possible to skip a particular stage or stages:

- The preparation stage, in cases where a suitable draft is available for circulation as P Draft.
- The committee stage, in cases where the working draft itself is suitable for circulation as wide circulation draft<sup>1</sup>

Stage	Associated documents	
	Name	Abbreviation
Proposal stage	New work item proposal	NWIP
Preparation stage	Working draft	WD
Committee stage	Preliminary draft	P
Approval stage	Wide circulation draft	WC
Publication stage	National Standard	IS/SP

- Both preparatory and committee stages, in cases where an existing standard from another source (Example – ISO/IEC) is agree to be considered for wide circulation for approval as an Indian Standard.
- The approval stage, in case were in sectional committee (through meeting or correspondence) finalizes a document waiving the WC stage (When the matter is urgent or non – controversial) or in cases where a committee decides on publication of a document as a Provisional Standard.

### Waving off wide circulation

As prescribed in rule 22(4) of BIS Rules, 2018, if a

sectional Committee consider that the subject matter of the draft standard / amendment is non – controversial in nature or the need for the standard / amendment is urgent, it may decide to dispense with wide circulation.

### Finalization of Draft Standard

The Sectional Committee after considering all comments on the circulated draft finalizes the draft standard with or without changes. A decision to finalize and adopt a draft as an Indian Standard is taken following the principal of consensus.

### Adoption of Other Standards as Indian Standards

Under provision of Rule 29 of BIS Rule, 2018 the Bureau may, in relation to any goods, article, process, system or service, recognize any standard established by any other institution in India or outside as an Indian Standard with necessary modifications. Adoption of other standards as Indian Standards may be considered in other to avoid duplication of standardization work, aligning with global practices and requirements, or in ensuring harmonious development of standards within the country based on proposals received for the same from the body that has developed the standard, under the provisions of the BIS scheme for recognition of Standard Development Organization (SDOs).

For adoption of international Standards of ISO or IEC, the guidelines in IS 12 (part 2 and 3) (identical adoptions of ISO/IEC Guide 21-1 and 2) shall apply. The adoption of globally accepted standards of each other SDOs / NSBs shall be subject to and

governed by specific MoU/agreements/licence with such bodies permitting such adoptions.

### Review of Standards

If require, standards or some of their provisions may be reviewed from time to time due to various reason such as technological changes, technical comments received and changes in other connected standards. However, all standards have to be reviewed at least once in five years, as provided in Rule 23 of BIS Rules, 2018.

Every standard shall, therefore, be reviewed by the Sectional Committee responsible within five years after publication (three years in case of LITD standards) or its last reaffirmation.



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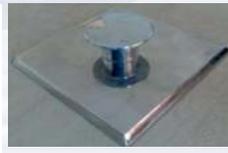
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## Bureau of Indian Standards (BIS): Overview

Review of the standard may give rise to any of the following conclusion:

- a) Continuing without any changes to the standards,
- b) Necessity of revision/amendment to the standard, or
- c) Necessity of withdrawal of the standard.

### KNOW YOUR STANDARD

The 'Know Your Standard' feature at the BIS website [www.bisgov.in](http://www.bisgov.in) provides a one-stop access to all the document and data related to a selection Standard. The Standard can be searched by entering the Indian Standard (IS) Number or a Keyword (like Product name) in the search box. User can not only access the basic documents related to the standard like the PDF of IS itself, amendments, gazette notifications, scheme of testing and inspections but also details like the list of licenses, list of laboratories testing for concerned IS, classification details and composition of the committee can also be seen through the interface.

### The complaint can be lodged on the following

- a) Quality of BIS Certified Products including products under Compulsory Registration Scheme and Hallmarking Scheme.
- b) Misuse of BIS Standard Mark
- c) Violation of Quality Control Order
- d) Misleading claims of conformity to ISS through Advertisements/Leaflets/price Lists etc.
- e) Services Related (for services provided by different departments of BIS)
- f) Others/Miscellaneous including operational issues

### Information required for recording complaints on:

#### 1. Quality of BIS Certified Products

- a) Provide details of the product such as name/type/size/grade/variety etc.
- b) Provide details of source and date of purchase along with batch no. licence number, whether Standard Mark present or not, etc.
- c) Preserve the cash memo, if available.
- d) Keep the product complained about and its

packing in safe custody till the visit of an inspecting officer of the Bureau of Indian Standards.

#### 2. Misuse of BIS Standard Mark

- a) Provide complete details and its packaging and labelling including availability of evidence of misuse of Standard Mark.
- b) Provide complete address (with landmark) of the retailer/dealer from where the product is purchased or observed.
- c) In case it is purchased then provide purchase details like cash memo, etc.
- d) Indicate complete address (with landmark) of the unit (manufacturing) where misuse of standard mark is taking place along with evidences (photo etc.) in case available

#### 3. Violation of Quality Control Order

- a) Provide complete address (with landmark) of the retailer/dealer/exhibitor where the violation is observed.
- b) In case the product has been purchased, provide purchase details like cash memo etc.
- c) If known, indicate complete address (with landmark) of the unit (manufacturing) where such violation is taking place.
- d) Please provide evidence (photo etc.) for the above.

#### 4. Misleading Claims of Conformity to IS

- a) Indicate the manner and mode employed for the misleading claim of conformity to Indian Standard (print media, electronic media, social media, leaflets, prices lists etc.).
- b) Provide an image/copy of the misleading claim as above
- c) Provide details of the address/weblink where the misleading claim is available, if applicable.

#### 5. Services Related and Other Miscellaneous Complaints

- a) Indicate the name/type of services availed from BIS and also provide the specific details.
- b) If applicable, provide a copy of the cash memo in case it is applicable.

**Reference:** BIS website and documents

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# The role of innovation in manufacturing today

**T**echnology is advancing at an unprecedented pace, driving the need for innovation across all industries. But with manufacturing in particular, leaders are grappling with questions about where and what to invest, how to best stay ahead of the technology curve, and how to innovate without overwhelming their organizations.

In a recent podcast, *The Manufacturing Executive*, I tackle these modern day

## A Brief Look at Innovation

Innovation is the practical implementation of ideas that result in the introduction of new goods and services or improvements in the way goods and services are offered. With that in mind, manufacturing innovation is emerging from unexpected places and can support both top line and bottom-line improvement. Those who are digitally transforming are finding newer and more ways to innovate.



manufacturing challenges head-on. In this insightful conversation, I shed light on why innovation holds unparalleled importance in manufacturing today, dispel common misconceptions, highlight the changing dynamics of technology adoption, and underscore the significance of formalizing innovation for businesses striving to stay relevant and thrive in this era of rapid change.

Here are some of the highlights from the podcast I thought would be helpful to share. Read on to learn more about the power of innovation and why it matters right now:

From a history point of view, you may be familiar with the Technology Adoption Curve (most notably attributed to Everett Rogers). It is a sociological model that describes the adoption or acceptance of a new product or innovation based on characteristics of defined adopter groups. It explains how individuals, managers, and even organizations behave in implementing new and innovative technologies. According to this model, adoption has traditionally taken on a normal distribution shape, with a majority of people falling evenly between the Early Majority and Late Majority adoption phases. Very few were Innovators.

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## The role of innovation in manufacturing today

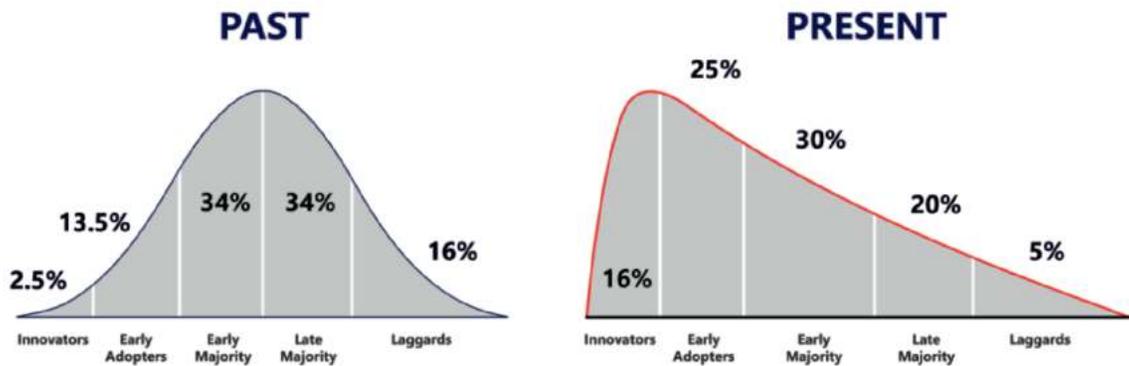
Technology is advancing at an unprecedented pace, driving the need for innovation across all industries. But with manufacturing in particular, leaders are grappling with questions about where and what to invest, how to best stay ahead of the technology curve, and how to innovate without overwhelming their organizations.

Here are some of the highlights from the podcast I thought would be helpful to share. Read on to learn more about the power of innovation and why it matters right now:

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In 2020, there was a paper in the Journal of the Midwest Association for Information Systems called Technology Adoption and Disruption. It says the adoption curve is starting to take on a more

## Technology Adoption Shift



Source: Journal of the Midwest Association for Information Systems, Technology Adoption and Disruption - Organizational Implications for the Future Work

### A Brief Look at Innovation

Innovation is the practical implementation of ideas that result in the introduction of new goods and services or improvements in the way goods and services are offered. With that in mind, manufacturing innovation is emerging from unexpected places and can support both top line and bottom-line improvement. Those who are digitally transforming are finding newer and more ways to innovate.

From a history point of view, you may be familiar with the Technology Adoption Curve (most notably attributed to Everett Rogers). It is a sociological model that describes the adoption or acceptance of a new product or innovation based on characteristics of defined adopter groups. It explains how individuals, managers, and even

positive skew, shifting people more heavily into the earlier phases of adoption. Innovators and Early Adopters are no longer the fringe, they are becoming the norm. And the implications of this will be pretty impactful. We will see faster market penetration, increased demand for innovation, greater risk tolerance of people willing to try new things, and potentially even a bit more volatility in the market.

So, what's driving this shift? In my opinion, there are two things:

1. **The sheer volume of data generated today is staggering**, offering a wealth of opportunities for creative solutions. According to Statista, we are estimated to generate 120 zettabytes worth of data this year. A zettabyte is a one followed by 21 zeros, or a trillion gigabytes.



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### Advantages

- Improved Product Quality
- Reduce Consumption of Product
- Low lumps formation
- Stable Viscosity, Consistence Product
- Low Labor cost
- Low wastage in handling & transferring
- Low Maintenance
- Easy operation

### Features

- Compact Design
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## INTEGRATED AUTOMATIC CORRUGATION GUM CIRCULATING SYSTEM

### COLD GUM MIXING MACHINE



#### Advantages

- Improved product quality
- Reduce consumption of product, usage at safety margin glue application
- High shear homogeneous mixing efficiency
- Stable viscosity, consistence product
- Low cost
- Low labor cost
- Low wastage in handling & transferring

#### Features

- Compact design
- Low maintenance
- Easy operation
- Sturdy heavy fabricated unit
- High shear homogeneous mixing agitator
- Standard make electric motor



#### Advantages

- Improved Product Quality
- Reduce Consumption of Product
- Low Lumps formation
- Stable Viscosity, Consistence Product
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- Easy operation

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- Compact Design
- Total Controlling Panel with timer
- Easy Operation
- Sturdy Ms square pipe frame mounted unit
- Level controller

### HOT GUM MIXING MACHINE



#### Advantages

- Easy to operate. (Unskilled person can operate)
- Lower Labor cost/maximum time saving
- Produces best quality product
- Reduce 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

### ADHESIVE GUM POWDER PROCESSING PLANT



#### Advantages

- Improved product quality
- Reduce consumption of product, usage at safety margin glue application
- High shear homogeneous mixing efficiency
- Stable viscosity, consistence product
- Low cost
- Low labor cost
- Low wastage in handling & transferring

#### Features

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The role of innovation in manufacturing today

2. **The speed of technological progress is unparalleled**, with innovations like ChatGPT rapidly gaining widespread adoption. It only took two months for ChatGPT to hit 100 million users after its launch. We've never had anything close to that in terms of adoption before.

One example of this happening in real life is the increase in the number of Chief Innovation Officers (CINOs). The role didn't exist 20 years ago and today, according to Forbes, roughly 30 percent of Fortune 500 companies now have that role in place. And according to LinkedIn, there are over 13,000 people with the title of Chief Innovation Officer and over 270,000 people with a title that includes "innovation" in it.

For those companies still without an official innovation role, the Chief Information Officer (CIO) has this responsibility 40 percent of the time, according to IDC. This means the CIO is no longer just focused on just managing information, data, and knowledge systems. Now,

the role includes driving innovation by accelerating all the other functions of the company through integrated technologies.

What is clear is that business leaders, and especially CIOs, now see that technological progress and market conditions are changing so fast that failure to react quickly can be catastrophic. All companies need to innovate more and faster than they ever have before.

**Common Innovation Misconceptions**

Despite technological advancements accelerating and market conditions evolving at an unprecedented pace, there are still several misconceptions surrounding innovation we need to be aware of and debunk:

- Innovation is NOT the same thing as invention. Invention and innovation, while closely linked, are different concepts. Invention refers to the creation of something completely new and previously unseen — a novel idea, method, or product that comes

## Ten Types of Innovation

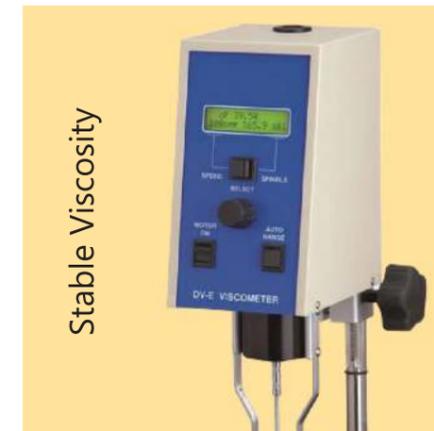
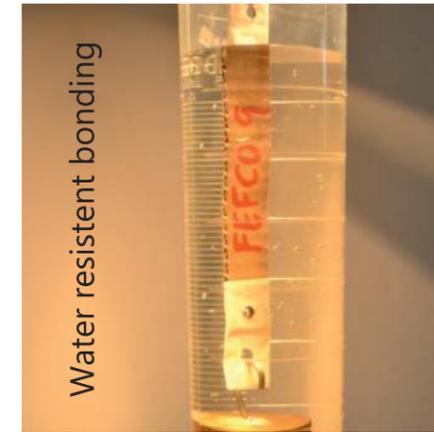


Source: <https://doblin.com/ten-types>

*Jeff Winter*

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## The role of innovation in manufacturing today

into existence for the first time. Innovation, however, is a broader concept that encompasses not only the creation of new ideas or products, but also the enhancement, modification, or new application of existing ones. This means that all inventions are innovations, but not all innovations are inventions.

- Innovation is NOT always about technology. While technology often plays a key role, innovation isn't limited to it. A good illustration of this is Doblin's Ten Types Framework. It has 10 areas of innovation that are structured into three categories — configuration, offering, and experience. Most big breakthroughs end up being a combination of several types of innovation all coming together.
- Innovation doesn't happen in “eureka” moments. Very rarely is it a sudden flash of genius. In reality, innovation is a long, iterative process that involves experimentation, failure, learning, and refining.
- You have to be creative to be innovative. Innovation is not solely the domain of “creative types.” It's a discipline that can be learned and practiced by anyone regardless of their role or background. Often, the best innovations come from diverse teams with different perspectives.

### Formalizing Innovation for Manufacturing - What That Means and Why

Formalizing innovation helps align creative efforts with strategic goals, creating a systematic process for ideation and execution. It ensures resources are allocated and processes are established to nurture, test, and implement new ideas.

Without a formal approach, innovation will be sporadic and disorganized, with valuable ideas overlooked, efforts duplicated, or resources wasted. It can lead to a lack of focus and direction, potentially stalling progress and hampering the

company's ability to stay competitive, adapt to change, and drive growth.

Here are the major steps manufacturers might take to achieve innovation formalization:

1. **Create an innovation strategy** - This includes aligning the innovation efforts with the company's overall strategic objectives and determining what type of innovation the company will focus on (product, process, business model, etc.) and what goals and metrics will measure success.
2. **Establish an innovation leader with a team/committee** - Depending on the size of your organization this may be a dedicated role and team, or it may be a part-time gig for several people. But there needs to be people responsible for leading, managing, and tracking innovation. At Hitachi Solutions, we have a whole innovation team with over 50 people dedicated to it in North America.
3. **Cultivate an innovative culture** - Creating an environment where employees are encouraged to think creatively, take risks, and challenge the status quo is a must. This can include fostering open communication, promoting collaboration, recognizing and rewarding innovative ideas, and accepting failure as part of the learning process. Unfortunately, this is by far the hardest step. It requires huge endorsement by the leadership, and having management at all levels integrate this into everyday workflows.
4. **Provide resources and tools** - It is important to allocate resources (time, money, personnel) to support innovation. This may involve creating innovation labs or spaces, investing in research and development, or providing training and tools to help employees think creatively and develop new ideas.
5. **Implement an idea management system** - This includes developing a system for collecting, evaluating, and implementing

## The role of innovation in manufacturing today

new ideas. It could be as simple as a suggestion box, or as complex as a digital platform that enables employees to submit, vote on, and collaborate on ideas.

### Manufacturers Formalizing Innovation the Right Way

#### Process manufacturing

P&G is a great example of formalizing innovation done right. In 2001, they launched their “connect and develop” initiative as a strategic pillar of their innovation program. It is an open innovation strategy where P&G collaborates with external partners — individuals, small businesses, and research institutions — to co-develop new products. This approach has led to a significant increase in the number of new product innovations.

By 2014, P&G's CIO at the time said the shift from traditional in-house R&D to leveraging external resources increased their R&D productivity by 60 percent and halved the cost of innovation. And they created popular products like the Swiffer Duster and Glad Forceflex trash bags. While this example isn't new, it shows the power of the process.

#### Product Manufacturing

I really like the Celli Group example. Celli Group is a global company based in Italy that manufactures and services equipment for dispensing soft drinks, water, and beer. They have more than 400 employees in six production facilities. They are implementing an IoT strategy that connects them to their end customer and enables new service delivery and revenue models.

Celli implemented a model-based system with PLM and IoT as the foundation for this transformation and included a novel “smart warranty” program that is unique in their industry. Their warranty coverage is based on performance against specification rather than time in service. So, the harder you run your equipment, the shorter the warranty and the less

you run it, the longer the warranty.

Talk about innovation! And on top of that, by leveraging the data from their IoT connected product, they were able to improve profitability by significantly differentiating its tap and brewery offerings, resulting in:

- 14% greater sell-through via enhanced sales and inventory management
- Reduced equipment failures by 13%
- Improved product quality by 27% by monitoring temperature, shelf life, and sanitation cycles
- Reduced service costs by 10% through better predictive maintenance

Key to this is having the PLM and IoT parts together through the digital thread, which extended all the way out to their customer.

#### Manufacturing Innovation and Generative AI

How does this approach help manufacturers adapt to disruptive technology like generative AI? In the context of ChatGPT, a company with a formalized innovation process would definitely identify its potential early on, quickly prototype ways to integrate it into their operations or offerings, quickly evaluate the benefits and risks, and then systematically roll it out across the organization.

Employees would be encouraged to test it out (with a governance policy in place) to see where and how they can incorporate it into the company to either help their jobs or enhance customer experience. The sky is the limit with trends like generative AI, you just have to understand how it works, what it is good at, and what it isn't. The best way to figure that out quickly is to have an innovative culture with an innovation management process in place.

**Source:** Global Hitachi Solutions



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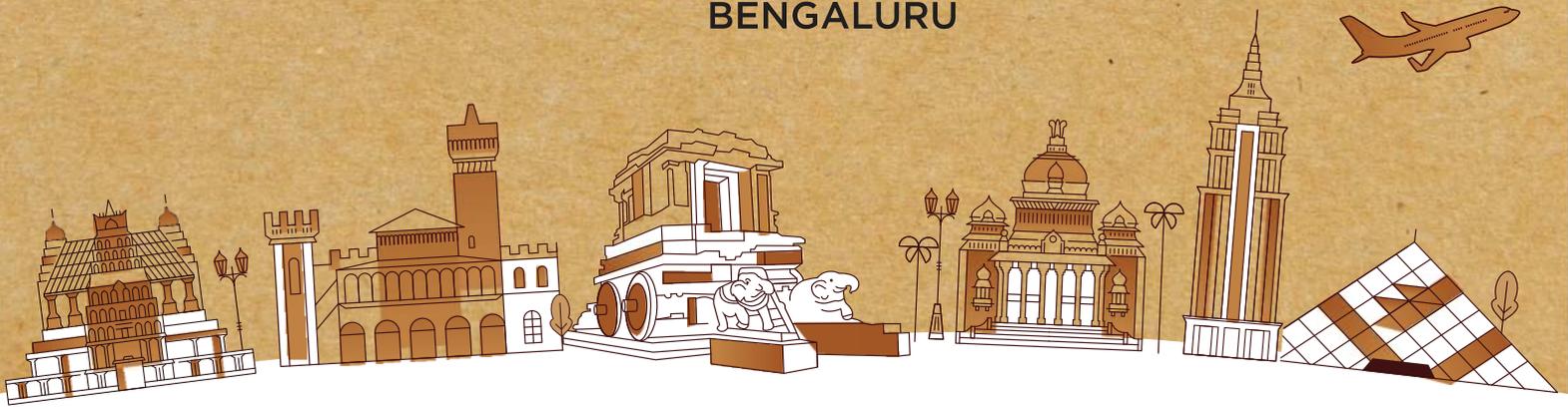
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# Maximizing Capital Equipment: Practical Advice for Boxmakers

Thinking outside the box? There's no reason: corrugated containers offer economy, performance, printability, sustainability, and a virtually endless array of purpose-built forms and functions. According to the Fiber Box Association, corrugated packaging and displays is a US\$35.5 billion per year industry; in 2021, corrugated producers pushed out a record 416 billion square feet of material from more than 1,100 manufacturing facilities in the US alone. Within each of those facilities (and thousands more around the world), a staggering array of custom-built machinery must be purchased, maintained, and operated.

North America. The downtick can be partly attributed to the turbulent global economy and high fuel prices, say market specialists. As Fisher International comments in a recent article: “The economic uncertainty looming over our heads has led to a noticeable decrease in consumer spending, thus decreasing containerboard demand. The main question that comes with this is: how long will this last?”

With competing factors in play, it's critical that corrugated manufacturers get the most out of their machinery investments. Maximizing efficiency and reducing bottlenecks are key to



Containerboard is the most dynamic sector in the pulp and paper industry. It far outpaces any other sector in terms of tons produced and experienced a huge surge in demand during the COVID-19 pandemic. A variety of societal factors, including e-commerce and the circular economy, are expected to keep demand strong, despite a slight decline in recent capacity within Europe and

maintaining profitability—and will be the best ways for boxmakers to make sure they're ready if demand surges again.

Paper360° reached out to members of TAPPI's corrugated community (see sidebar) for their thoughts on how to get the most from existing capital equipment. Following is a “sneak peek” at their upcoming CorrExpo panel discussion.

**WHERE TO START**

When it comes to buying, maintaining, or increasing the efficiency of capital equipment, our panelists suggest a couple of opening strategies. “Look for machine modularity,” says Tim Connell of AG Stacker. “Then add new machine components to add new capabilities. You can schedule quarterly or semi-annual visits from your vendor for a combination of maintenance audits and assistance, operator training, and process training.”

Sun Automation's Rob Casella agrees that quarterly or semi-annual checks are a must. “Spend a day watching or have a knowledgeable and experienced employee watch your operator run the machine full time. Ask a lot of questions during running and setups. You will find that there are issues with your machine and/or peripherals that are causing them to run slower or have slower setups. Or you may find that there is a training deficiency,” Casella says. Identifying and correcting these deficiencies can eliminate bottlenecks and have a ripple effect through the plant.

It can be tempting to let an intensive operations review be a one-off effort—but you'll risk losing momentum on the improvements. A better plan is to set up a predictive maintenance schedule and follow it with no exception. There are tools that can keep a plant on track. “Look into quarterly preventive maintenance contracts, as well as at IIoT platforms for machine monitoring,” says Casella.

Once a plant has begun the effort to identify opportunities for improvement, tackle the low hanging fruit. Can you eliminate labor in your material handling? Can targeted training help operators meet higher production goals? Make sure the plant has sufficient metering installed in critical areas; remember, “You cannot correct what you cannot measure,” says Connell.

According to panelist Ted Kulwicki of BW Papersystems, there are ways to maximize

capabilities of certain board grades or high-volume orders. “Raising speed a few hundred feet per minute in key areas with additional heat or process changes, coupled with proper training and proper maintenance techniques, can add production to any corrugator,” he advises. “Adding additional pre-heat drums or steam showers can allow heavyweight papers to be run faster. Adding knife motors can add capacity at smaller cut lengths as well as raising the knife speed curve. There may be pockets of short sheet business that can be run at speeds 10 percent faster. These relatively low-dollar investments can pay high dividends.

Adding a new high speed or high productivity machine has an impact on the plant's total flow, so take that into account to avoid downstream disruptions. Casella advises, “Be sure to calculate how you expect to feed it and take away the board fast enough to be sure your investment can reach its full potential. Make certain that your crew has the skill set to maintain the new machinery and management is willing to invest the money to maintain the upgrades that will be needed on these new machines in the future.”

**TWO STRATEGIES - OR ONE?**

Casella's advice makes it clear that improving ROI isn't a “project”—it's a “process.” Getting value from an investment is an ongoing effort. Two of the best tools available to support that process are machine audits and preventive maintenance. For the best results, box plants should not consider these to be two separate strategies; an integrated approach will yield better results.

BW Papersystems' Ted Kulwicki explains. “Data from a sound Preventative Maintenance (PM) program and production and waste indicators can determine audit cadence. OEMs understand typical time to failure or replacement, areas of concern, and typical lead time and installation timelines. In addition to regular process and product audits, situational audits can take advantage of planned downtime to evaluate machines and make necessary repairs and upgrades required to ensure compatibility with

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IS- 17072: 2019

#### Properties

- Food Grade (Tested as per US FDA)
- Transparent liquid material.
- 8 to 10 ml Chemical Sufficient for coating 1 Sq. mtr. Paper to bring down Cobb value by 50%.
- Cobb value can be brought down even to zero by increasing coating level.
- Improve B.F. by 10 to 12% of Original B.F.
- Coated Film Flexible does not crack by Folding.
- Printing can be done after coating or Coating can be done after Printing.
- Very Fast drying, Cost effective coating for paper water proofing .
- Product Conforms to IS-17072 : 2019

#### Applications

- Soap wrapper • Corrugated boxes meant for fruits, vegetables, flowers exports. • Boxes for tea, ice cream, butter, milk powder, paneer, cheese, Dahi etc. • Corrugated boxes for Bidi, Cigarettes, Tobacco, Soap and other moisture sensitive products, Garments, Fabrics, Yarn, Fish, Meat, frozen food exports, electronic and electrical goods which are moisture sensitive, Industrial goods packing in Rainy season. • Multiwall paper bags for moisture sensitive products. • Water proofing of all paper Pouches. Replacement of tar coating, Waxing and plastic coating by this biodegradable coating.

**FOR EXAMPLE : FOLLOWING TYPES OF PACKAGING CAN BE REPLACED BY POLY COAT 602 COATED PAPER**



### POLYCOAT - 603

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IS- 17072: 2019

#### Properties

- Transparent liquid material.
- 10 to 20 ml Chemical Sufficient for coating 1 Sq. mtr. Paper.
- Cobb value can be brought down even to zero by increasing coating level.
- Improve B.F. by 15 to 20% of Original B.F.
- Coating is flexible does not crack by folding.
- Printing can be done after Coating or Coating can be done after Printing.
- Direct contact with food has no problem.
- Coated paper is heat sealable & Microwave Resistant.
- Very Fast drying, Cost effective coating for paper.
- Product Conforms to IS-17072 : 2019.

#### Applications

- Wrapper for Butter, Sweet, Snacks, any other milk products.
- Corrugated boxes for Fish, Meat and other frozen food exports.
- Paper Cups & Paper Plates. • Food Boxes. • Multiwall paper bags for moisture sensitive products. • Ice Cream Cups & Pouches • Paper Pouches for Food & Non Food Products.
- Replacement of tar coating, waxing and plastic coating by this biodegradable coating. • Coating on duplex board in place of PE coating. • Soap wrapper • Coating for mono- cartons. • Paper Bags for all purpose. • Paper Pouch for different products.

**FOR EXAMPLE : FOLLOWING TYPES OF PACKAGING CAN BE REPLACED BY POLY COAT 602 & 603 COATED PAPER**



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new equipment,” he says. “Improvements within the plant often present opportunities for audits and improvements in other machines. For example, a new Flexo Folder Gluer can prompt an audit of the corrugator to ensure the plant produces enough product to maximize the FFG investment.”

Plant managers should be mindful of how external factors can disrupt ongoing efforts. “Due primarily to the large labor shortage that occurred shortly after COVID set in, I know a lot of converting partners have had more turnover in skilled positions like head operators of converting machines,” says Spencer Bird of JB Machinery. “With that said, PM practices and overall equipment training falls by the wayside. We set up a machine audit and operator retraining when this occurs, or if we haven’t been in to service a plant facility in 2-3 years since an installation occurred.”

Casella suggests tracking machine speeds specific to order. “If the same order is speed-trending down, then it is probably an indication of wear. Quarterly maintenance contracts will usually catch this before it happens; make them part of your contract when buying equipment,” he says.

Other triggers can prompt a machine audit as well, says John Rastetter, Pamarco - for instance, print quality and color match. “Downtime caused by these two issues can contribute to significant productivity loss. This is a key sign that it’s time to audit the process and the anilox roll.

“Start with an anilox audit to determine the roll condition, looking for wear; plugging will give a good indication of what needs improvement,” says Rastetter. “If the roll is clean and shows more than 15 percent volume loss, consider replacement. If the roll is plugged, return it to operational condition by cleaning with a variety of approved processes. A thorough review should address why it plugged. Look at your daily, weekly, and monthly cleaning regiments; just as important, look at how the crew is controlling pH

and viscosity, which are often the root cause of most printing issues and roll plugging.”

Once an audit is completed, plant managers must turn the findings into actual process improvements. Analyze the data to determine areas that need attention, then determine the ROI on any expected gains. An experienced technician can prioritize repairs or updates.

Rastetter notes that an OEM can be a resource here. “Your anilox supplier will be pleased to assist you in auditing your process for best practices when they visit to do an anilox audit. This process can provide valuable insight into not only the anilox, but your maintenance practices and ink management. The findings will be reviewed with plant management, and an operator training program will be developed. By educating your production crew on every shift, we can help drive productivity improvements.”

It can be difficult to determine whether it’s time to invest in new equipment or whether a simpler upgrade will be enough to achieve your plant’s goals. Casella agrees that an unbiased supplier taking a consultative role can be a huge help. “Keep in mind that a new machine will most likely require a new foundation and possibly even new peripherals, along with new training to operate the new machinery. Your skilled labor availability must support the new equipment.”

Plant managers must take many factors under consideration, including condition of the existing equipment, realistic production goals, timeline, and budget. “It’s an interesting puzzle,” says Kulwicki.

“We have programs in place to rebuild equipment, and with the current upgrade offerings we can upgrade some equipment to ‘Better Than Original’ condition. Improvements in registration, print quality, fold quality, and ease of setup are all possible,” he says. “Lead time for upgrades is shorter than that of a new machine, which allows a machine to get back to full capacity quickly or help to bridge the gap while waiting for new machine delivery.

## Maximizing Capital Equipment: Practical Advice for Boxmakers

“Also, the plant must have realistic expectations for the performance capabilities of an existing machine upon completion of upgrades and rebuild. Careful consideration must be used to pair the right machine with the expected future production and quality goals,” he concludes.

Connell says every evaluation should include people, processes, and technologies, then prioritize the causes of bottlenecks, to determine what to do. He offers a few questions to guide the effort:

- What processes can be improved in terms of productivity, quality, or safety?
- How good do you want to be?
- How fast do you want to go?
- Are you looking for new capability, or additional capacity?
- Have you weighed cost vs return + reliability?

### VIRTUALLY LOOKING AHEAD

A review of recent “Tech Talks” at CorrWeek and SuperCorrExpo reveal a host of impactful new machine technologies introduced over the past few years. This year's CorrExpo (see sidebar) will also feature new technologies, both on the exhibit floor and in the What's New/Tech Talks pavilion. We asked our panelists what they were most excited about for boxmakers looking to maximize overall efficiencies.

Connell thinks digital capabilities show promise: “Touchscreen machine interfaces, fewer buttons, mobile apps, and web-based remote support for information and training resources,” he says. “Some of the most exciting digital products include Digital Twins, smart machines (networked for support and machine learning), Artificial Intelligence, and the use of augmented reality for training and testing.”

It's interesting to note that all these technologies are designed to take the pressure off already beleaguered operators. “I think the most impactful new machine technologies that have made a strong impact in the market have been the technologies that allow a machine line to run

with less manpower and overall automate certain aspects of the production run,” says Spencer Bird. “In our specific case, we have introduced a new inking system that completely takes pH, viscosity, and temperature control of ink out of the operators' hands to free them up to do other aspects of the job without needing to worry about human error. We also have a new brush cleaner that eliminates the need to manually wash print plates. Overall, this type of tech saves a lot of time press side so operators can perform other duties. Suppliers and OEMs have made this type of automation a large focus over the last 5-10 years, both to eliminate human error and to reduce the need for more manpower press side.”

“Be sure to calculate how you expect to feed it and take away the board fast enough to be sure your investment can reach its full potential. Make certain that your crew has the skill set to maintain the new machinery and management is willing to invest the money to maintain the upgrades that will be needed on these new machines in the future.”

According to Casella, new tech may have taken a back seat during the pandemic, but it will continue to evolve. “Exciting may not mean profitable,” he says. “I think the most impactful new tech has been with material handling equipment. Plants have seen great increases in speed of some of the flexo-folder-glueers especially, but total cost of ownership (TCO) has also risen and can sometimes make the ROI not so favorable. Look at every new technology's TCO—and make sure you do your homework.”

**Source:** Tappi (Paper 360)

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Model No.	OMEGA-23 / ES-23	OMEGA-28/ES-28	OMEGA-32/ES-32
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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
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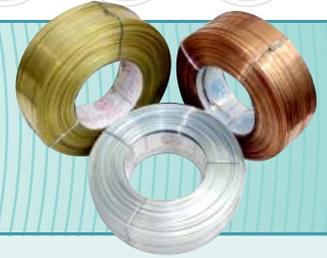


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# The role of compressors in India's corrugated boxes market

Corrugated boxes play a vital role in ensuring products reach their destination without damage. Compressed air powers the knives and scoring wheels used for precise cutting and slotting of corrugated cardboard sheets.

The Indian corrugated boxes market has witnessed significant growth due to several key drivers. Let's delve into these factors and explore the critical role of compressed air in corrugated box making machines.

## Market drivers

- E-commerce and retail industries: The surge in online sales has led to an increased demand for robust and secure packaging solutions. Corrugated boxes play a vital role in ensuring products reach their destination without damage.

has fuelled the demand for eco-friendly packaging materials that can be recycled or biodegraded.

## Compressed air in corrugated box making

- Cutting and slotting mechanisms: Compressed air powers the knives and scoring wheels used for precise cutting and slotting of corrugated cardboard sheets. This ensures accurate dimensions and shapes for box components.
- Board feeding and positioning: Automatic board feeders rely on compressed air to



- FMCG and pharmaceutical sectors: These industries require durable, tamper-proof, and environmentally friendly packaging. Corrugated boxes meet these criteria, contributing to market growth.
- Sustainability awareness: The rising awareness of environmental sustainability

control the movement of cardboard sheets. Soft grip rollers and precise input/output shafts accurately position the corrugated cardboard during production.

- Gluing module: Some machines incorporate a gluing module that applies cold glue to the cardboard.

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## The role of compressors in India's corrugated boxes market

### Challenges faced by the industry

- Competition from alternatives: The Indian corrugated boxes market faces competition from alternative packaging solutions such as plastic and metal.
- Lack of standardization: Variability in quality, size, and shape of corrugated boxes poses challenges for manufacturers trying to meet

process, time, or season. VSD compressors adjust their speed, resulting in energy savings.

- Quality assurance: Compressors equipped with refrigerant dryers and inline filters ensure the desired quality of compressed air. Atlas Copco's G, GA, GA VSD, and GA VSD+ compressors offer reliable solutions for your application.



diverse industry demands.

- Raw material price fluctuations: The changing prices of raw materials (such as paper and glue) significantly impact production costs.

### Technological advancements

- Companies are investing in advanced machinery, automation, and digitalization to produce high-quality and innovative packaging solutions.
- Choosing the right compressor:
  - Fixed-speed rotary screw compressor: Ideal for constant air demand in factories running 24/7 with predictable consumption rates.
  - Variable Speed Drive (VSD) compressor: Suitable when air demand varies by

“ *FMCG and pharmaceutical sectors require durable, tamper-proof, and environmentally friendly packaging. Corrugated boxes meet these criteria, contributing to market growth.* ”

In summary, the Indian corrugated boxes market continues to evolve, driven by technological advancements in compressors with a focus on sustainable packaging.

# Why and How of Business Plan for Manufacturing Industry

If you wish to start your entrepreneurial Journey or revive existing one, this article will definitely prove beneficial to your business in the manufacturing industry to mitigate existing challenges and take your company to the next pedestal.

A manufacturing business plan is a formal document that outlines the goals and objectives of your business. It includes detailed information about your:

business plan needs to be even more detailed and include information on your management team, financial history, and expected growth.

Ideally, you should update your business plan yearly to ensure that it remains relevant and accurate. As your business grows and changes, so too should your plan.

**Why does a manufacturing company need a business plan?**



- Products or services
- Target market
- Marketing strategy
- Financial projections
- Operational details

The purpose of a business plan is to give you a roadmap to follow as you build and grow your business. It forces you to think through every aspect of your venture and identify potential problems or roadblocks before they happen.

Manufacturing business plans can also be used to attract investors or secure funding from lenders. If you are looking for outside financing, your

No matter how simple or complex your ideas may be, you need a plan, or they will never become a reality. A business plan will clearly understand your costs, competition, and target market. It will also help you to set realistic goals and track your progress over time.

Let's look at a manufacturing strategy example. You have a great idea that you think will revolutionize the manufacturing industry. Your new safety harness will be made from a lightweight, yet incredibly strong, material that cannot be cut or torn. You are confident that your product will be in high demand and generate a lot of revenue.

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- Corrugated Medium Test (requires Sample Fluter)
- Pin Adhesion Test
- Score quality Test



UCR-TS-SN

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**UCR-TS** Fully automatic with computerised touch screen control panel.

## Why and How of Business Plan for Manufacturing Industry

But before you walk into Ford or Toyota to try and get a purchase order, you need to have a plan. You must know:

1. How much will it cost to produce your product
2. How many units do you need to sell to breakeven
3. Who is your target market is
4. What is your competition selling
5. How will you reach your target market

You also need to clearly understand the regulatory landscape and what it takes to bring a new product to market. All of this information (and more) should be included in your business plan.

This is not just a document that you create and forget about. It is a living, breathing tool that should be used to guide your actions as you build and grow your business.

### How to write a business plan for a manufacturing company



The process of creating a business plan for a manufacturing company is similar to any other type of business. However, there are some key considerations to keep in mind.

First, you need to understand your industry and

what it will take to be successful in it. This includes understanding the competitive landscape, the costs of goods sold, and the margins you can expect to achieve.

You also need to have a clear understanding of your target market and what needs or wants your product or service will address. This market analysis should include information on your target customer's demographics, psychographics, and buying habits.

While there will be many things specific to your company, here are five questions to answer for each of the sections listed above.

#### Executive summary:

- What is the problem that your company will solve?
- How will your company solve that problem?
- Who are your target customers?
- What are your key competitive advantages?
- What is your business model?

#### Company description:

- What is the legal structure of your company?
- What are your company's core values?
- What is your company's history?
- Who are the key members of your



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# THE CORRUGATOR

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**1**

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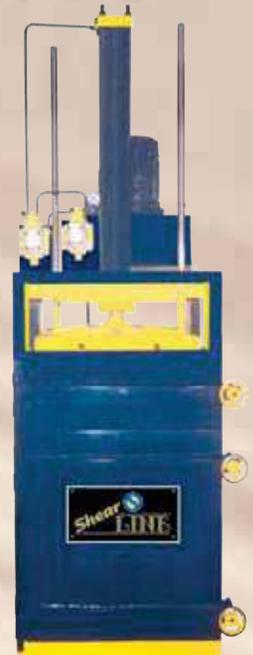
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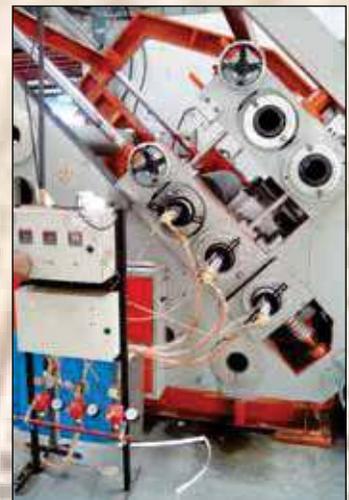


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## Why and How of Business Plan for Manufacturing Industry

management team?

- Where is your manufacturing facility located?

### Products and services:

- What product or service does your company offer?
- How does your product or service solve the problem that your target market has?
- What are the key features and benefits of your product or service?
- How is your product or service unique from your competitors?
- What is the production process for your product or service?

### Market analysis:

- Who is your target market?
- What needs or wants does your target market have that your product or service will address?
- What is the size of your target market?
- How do you expect the needs of your target market to change in the future?
- Who are your key competitors, and how do they serve the needs of your target market?

### Financial plan:

- What are the start-up costs for your company?
- How will you finance your start-up costs?
- What are your monthly operating expenses?
- What is your sales forecast for the first year, and how does that compare to your industry's average sales growth rate?
- What are your gross margin and profit targets?

### Common mistakes to avoid

However, new manufacturing entrepreneurs often fall into a handful of traps when creating

their business plans.

- + Not doing enough research – You can't know everything about your industry, but you should do your best to understand as much as you can before writing your business plan. This means talking to experts, reading trade publications, and studying the competition
- + Not being realistic – It's important to be optimistic when starting a new business, but you also need to be realistic. This is especially true when it comes to financial projections. Don't overestimate the amount of revenue you will generate or underestimate the costs of goods sold
- + Not having a clear understanding of your target market – You need to know who you are selling to and what needs or wants your product or service will address. This market analysis should include information on your target customer's demographics, psychographics, and buying habits
- + Failing to understand your competition – You need to know who your competitors are, what they are offering, and how you can differentiate yourself. This information will be critical in developing your marketing strategy
- + Not having a clear vision for the future – Your manufacturing business plan should include a section on your long-term goals and objectives. What does your company hope to achieve in the next five years? Ten years? Twenty years?

Creating a business plan for manufacturing can be simple. It can be quite simple if you break it down into smaller pieces. Keep track all of your key metrics in real time, avoid any potential issues, and make course corrections as needed.

**Source:** Katana

# Consumer appetite for sustainable products is shaping the packaging market

**P**ackaging now needs to be not only renewable, recyclable, or compostable, but consumers also expect clearer and more transparent recycling information, especially when dining out at cafes and restaurants. A recent independent survey of Finnish consumers highlights these evolving expectations and shows that respondents, particularly those aged over 65, are eager to recycle packaging.



Consumers expect more from the products they purchase, and packaging is no exception. The survey, commissioned by Huhtamaki, showed that consumers consider sustainable packaging to be important. More than one in three respondents said they would even be willing to pay a little bit extra for more sustainable packaging, and 8% would be willing to pay significantly more for a product that was packaged sustainably.

“40% of consumers surveyed had a positive



response and are willing to spend more on sustainably produced or sourced goods. This is

significant given that even though many households in Finland are under increasing economic pressure, sustainability is still

important,” says Salla Ahonen, Executive Vice President, Sustainability and Communications, Huhtamaki.

The insights from the Finnish consumer survey align with global studies. A Nielsen IQ study found that 78% of customers value sustainability, and 43% base their purchasing decisions on the environmental impact of product packaging.

In addition to consumer expectations, regulatory changes are strongly shaping the future of packaging solutions, with rising recycling targets, for example across the EU. According to the European Environment Agency (EEA), the highest recycling rate in 2021 was registered for packaging, with 64% being recycled.

In the recent Finnish consumer survey, most respondents were satisfied with how they recycle packaging materials. Eight out of 10 reported that they recycle paper-based packaging, and as many as nine out of ten recycle cardboard boxes. Somewhat surprisingly, individuals aged over 65 had a more positive attitude towards recycling than younger generations.

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## Consumer appetite for sustainable products is shaping the packaging market

“Over 80% of participants feel that they recycle enough or nearly enough. And, interestingly the survey found that women are more enthusiastic recyclers than men. Traditionally, younger people are considered to be the forerunners in this area



but, older people may have more time to focus on recycling, raising the question – has recycling been made easy enough?” says Ahonen.

Regarding packaging materials for food, beverages and household goods, 67% wanted to see fibre-based, paper-based or cardboard-based materials being used in packaging. And one in two wanted to increase the use of recyclable plastic, such as innovative mono-materials.

Innovation across the value chain is key in ensuring packaging materials are not wasted, and the resource they represent is reused. Huhtamaki has a strong track record in innovating and launching sustainable, recyclable packaging solutions at a global scale. This includes smooth molded fibre lids in fibre packaging and mono-material technologies in flexible packaging.

However, manufacturing recyclable packaging is not enough. By prioritising renewable sources, helping to build infrastructure for collection, working with recyclers and composters, and by participating in educating and empowering consumers, the company strives to ensure circularity of its packaging.

The food delivery market has witnessed expansive growth, fuelled by the increasing demand for convenient and time-saving solutions, and growing at an annual growth rate of 12.7%. Consumers not only want convenient and quick

delivery but also high-quality meals and sustainable packaging. The survey showed that people are likely to recycle packaging used for both takeouts and home deliveries.

“More transparency, information and clear instructions are still required with respect to recycling messaging when eating out. For example, consumers want to understand more about how the recycle

system works in restaurants and the environmental impact of different types of food service packaging,” Ahonen adds.

Collaboration across the value chain, from consumer goods companies to packaging raw material suppliers and packaging manufacturers to waste management, is fundamental to develop and accelerate adoption of recycling solutions. In 2022, Huhtamaki joined forces with Stora Enso to launch a paper cup recycling initiative, The Cup Collective. The program aims to recycle and capture the value of used paper cups at an industrial scale, setting new standards for paper cup collection and recycling in Europe. The aim is to make it as easy as possible for consumers to recycle their paper cup, ensuring that no cup is left behind.

“This survey highlights to the importance of working together to create functional recycling systems that are comprehensive and provide easy-to-understand guidelines and messaging for consumers,” says Ahonen.

**Source:** The Packaging Portal

# 10 Key Mistakes & Solutions for Corrugated Box Manufacturers

**A**s a corrugated box manufacturer, you know that producing high-quality boxes is crucial for your business. But even with all the best intentions and efforts, mistakes can still happen in the production process. These errors not only affect the quality of your finished product but also impact customer satisfaction and ultimately your reputation.

In this blog post, we'll explore ten common mistakes made by corrugated box manufacturers and offer solutions to help overcome them. By implementing these solutions, you can ensure better quality control. Moreover, the solutions are very simple – such as using a reliable box compression tester and achieving high-quality standards - leading to happier customers and enhanced profits for your enterprise!

Let's look at the ten common mistakes corrugated box manufacturers often make, along with their respective solutions.



## **Mistake #1** Not specifying the flute direction

One of the most common mistakes made by corrugated box manufacturers is not specifying the flute direction. The flute direction refers to the orientation of the wavy portion of a corrugated sheet, which can either be vertical or horizontal.

When boxes are improperly constructed with the wrong flute direction, they may lack structural integrity and strength, leading to damage during transport and handling. This can result in increased costs for replacement products and decreased customer satisfaction.



## **Solution #1**

To avoid this costly mistake, it's important to specify the correct flute direction based on your specific packaging needs.

Consider factors such as:

- Weight distribution within the box,
- Stacking requirements during transportation and
- Storage conditions when determining whether a vertical or horizontal flute will be more appropriate.

Additionally, ensure that all employees involved in box production are aware of these specifications and understand their importance. By paying attention to details like proper flute orientation at every stage of production - from design to testing with a reliable box compression tester - you can ensure better quality control and achieve optimal BCT results in India!



## **Mistake #2** Applying too much pressure when converting

Corrugated box manufacturers sometimes make the mistake of applying too much pressure when converting, which can lead to damaged or weakened boxes. This is especially true for machines that are not properly calibrated, as they may apply more force than necessary.

The problem with excessive pressure is that it can cause the flutes in the corrugated board to compress and lose their strength. When this happens, the box becomes less able to withstand external forces like stacking or shipping. In some cases, excess pressure can even cause tears or breaks in the material itself.



## **Solution #2**

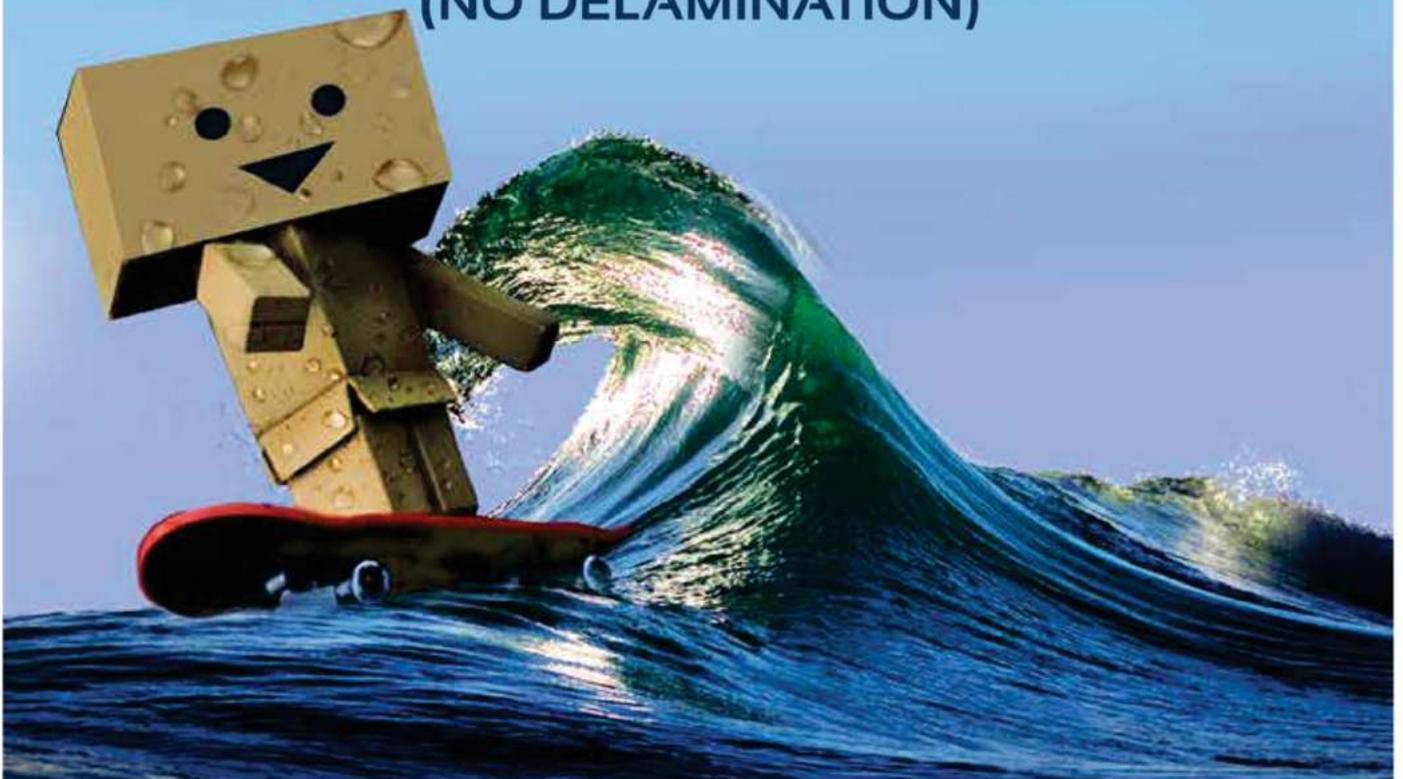
To avoid these issues, box manufacturers should always ensure that their equipment is properly set up and maintained. This includes calibrating machinery regularly and checking for signs of wear and tear on parts like cutting blades.

It's also important for operators to be trained on proper operating procedures so that they know

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## 10 Key Mistakes & Solutions for Corrugated Box Manufacturers

how much pressure is appropriate for each job. By following best practices and using quality control measures like a box compression tester, manufacturers can help ensure that their boxes are strong enough to meet customer needs while avoiding costly mistakes caused by applying too much pressure during conversion.



### Mistake #3 Not allowing for proper drying time

One more common mistake that corrugated box manufacturers make is not allowing for proper drying time. This error can lead to several problems, including poor adhesion of the glue and warping or distortion of the final product.

When boxes are assembled, they require an adhesive to hold them together. However, if the glue is not given enough time to dry properly before further handling or converting processes take place, it can cause issues down the line.

Not only does inadequate drying time affect the strength and integrity of the finished box, but it also affects its appearance. If a box is warped or distorted due to insufficient drying time, it may not be suitable for display purposes.



### Solution #3

To avoid this mistake, manufacturers should ensure that they allow sufficient drying time between each step of the process. This may mean adjusting production schedules or investing in equipment that speeds up drying times without compromising quality control standards.

By prioritizing proper drying techniques as part of their quality control measures, corrugated box manufacturers can produce high-quality products that meet customer expectations and stand up against industry standards.

Using a high-quality moisture meter is also important to check moisture levels of corrugated boxes.



### Mistake #4 Using the wrong type of adhesive

The adhesive used in corrugated box manufacturing plays a significant role in the overall strength and durability of the final product. However, using the wrong type of adhesive can lead to weak bonds, ultimately compromising the integrity of the packaging.

One common mistake that manufacturers make is opting for cheaper adhesives to save on production costs. While it might seem like an economically sound decision initially, this choice can have long-term consequences. Inferior adhesives may not provide adequate bonding between layers or give way under pressure, leading to customer dissatisfaction and potential damage to packed goods.



### Solution #4

To avoid such problems, it's crucial for manufacturers to invest in high-quality adhesives specifically designed for corrugated board applications. These specialized glues offer superior bonding strength while also maintaining flexibility during box compression tests (BCT).

Furthermore, manufacturers should consider various factors when choosing an adhesive – including its compatibility with the specific type of corrugated board being used and any unique requirements dictated by their client's needs. By carefully selecting appropriate adhesives based on these considerations, corrugated box manufacturers can produce reliable packaging solutions that meet both quality control standards and client expectations alike.

Further, using a Peel Adhesion Tester can be very beneficial.



### Mistake #5 Skimping on corrugated board quality

When it comes to corrugated box manufacturing, one of the biggest mistakes is skimping on the

## 10 Key Mistakes & Solutions for Corrugated Box Manufacturers

quality of the corrugated board. The corrugated board makes up the main structure of any box and plays a critical role in protecting whatever is inside. Cutting corners on its quality could have disastrous consequences for both manufacturers and customers.



### Solution #5

Sometimes, manufacturers try to save money by using lower-grade paper or recycled materials in their corrugated boards. While this may seem like a cost-effective strategy, it can lead to weaker boxes that are more prone to damage during shipping. It's important for manufacturers to invest in high-quality corrugated board with strong fibers and good compression strength.



### Mistake #6 Not Checking Thickness

Another mistake that some manufacturers make is not paying enough attention to the thickness of their corrugated boards. A thinner board may be cheaper, but it won't provide adequate protection for heavier items or those that require extra cushioning during transport.



### Solution #6

Manufacturers should consider investing in advanced and reliable testing methods and equipment such as box compression testers (BCT) which measure how much weight a box can withstand before collapsing. This data helps them determine which type of corrugated board will work best for specific products.

In summary, cutting corners on the quality of your corrugated boards can lead to costly damages and dissatisfied customers down the line. Investing in high-quality materials upfront will ultimately pay off in terms of customer satisfaction and fewer product returns due to damaged packaging during transit.



### Mistake #7 Incorrectly cutting the corrugated board

One of the most common mistakes that corrugated box manufacturers make is incorrectly cutting the corrugated board. This can result in a variety of issues, including uneven edges and incorrect sizing.



### Solution #7

To ensure that your boxes are properly cut, it's important to use high-quality cutting equipment and to regularly maintain and calibrate this equipment. This will help to prevent issues such as dull blades or misaligned cuts.

Another important factor to consider when cutting corrugated board is the direction of the flute. Cutting against the grain can result in weaker boxes that are more prone to collapsing under pressure. As such, it's crucial for manufacturers to specify the flute direction when ordering their materials.

Additionally, it's important for manufacturers to carefully consider the thickness of their corrugated board when making cuts. A blade that is too thick may cause tearing or other damage during cutting, while a blade that is too thin may not be able to cut through thicker materials.

By taking these factors into consideration and investing in high-quality cutting equipment and maintenance practices, manufacturers can avoid many common errors related to improperly cut corrugated board.



### Mistake #8 Failing to account for humidity and temperature fluctuations

Failing to account for humidity and temperature fluctuations can be a major mistake made by corrugated box manufacturers. The reason is that changes in humidity and temperature can cause the material to expand or contract, leading to

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## 10 Key Mistakes & Solutions for Corrugated Box Manufacturers

issues such as warping, cracking, and even complete failure of the packaging.

One of the main problems with failing to account for these fluctuations is that it can lead to inconsistencies in the size and shape of boxes. For example, if a box is manufactured on a day when humidity is high, it may expand after being shipped to an area with lower humidity levels.

Moreover, high temperatures can cause adhesives used in manufacturing boxes to soften or become less sticky while low temperatures can make them brittle. This makes it more difficult for boxes to maintain their structure during transit.



### Solution #8

To avoid these issues, corrugated box manufacturers need to take into consideration regional weather patterns when designing their products. They also need access to testing equipment like box compression testers which help detect potential flaws before they leave the factory floor.

By taking steps like these towards quality control measures such as testing materials under different environmental conditions (including extreme ones) and using sophisticated machinery

including best BCTs available in India will ensure consistent product quality no matter where your customer base lies.



### Mistake #9 Not using the right type of printing plate

Printing plates are an essential part of the printing process and can have a significant impact on the quality of the final product. One common mistake that corrugated box manufacturers make is not using the right type of printing plate for their specific needs.

Using the wrong type of printing plate can result in poor print quality, which can detract from your brand image and decrease customer satisfaction. It is important to choose a printing plate that

matches your specific requirements, such as image resolution, ink compatibility, and substrate compatibility.

For example, if you are using water-based inks, it is important to choose a printing plate that is compatible with these inks to ensure proper adhesion and color vibrancy. Similarly, if you are working with high-resolution images or fine text, you will need a printing plate that can reproduce these details accurately.



### Solution #9

By investing in the right type of printing plate for your needs, you can improve print quality while also reducing waste and production costs. Be sure to work closely with your printer supplier or manufacturer to determine which type of printing plate will work best for your unique application.



### Mistake #10 Not testing the final product

Last but not least, one of the costliest mistakes a corrugated box manufacturer can make is not testing the final product. In today's competitive market, quality control is crucial to success. Failing to test the final product leaves manufacturers at risk of producing subpar boxes that won't hold up during transportation or storage.



### Solution #10

Testing should be conducted using a Box Compression Tester (BCT) which measures how much weight a box can withstand before collapsing. It's important to note that different industries have specific requirements for BCT results, so it's essential for manufacturers to understand their customers' needs and standards.

Regular BCT testing allows manufacturers to identify any issues with their products early on in production and address them before shipping out inferior boxes. This helps avoid costly returns or complaints.

## 10 Key Mistakes & Solutions for Corrugated Box Manufacturers

Additionally, proper testing ensures customer satisfaction and builds trust between the manufacturer and the client. By ensuring high-quality products, clients will return time after time because they know they can rely on your company for durable packaging solutions.

To summarize, failing to test corrugated boxes puts both manufacturers and clients at risk of problems down the line. Regular BCT testing is crucial for identifying issues early on and building strong relationships with customers through reliable products.

### Conclusion

Corrugated box manufacturers must be mindful of the potential mistakes that can occur during their production process. By taking proactive measures to address these issues, such as specifying flute direction and allowing for proper

drying time, manufacturers can ensure consistent quality in their final products.

Additionally, investing in high-quality materials and equipment like a box compression tester can help identify areas for improvement and ensure customer satisfaction. By prioritizing quality control throughout the entire production process, manufacturers can establish themselves as leaders in the industry and stand out from competitors.

Ultimately, by avoiding common mistakes and focusing on producing top-quality corrugated boxes every time, manufacturers set themselves up for long-term success and growth within the market.

**Source:** Testronix



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# EICMA NMDC conducts joint session with NABARD



The EICMA New Market Development Committee was invited in a joint program of NABARD and Indian Institute of Packaging (IIP) to conduct a training session for rural artisans on March 20-21, 2024 at the Hotel Hilton, Bankura, West Bengal. This session was conducted by Shri Achyut Chandra, President & Chairman New Market Development - EICMA and Shri Prabir Sarkar, EICMA Member for packaging of handicrafts and woven textiles and most of them carrying the GI tags. The program was attended by about 50+ sculptors, weavers and artisans.



On going Training session



Shri Prabir Sarkar conducting a session



Some of the trainees with the trainers



Certificate awarded to participants



Shri Achyut Chandra conducting a session

# MPCBMA organizes enriching Paper mill visit



MPCBMA had organized a Paper mill visit to Shri Paper Products P Ltd, Pithampur, MP (Kraft paper Mill. A healthy count of 60+ members participated and had a techno- commercial discussion with the Mill owner Shri B D Patel and his team explaining and answering various queries. Dr. Anupam Agrawal presented market overview and possibilities in near future. As a token of appreciation, MPCBMA members presented a Memento with a letter of appreciation.



# KACBMA held their 2nd General Meeting on 3rd May 2024



KACBMA held their 2nd General Meeting for the year 2024 on 3rd May at Hotel St. Marks , Bangalore graced by presence of 39 members attending the general meeting. The GM was blended with three sessions as follows:

## Session 1: Technical Seminar -“Productivity Norms-Bench Marking Cost of Operations “- By Shri Ramkumar Sunkara

Shri Ramkumar presented a very insightful session including data on critical factors of production and the most efficient average and least efficient in his study of 150+ operations Pan India.



The parameters benchmarked with standardised appropriate units discussed were: Adhesives, Stitching Wire, Manpower, Ink, Pva Glue and Steam pressure.

## Session 2: FCBM Annual Conference 2024

Manish Bothra, Promoter and Executive Director- B&B Triplewal Containers Ltd. and Alok Agarwal Executive Director- B&B Triplewal Containers Ltd did briefing on preparation for FCBM Conference 2024 with a request to all members to login and complete the conference registration as soon as the website is Live shortly. Followed by a presentation by Mr. Rajat from Dreamcast on the Technical structuring of the website for the FCBM conference with seamless online registration, payment and hotel booking facility.



## Session 3: Premium products by Seven Eleven

An interesting presentation was done by Seven Eleven Industries, Diamond Partner – FCBM conference 2024 on products and services offered by them.

The event was concluded with a gala cocktail dinner.



# UPCBMA Kanpur Chapter with BIS organizes Lean Manufacturing Seminar



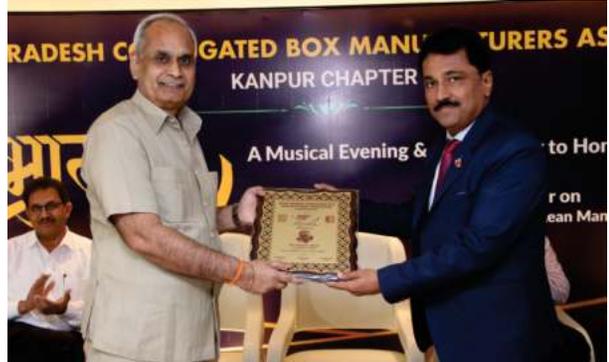
The Kanpur chapter of the Uttar Pradesh Corrugated Box Manufacturers Association (UPCBMA), under the aegis of the Bureau of Indian Standards (BIS) and the Skill Development Sub-Committee, organized a seminar on Lean Manufacturing Practices on June 1, 2024. The seminar was focused on Lean Manufacturing, a production approach that emphasizes minimizing waste while maximizing efficiency, is particularly relevant for corrugated box manufacturing firms in India. By implementing lean practices, Indian corrugators can reduce their production costs by eliminating unnecessary steps, reducing inventory, and optimizing resource utilization. Furthermore, lean practices align with eco-friendly approaches, which are crucial in today's market.

The Government of India supports this through its subsidized long-term program on Lean manufacturing, as outlined in the MCLS 2022. The seminar featured Shri Dharmender Pandya, President - FCBM as the chief guest. Shri Mohammad Umar, Director of Kanpur Productivity Council and Secretary of the National Safety Council UP Chapter, and Shri K P Singh, Chairman - BIS & Skill Development sub-committee highlighted the advantages and provisions of the lean manufacturing program. Mohammad Umar holds several key positions including being an affiliate of the National Productivity Council, New Delhi, under the Ministry of Commerce and Industry, Government of India, and serves as a Lean Manufacturing Consultant empanelled with the National Productivity Council.

The event witnessed participation from notable figures such as S. K. Chouhan, President - UPCBMA, Shri Rajender Bhati, Vice President II - FCBM, and Shri Pahwa, founder President - Kanpur Chapter. Shri Vivek Kanodia, President - Kanpur Chapter also shared the dais, alongside other members like Shri Vikas Khanna, President - Lucknow and Shri Prashant Tyagi, Shri Prashant Tyagi - Moradabad Chapter President, who visited from other cities with a total of 150+ members attended the event.

The event was a great success and was appreciated and emphasized by Shri Dharmender Pandya and Shri Mohammad Umar. The presence and recognition from these esteemed individuals truly added to the significance of the event and its success in bringing together key stakeholders in the industry.





# SICBMA held their 50th AGM with multiple enriching sessions



On **June 6, 2024**, SICBMA held their 50th AGM at Hyatt Regency, Chennai with four enriching sessions for the benefit of their members.



- Session 1** **GST PLUS** (Know more about GST and how to manage statutory compliance)  
By Sri. R. Srivatsan, IRS - National Academy of Customs Indirect Taxes and Narcotics
- Session 1** **BE WELL** (Nutrition for Success)  
By Dr. Preeti Raj, Co-Founder, CEO - Wootu Nutrition
- Session 1** **MOTIVATIONAL SPEECH** (Benefits of Good Relationships)  
by Sri. Lena Tamilvanan - renowned Tamil language author and publisher
- Session 1** **SKILL DEVELOPMENT** (ARE YOU KEEN FOR LEAN & GREEN MANUFACTURING) Govt. initiatives Towards Lean Culture  
By Sri. S. Gopalakrishnan, IAS, Director General - National Productivity Council of India

The AGM was held under the guidance of Shri K. Gopalan, Chairman - AGM Committee, Shri K. Krishna Reddy, Co Chairman - AGM Committee and Shri. A.P. Anburaj - Advisor.

After the welcome address Shri. S. Ramesh, President – SICBMA and Shri. R. Babu, Secretary presented the secretary's report. The Annual Accounts for 2023-23 was submitted and accepted by the house. The lifetime achievement was conferred on the following members for their valuable contribution to the corrugation industry.

- Shri. S. Balavassudenan, M/s Latha Industries, Chennai
- Shri. K. Krishna Reddy, M/s YesKay Packaging, Chennai
- Shri. Sri. N. Boopathy, Advance Packages, Tirupattur

The following new office bearers were elected for 2024-25.

- Smt. Prabha Manjunath – President
- Sri. T.G.R. Babu – Vice President -1
- Sri. S.M. Baskar - Vice President -2
- Sri. R. Sudheer Raj – Secretary
- Sri. V.K. Devadoss – Treasurer

The meeting concluded with a vote of thanks. We sincerely thank FCBM for allowing a grant of Rs. 100,000/- towards conducting Technical Program to our members.

The third MC FCBM was held at the same venue with the gracious presence of FCBM delegates and FCBM MC members, the program was a great success with active participation from all attendees.



# FCBM signs an MOU with National Productivity Council (NPC)



**O**n July 7, 2024, FCBM held its third Managing Committee meeting at the Hyatt Regency, Chennai in which an MOU was signed with National Productivity Council (NPC) in the presence of esteemed guest Shri Gopalakrishnan S (IAS), Director General - National Productivity Council (NPC).

This MOU between FCBM and NPC was for training and skill development programs all over the country and implementation of various schemes, programs, policies of Government for the member units of the Federation. Managing Committee urged FCBM members to take advantage of these programs to make their businesses more competitive and efficient. This MOU will also strengthen FCBM's relations with NPC and other Govt. agencies.

The Managing Committee deliberated on various issues concerning the Corrugated Box Manufacturing Industry and reviewed the activities of the Federation. The Paper Mill Co-ordination Committee planned to organise a visit to a Prominent Paper mill in Goa. The other committees also put forward their plans for the year.

This MOU signing was done after the SICBMA Lean manufacturing seminar held on the previous day i.e. July 6, 2024. The meeting ended with a vote of thanks for the hospitality and arrangements of hosts.





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