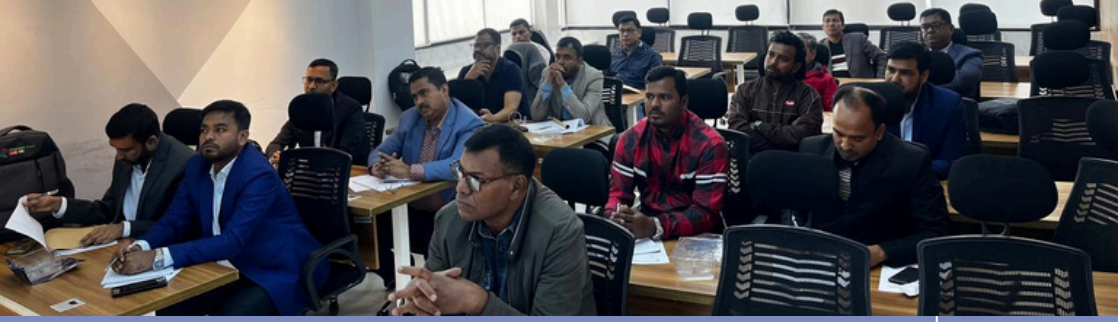
training booklet

Bangladesh Institute of Packaging (BIP)



02 introduction

03 our mission and vision

05-20 Training Courses

(Chapter 1-13)

21 our faculty

table of contents

Introduction to
Bangladesh Institute of Packaging (BIP)

The Bangladesh Institute of Packaging (BIP) is a pioneering organization dedicated to advancing packaging knowledge, innovation, and excellence in Bangladesh. Established with the mission of fostering sustainable and efficient packaging practices, BIP serves as a hub for education, research, and collaboration within the packaging industry.

Key Objectives of BIP:

- Provide specialized training and certification programs for professionals.
- Promote sustainable and innovative packaging solutions.
- Serve as a bridge between industry and academia to drive research and development.
- Offer consultancy services to help businesses improve packaging efficiency and compliance with global standards.

BIP is committed to empowering businesses, professionals, and industries by ensuring access to cutting-edge packaging technologies and practices, contributing to the economic and environmental sustainability of Bangladesh.

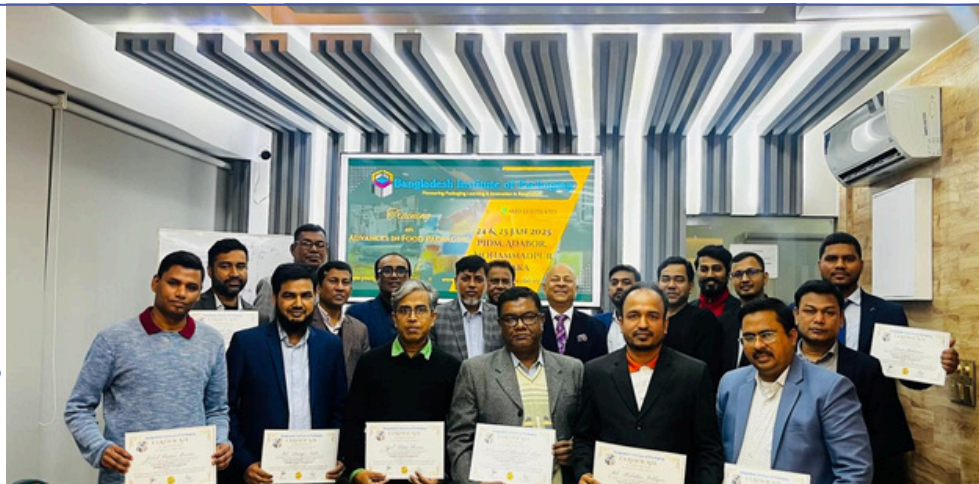
our mission and vision

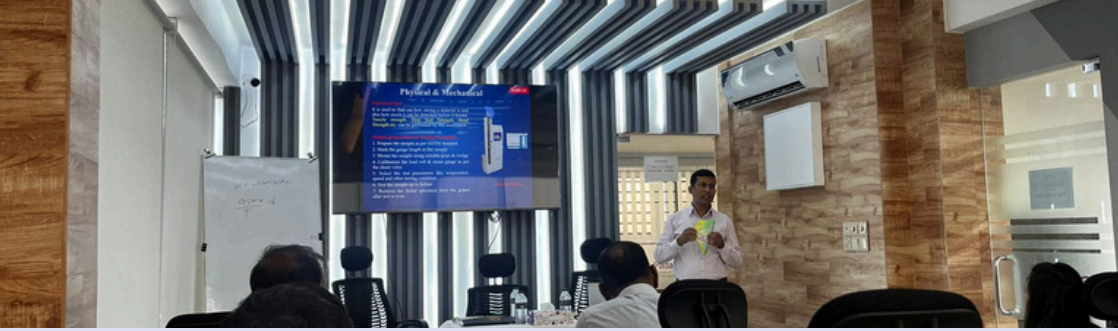
Mission

To empower the packaging industry of Bangladesh through education, innovation, and sustainable practices, fostering a culture of excellence and global competitiveness.

Vision

To be the leading institution in Bangladesh for packaging knowledge, innovation, and sustainability, driving the growth and transformation of the packaging industry in alignment with global standards.





chapter 1: Introduction to Packaging

- Importance of Packaging in Modern Industries
- Overview of Different Types of Packaging
- Role of Packaging in Supply Chain Management
- Sustainable Packaging Solutions
- Packaging Design & Development Principles

chapter 2: Flexible Packaging

Course 1: Raw Materials & Composition

- Introduction to Flexible Packaging Materials
- Types of Materials Used: PE, BOPP, CPP, PET, EVOH, Aluminum Foil, Adhesives, Coatings
- Sourcing and Selection Criteria
- Application of Raw Materials Based on Product Type (Food, Pharmaceuticals, Consumer Goods, etc.)
- Impact of Material Properties on Packaging Performance
- Environmental Considerations and Sustainability

Course 2: Packaging Design & Development

- Structural Benefits of Flexible Packaging
- Selection of Raw Materials Based on Bangladesh Market Needs
- Barrier Properties and Functional Performance
- Design Considerations for Different Applications
- Printing and Aesthetic Appeal
- Cost Analysis and Feasibility Study

Course 3: Production Process

- Extrusion and Blown Film Processes
- Lamination Technologies (Solvent & Solvent-less)
- Printing Technologies: Flexographic, Gravure, and Digital
- Slitting and Pouch-making Processes
- Safety Measures in Production
- Automation in Flexible Packaging Manufacturing

Course 4: Quality Control & Assurance

- Testing Methods and Standards (ASTM, ISO, DIN)
- Performance Evaluation Techniques
- Common Defects, Troubleshooting & Root Cause Analysis
- Customer Complaint Handling and Rectification

Course 5: Supply Chain & Logistics

- Procurement Strategies for Raw Materials
- Inventory Management and Demand Planning
- Challenges in Supply Chain for Flexible Packaging
- Cost Optimization in Logistics and Distribution

Course 6: Sales & Marketing Strategies

- Market Trends and Consumer Preferences in Bangladesh
- Branding and Packaging Design Impact on Sales
- Competitive Analysis and Business Development
- Pricing Strategies for Various Sectors

Course 7: Machinery & Troubleshooting

- Key Packaging Machines: Extruders, Laminators, Printing Presses, Slitters
- Maintenance and Repair Procedures
- Common Operational Issues and Their Solutions
- Automation and Smart Manufacturing in Packaging

Course 8: Compliance & Regulatory Requirements

- Industry Standards and Certifications (ISO, BRC, FDA, EU Regulations)
- Food Safety and Hygiene in Packaging
- Environmental Regulations and Plastic Waste Management

chapter 3: Corrugated Carton Packaging

Course 1: Raw Materials & Composition

- Types of Paper & Board Used: Kraft, Duplex Board, Virgin & Recycled Materials
- Strength Properties of Corrugated Board
- Adhesives & Starch Application
- Moisture Control and Durability Factors
- Sustainability & Recycling Considerations

Course 2: Packaging Design & Development

- Structural Design and Box Styles
- Die Cutting and Slotting Techniques
- Printing Methods for Corrugated Cartons
- Selection of Material Based on Product Needs
- Cost Optimization and Market Feasibility

Course 3: Production Process

- Corrugation Process and Machine Setup
- Printing, Die-cutting & Slotting Operations
- Folding, Gluing, and Stitching Methods
- Quality Control in Manufacturing
- Waste Management and Efficiency Improvement

Course 4: Quality Control & Assurance

- Compression, Burst & Edge Crush Testing
- Print Quality & Adhesion Testing
- Common Defects and Corrective Actions

Course 5: Supply Chain & Logistics

- Raw Material Procurement & Vendor Management
- Distribution and Storage Considerations

Course 6: Sales & Marketing Strategies

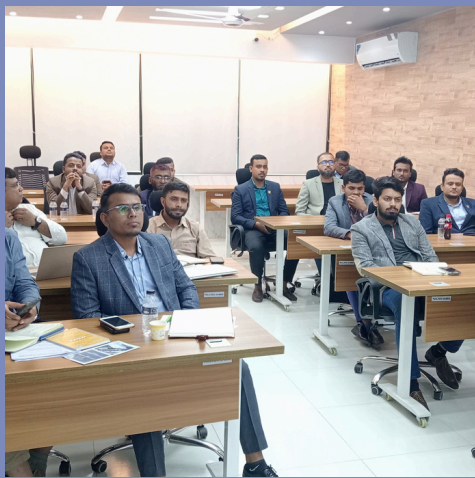
- Packaging Solutions for Different Sectors
- Branding, Retail Display & Consumer Impact

Course 7: Machinery & Troubleshooting

- Corrugators, Folder Gluers, Die Cutters & More
- Common Issues & Maintenance Strategies

Course 8: Compliance & Regulatory Requirements

- ISO Standards for Carton Packaging
- Environmental Regulations & Recycling Laws



chapter 4: Paper Packaging

Course 1: Raw Materials & Composition

- Types of Paper & Board Used: Kraft, Duplex, Virgin & Recycled Materials
- Paper Properties: GSM, Burst Strength, Moisture Resistance, Stiffness
- Adhesives & Coating Applications for Paper Packaging
- Sustainability & Recycling Considerations

Course 2: Packaging Design & Development

- Structural Design Considerations: Folding Cartons, Paper Bags, Rigid Boxes
- Printing Methods: Offset, Flexography, Digital Printing
- Die Cutting, Embossing, and Finishing Techniques
- Cost Optimization in Paper Packaging

Course 3: Production Process

- Paper Conversion Techniques: Cutting, Folding, Gluing, Laminating
- Printing Process Optimization for Paper-Based Packaging
- Paper Pulping & Recycling Process Overview
- Quality Control Measures in Production

Course 4: Quality Control & Assurance

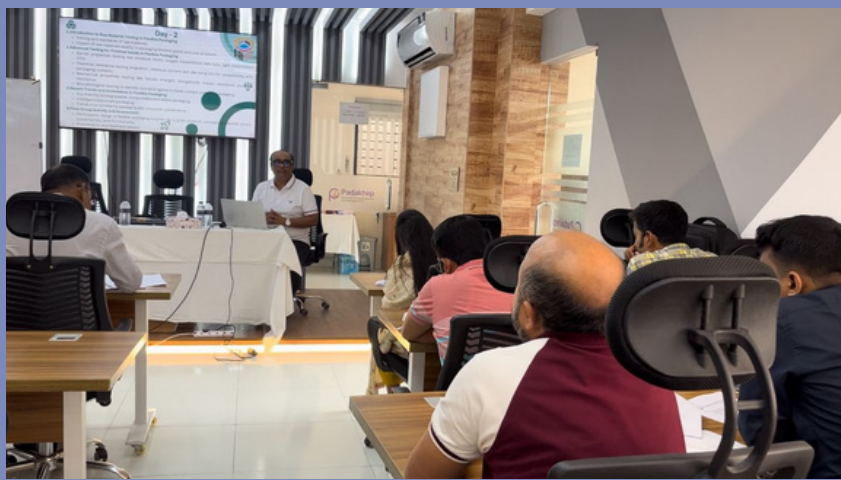
- Strength Testing: Compression, Burst, Tear & Moisture Resistance
- Print Quality Inspection & Adhesion Testing
- Defects in Paper Packaging & Their Rectification

Course 5: Supply Chain & Logistics

- Raw Material Sourcing & Procurement
- Inventory Management & Storage Conditions
- Distribution & Transportation Considerations

Course 6: Sales & Marketing Strategies

- Branding & Aesthetic Appeal in Paper Packaging
- Market Trends & Customer Preferences
- Sustainability as a Marketing Tool



Course 7: Machinery & Troubleshooting
- Key Machines Used: Die Cutters, Folder-Gluers, Laminators
- Machine Maintenance & Common Issues
- Automation & Smart Manufacturing in Paper Packaging

Course 8: Compliance & Regulatory Requirements
- Industry Standards & Certifications (ISO, FSC, FDA)
- Environmental Regulations on Paper Packaging & Waste Management
- Food Safety & Hygiene Compliance

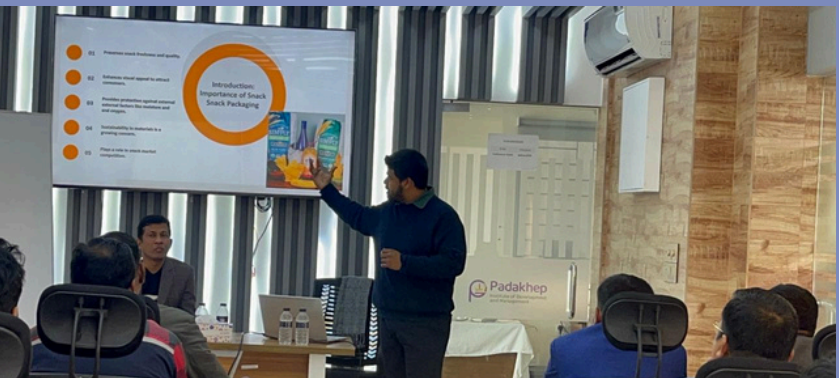
Course 9: Sustainability & Innovations in Paper Packaging
- Plastic-Free Coatings & Barrier Technologies
- Sustainable Sourcing & FSC-Certified Paper Packaging
- Circular Economy & Zero-Waste Packaging Concepts

Course 10: Specialty Applications of Paper Packaging
- Paper Packaging for Food & Beverages (Greaseproof, Barrier Coatings)
- E-Commerce & Protective Paper Packaging Solutions
- Luxury & High-End Paper Packaging
- Paper-Based Alternative to Single-Use Plastic

chapter 5: Metal Packaging

Course 1: Raw Materials & Composition
- Types of Metals Used in Packaging: Tinplate, Tin-Free Steel (TFS), Aluminum
- Metal Coatings & Surface Treatments for Corrosion Resistance
- Impact of Metal Properties on Packaging Performance
- Recycling & Sustainability Aspects of Metal Packaging

Course 2: Packaging Design & Development
- Structural Design Considerations for Metal Cans, Aerosols, and Closures
- Barrier Properties & Protective Coatings
- Printing & Decorative Techniques for Metal Packaging
- Cost Analysis & Market Feasibility



Course 3: Production Process

- Metal Forming Processes: Sheet Cutting, Stamping, Deep Drawing, Extrusion
- Can Manufacturing: 2-Piece & 3-Piece Can Production
- Seaming, Welding, & Double Seaming Techniques
- Surface Coating & Internal Lining Applications

Course 4: Quality Control & Assurance

- Performance Testing: Strength, Corrosion Resistance, Seal Integrity
- Coating & Adhesion Testing for Metal Packaging
- Common Defects & Troubleshooting in Metal Packaging

Course 5: Supply Chain & Logistics

- Raw Material Procurement & Vendor Management
- Inventory Control & Storage Conditions for Metal Packaging
- Transportation & Handling Challenges in Metal Packaging

Course 6: Sales & Marketing Strategies

- Market Trends in Metal Packaging (Food, Beverages, Pharmaceuticals, Industrial Use)
- Branding & Aesthetic Appeal of Metal Packaging
- Cost Comparison Between Metal & Alternative Packaging Materials

Course 7: Machinery & Troubleshooting

- Key Machines: Sheet Cutters, Can Body Welders, Seaming Machines, Coaters
- Equipment Maintenance & Troubleshooting Techniques
- Automation & Smart Manufacturing in Metal Packaging

Course 8: Compliance & Regulatory Requirements

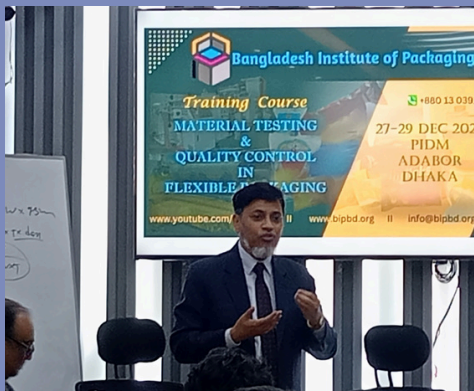
- Industry Standards & Certifications (ISO, FDA, EU, BRC)
- Food Safety & Migration Testing for Metal Packaging
- Environmental & Recycling Regulations for Metal Packaging

Course 9: Sustainability & Innovations in Metal Packaging

- Advances in Light weighting & Material Optimization
- BPA-Free Coatings & Food Safety Innovations
- Metal Packaging in Circular Economy & Recycling Technologies
- Energy-Efficient Manufacturing in Metal Packaging

Course 10: Specialty Applications of Metal Packaging

- Metal Packaging for Food & Beverage Industry (Canned Food, Soft Drinks)
- Aerosol Packaging: Structure, Safety, & Propellant Considerations
- Metal Packaging for Pharmaceuticals & Specialty Chemicals
- Innovations in Reusable & Smart Metal Packaging



chapter 6: Glass Packaging

Course 1: Raw Materials & Composition

- Types of Glass Used in Packaging: Soda-Lime, Borosilicate, Lead Glass
- Raw Materials: Silica, Soda Ash, Limestone, Cullet (Recycled Glass)
- Glass Properties: Transparency, Strength, Chemical Resistance
- Sustainability & Recycling Aspects of Glass Packaging

Course 2: Packaging Design & Development

- Structural Design Considerations: Bottles, Jars, Ampoules, Vials
- Barrier Properties & Protective Coatings
- Coloration & Decoration Techniques (Embossing, Etching, Printing)
- Cost Optimization in Glass Packaging

Course 3: Production Process

- Glass Manufacturing: Batch Preparation, Melting, Forming (Blow & Blow, Press & Blow)
- Annealing & Tempering for Strength Enhancement
- Coating & Surface Treatments for Durability
- Molding & Customization of Glass Packaging

Course 4: Quality Control & Assurance

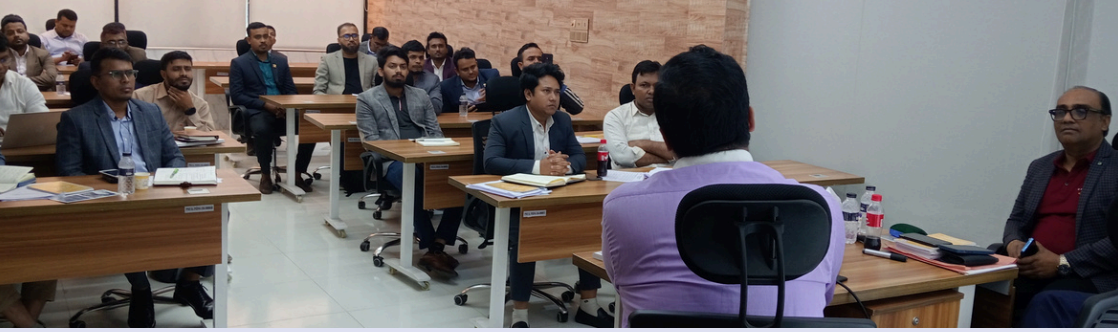
- Strength Testing: Impact Resistance, Compression, Thermal Shock
- Optical & Surface Defect Inspection
- Coating & Adhesion Testing for Glass Packaging
- Common Defects & Troubleshooting

Course 5: Supply Chain & Logistics

- Raw Material Procurement & Vendor Management
- Inventory Control & Storage Considerations for Glass Packaging
- Transportation & Handling Challenges (Breakage Prevention, Cost Considerations)

Course 6: Sales & Marketing Strategies

- Market Trends in Glass Packaging (Food, Beverages, Pharmaceuticals, Cosmetics)
- Branding & Aesthetic Appeal of Glass Packaging
- Cost Comparison Between Glass & Alternative Packaging Materials



Course 7: Machinery & Troubleshooting

- Key Machines: Batch Mixers, Furnaces, Forming Machines, Annealing Lehrs
- Equipment Maintenance & Troubleshooting Techniques
- Automation & Smart Manufacturing in Glass Packaging

Course 8: Compliance & Regulatory Requirements

- Industry Standards & Certifications (ISO, FDA, EU, BRC)
- Food Safety & Migration Testing for Glass Packaging
- Environmental & Recycling Regulations for Glass Packaging

Course 9: Sustainability & Innovations in Glass Packaging

- Advances in Lightweight Glass for Packaging
- Recycled Glass & Circular Economy in Packaging
- Coatings & Treatments for Strength and Durability
- Energy-Efficient Manufacturing in Glass Packaging

Course 10: Specialty Applications of Glass Packaging

- Glass Packaging for Food & Beverage Industry (Alcoholic & Non-Alcoholic Drinks, Condiments)
- Pharmaceutical & Medical Applications of Glass Packaging (Ampoules, Vials)
- Luxury & High-End Glass Packaging for Cosmetics & Perfumes
- Smart Glass Packaging with Embedded Technologies

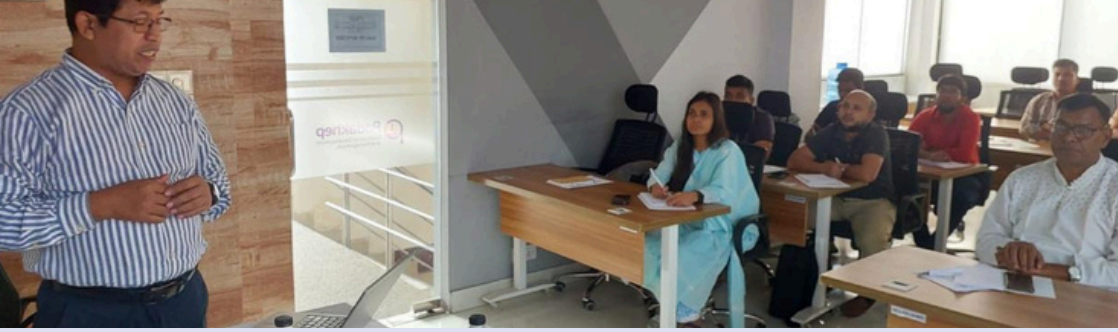
chapter 7: Plastic Packaging

Course 1: Raw Materials & Composition

- Types of Plastics Used in Packaging: PE, PP, PET, PVC, PS, EVOH, Bioplastics
- Properties & Applications of Different Polymers
- Additives & Their Functions: Stabilizers, Plasticizers, Fillers, Pigments
- Recycling & Sustainability Considerations in Plastic Packaging

Course 2: Packaging Design & Development

- Structural Design Considerations for Plastic Bottles, Containers, Films, and Pouches
- Barrier Properties & Functional Performance (Oxygen, Moisture, Light)
- Printing & Decoration Techniques for Plastic Packaging
- Cost Optimization & Light weighting Strategies



Course 3: Production Process

- Extrusion Technologies: Blown Film, Cast Film, Sheet Extrusion
- Injection Molding & Blow Molding for Plastic Containers & Bottles
- Thermoforming & Rotational Molding for Rigid Plastic Packaging
- Laminating, Coating, and Surface Treatments for Enhanced Performance

Course 4: Quality Control & Assurance

- Mechanical Testing: Tensile, Impact, Flexural, and Compression Tests
- Barrier Testing: Oxygen, Water Vapor Transmission Rate (WVTR), Gas Permeability
- Common Defects in Plastic Packaging & Their Troubleshooting
- Food Safety & Regulatory Testing for Plastic Packaging

Course 5: Supply Chain & Logistics

- Raw Material Sourcing & Selection Criteria
- Inventory Management & Demand Planning for Plastic Packaging
- Challenges in Storage & Distribution (UV Degradation, Temperature Sensitivity)

Course 6: Sales & Marketing Strategies

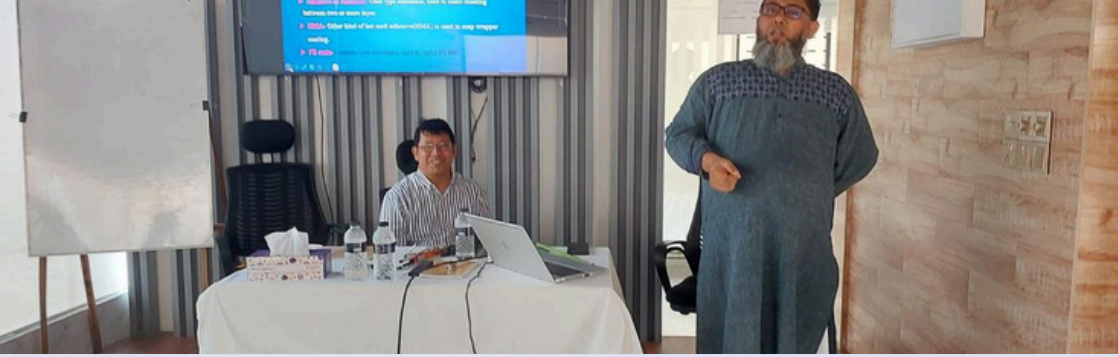
- Market Trends in Plastic Packaging (Flexible vs. Rigid, Smart Packaging)
- Branding & Consumer Preferences in Plastic Packaging
- Cost Comparison Between Plastic & Alternative Packaging Materials

Course 7: Machinery & Troubleshooting

- Key Machines: Extruders, Injection Molders, Blow Molders, Thermoforms
- Machine Maintenance & Common Operational Issues
- Automation & Smart Manufacturing in Plastic Packaging

Course 8: Compliance & Regulatory Requirements

- Industry Standards & Certifications (ISO, FDA, EU, BRC)
- Environmental & Recycling Regulations for Plastic Packaging
- Food Contact Safety & Migration Testing for Plastics



Course 9: Sustainability & Innovations in Plastic Packaging
- Advances in Biodegradable & Compostable Plastics
- Circular Economy & Closed-Loop Recycling Systems
- PCR (Post-Consumer Recycled) Plastics & Their Applications
- Energy-Efficient Manufacturing & Carbon Footprint Reduction

Course 10: Specialty Applications of Plastic Packaging
- Plastic Packaging for Food & Beverage Industry (MAP, Retort, Vacuum)
- Pharmaceutical & Medical Plastic Packaging (Blister Packs, IV Bags)
- Industrial & Hazardous Material Plastic Packaging (Drums, IBCs)
- Smart & Intelligent Plastic Packaging with Sensors & RFID

chapter 8: Production Planning & Management

Course 1: Fundamentals of Production Planning
- Introduction to Industrial Production Planning
- Key Objectives & Challenges in Packaging Production
- Role of Production Planning in Overall Business Strategy
- Process Mapping & Workflow Optimization

Course 2: Capacity Planning & Optimization
- Defining Production Capacity & Its Constraints
- Strategies for Capacity Utilization & Efficiency
- Equipment Layout & Optimization for Packaging Lines
- Managing Bottlenecks & Improving Throughput

Course 3: Lean Manufacturing & Waste Reduction
- Principles of Lean Manufacturing in Packaging
- Identifying & Eliminating Waste (7 Wastes of Lean)
- Just-in-Time (JIT) & Continuous Improvement Strategies
- Implementing 5S & Kaizen in Packaging Production

Course 4: Demand Forecasting & Inventory Management
- Forecasting Techniques for Packaging Material Requirements
- Inventory Control Strategies: FIFO, LIFO, JIT, EOQ
- Warehouse & Logistics Planning for Packaging Materials
- Demand-Driven Production & Supply Chain Synchronization

Course 5: Integration of ERP in Packaging Industry

- Role of Enterprise Resource Planning (ERP) in Production Management
- ERP Modules for Packaging: Inventory, Scheduling, Quality, Procurement
- Data-Driven Decision Making & Real-Time Monitoring
- Case Studies on ERP Implementation in Packaging

Course 6: Risk Assessment & Contingency Planning

- Identifying Production Risks: Raw Material Shortage, Equipment Failure, Market Fluctuations
- Developing Risk Mitigation Strategies & Business Continuity Plans
- Disaster Recovery Planning for Packaging Industries
- Case Studies on Crisis Management & Contingency Planning

Course 7: Automation & Industry 4.0 in Packaging Production

- Role of Automation in Modern Packaging Plants
- Smart Manufacturing & IoT in Packaging Production
- AI & Machine Learning Applications in Production Planning
- Case Studies on Industry 4.0 Implementation in Packaging

Course 8: Cost Control & Efficiency Improvement

- Cost Analysis & Reduction Strategies in Packaging Production
- Energy Efficiency & Sustainability in Manufacturing
- Labor & Process Optimization for Cost Savings
- Benchmarking & Performance Metrics for Continuous Improvement

chapter 9: Machinery Maintenance & Updated Technology

Course 1: Preventive & Predictive Maintenance Strategies

- Importance of Machinery Maintenance in Packaging Operations
- Preventive vs. Predictive Maintenance: Key Differences & Applications
- Condition-Based Monitoring (CBM) & Reliability-Centered Maintenance (RCM)
- Tools & Techniques for Predictive Maintenance (Vibration Analysis, Infrared Thermography)

Course 2: Troubleshooting Common Machinery Issues
- Identifying & Diagnosing Frequent Machinery Failures
- Common Issues in Extruders, Printing Machines, Sealing Units, and Converting Equipment
- Corrective Actions & Repair Techniques for Packaging Machines
- Root Cause Analysis (RCA) & Failure Mode and Effects Analysis (FMEA)

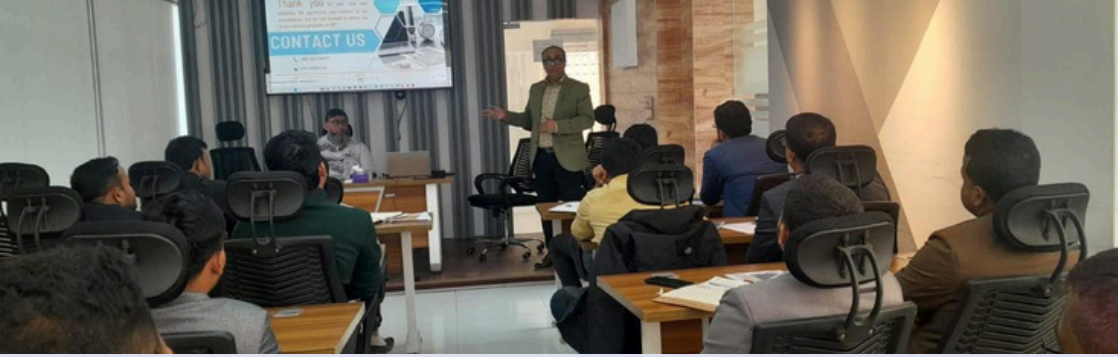
Course 3: Advancements in Packaging Machinery
- High-Speed & Precision Packaging Equipment
- Innovations in Flexible, Rigid, and Smart Packaging Machines
- Integration of New Technologies in Packaging Lines
- Trends in Modular & Customizable Packaging Machinery

Course 4: Automation & Robotics in Packaging
- Role of Robotics in Primary, Secondary & Tertiary Packaging
- Collaborative Robots (Cobots) & Their Applications in Packaging Lines
- Pick & Place Robots, Automated Guided Vehicles (AGVs) & Palletizing Robots
- Enhancing Efficiency & Reducing Downtime with Automation

Course 5: AI & IoT in Smart Packaging Solutions
- Introduction to Artificial Intelligence (AI) & Internet of Things (IoT) in Packaging
- Smart Sensors & Real-Time Monitoring for Equipment Health
- AI-Driven Predictive Maintenance & Production Optimization
- Digital Twins & Augmented Reality (AR) for Remote Troubleshooting

Course 6: Energy Efficiency & Sustainability in Packaging Machinery
- Reducing Energy Consumption in Packaging Plants
- Eco-Friendly & Sustainable Machinery Technologies
- Carbon Footprint Reduction & Green Manufacturing Practices
- Regulatory Compliance & Energy-Efficient Equipment Certifications

Course 7: Retrofitting & Upgrading Old Equipment
- When to Upgrade vs. Replace Machinery in Packaging Plants
- Retrofitting Old Machines with Automation & Smart Features
- Cost-Benefit Analysis of Equipment Upgrades
- Case Studies on Successful Machinery Modernization



chapter 10: Industrial Production Engineering

Course 1: Fundamentals of Production Engineering in Packaging
- Overview of Industrial Production Engineering in Packaging
- Key Principles of Manufacturing Processes & Workflow Design
- Role of Industrial Engineers in Packaging Industry
- Manufacturing Systems: Batch, Mass, Continuous, and Lean Production

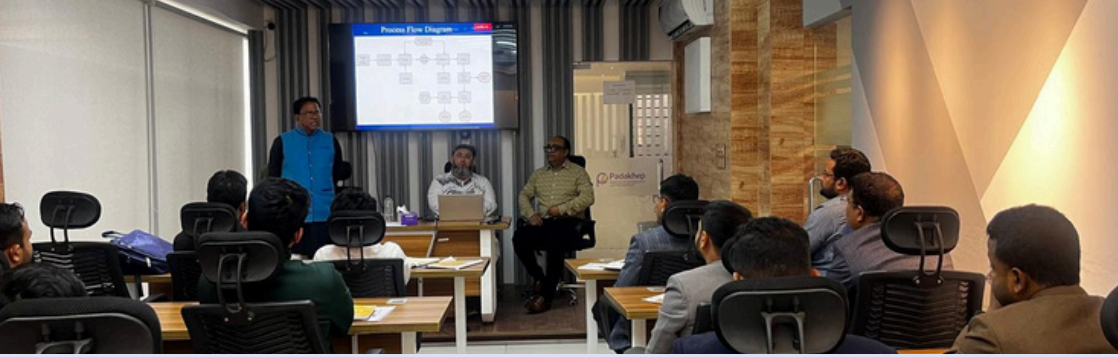
Course 2: Process Optimization & Efficiency Improvements
- Identifying Bottlenecks & Improving Production Flow
- Lean Manufacturing & Six Sigma Techniques in Packaging Production
- Total Productive Maintenance (TPM) for Optimized Performance
- Implementing Industry 4.0 for Smart Manufacturing

Course 3: Quality Engineering & Defect Analysis
- Statistical Process Control (SPC) & Quality Management Systems (QMS)
- Root Cause Analysis (RCA) & Failure Mode and Effects Analysis (FMEA)
- Testing & Inspection Techniques for Packaging Materials
- Case Studies on Defect Prevention & Continuous Improvement

Course 4: Cost Reduction Strategies in Manufacturing
- Identifying Cost Drivers in Packaging Production
- Waste Reduction & Yield Improvement Strategies
- Energy-Efficient Production & Utility Cost Optimization
- Automation & Process Innovation for Cost Control

Course 5: Sustainable & Green Manufacturing
- Principles of Eco-Friendly & Sustainable Production
- Circular Economy & Waste Minimization in Packaging
- Green Manufacturing Standards & Regulatory Compliance
- Renewable Energy & Carbon Footprint Reduction in Factories

Course 6: Advanced Manufacturing Technologies
- Role of Robotics & Automation in Industrial Production
- 3D Printing & Additive Manufacturing in Packaging
- AI, Machine Learning & IoT in Manufacturing Processes
- Smart Factories & Digital Twin Technologies



chapter 11: Production/Manufacturing Operations

Course 1: Workforce Management in Packaging Factories
- Role of Human Resources in Manufacturing Operations
- Workforce Planning & Shift Management for Optimal Productivity
- Skill Development & Training Programs for Operators & Technicians
- Managing Labor Relations, Motivation, & Workplace Culture

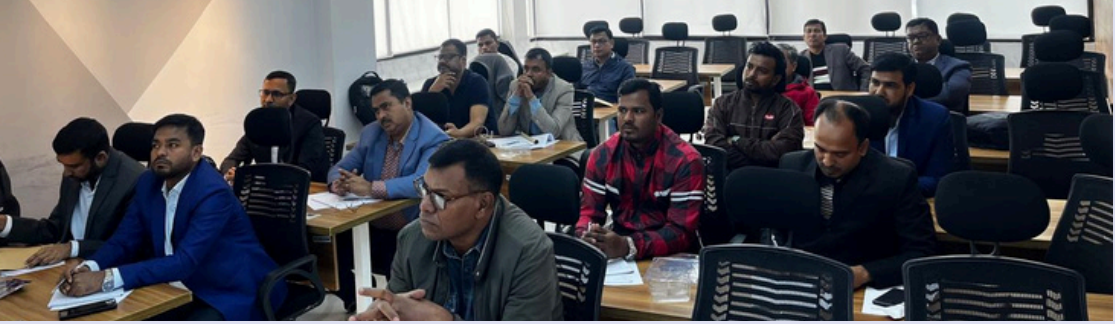
Course 2: Standard Operating Procedures (SOPs) for Packaging
- Importance of SOPs in Production & Quality Control
- Developing & Implementing SOPs for Different Packaging Processes
- Ensuring Compliance & Consistency Through SOPs
- Case Studies on SOP Effectiveness in Packaging

Course 3: Batch vs. Continuous Production in Packaging
- Key Differences Between Batch & Continuous Production Systems
- Advantages & Disadvantages of Each Approach in Packaging
- Selecting the Right Production System Based on Product Needs
- Case Studies on Batch & Continuous Manufacturing in Packaging

Course 4: Energy Efficiency & Sustainability in Manufacturing
- Strategies for Reducing Energy Consumption in Production Facilities
- Sustainable Packaging Manufacturing & Carbon Footprint Reduction
- Renewable Energy Integration in Packaging Plants
- Compliance with Environmental Regulations & Sustainability Standards

Course 5: Factory Layout & Workflow Optimization
- Principles of Efficient Factory Layout Design for Packaging Plants
- Material Flow & Logistics Optimization for Reduced Waste
- Ergonomic & Safe Workplace Design for Operators
- Automation & Smart Factory Layout Considerations

Course 6: Health, Safety, & Compliance in Manufacturing
- Occupational Health & Safety Standards in Packaging Plants
- Hazard Identification & Risk Mitigation Strategies
- Personal Protective Equipment (PPE) & Workplace Safety Training
- Regulatory Compliance for Manufacturing Operations



chapter 12: ERP and Digital Transformation in Packaging

Course 1: Introduction to ERP in the Packaging Industry
- Fundamentals of Enterprise Resource Planning (ERP)
- Role of ERP in Manufacturing & Packaging Operations
- Key ERP Modules for Packaging: Inventory, Procurement, Quality, Sales
- ERP Selection Criteria: Cloud vs. On-Premise Solutions

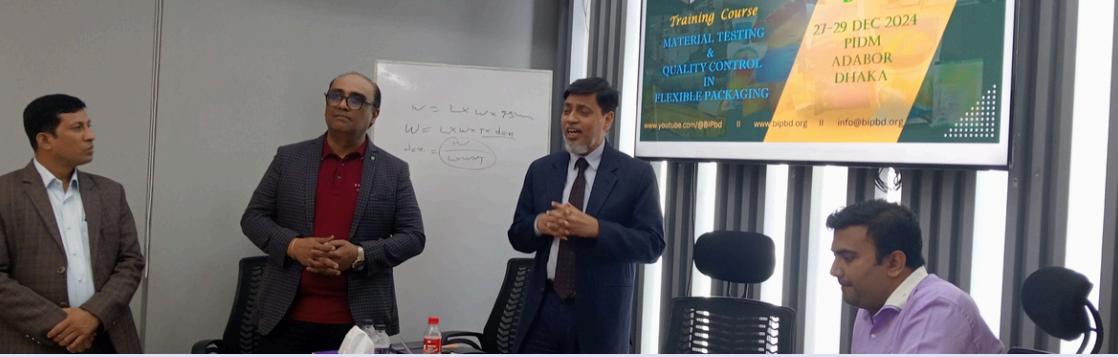
Course 2: Implementation Challenges and Solutions
- Common Challenges in ERP Implementation for Packaging Companies
- Data Migration & System Integration with Existing Processes
- Change Management & Employee Training for ERP Adoption
- Case Studies on Successful & Failed ERP Implementations

Course 3: Real-Time Data Analytics and Decision Making
- Role of Business Intelligence (BI) in ERP for Packaging
- Data Visualization & Dashboard Reporting for Real-Time Monitoring
- Predictive Analytics for Demand Forecasting & Inventory Optimization
- AI-Driven Insights for Process Improvement & Waste Reduction

Course 4: Integration of Supply Chain and Production through ERP
- ERP-Enabled End-to-End Supply Chain Visibility
- Synchronizing Procurement, Inventory, and Production Planning
- Digital Twins & Smart Manufacturing for Improved Efficiency
- Case Studies on Supply Chain Integration Through ERP

Course 5: Cybersecurity & Data Protection in ERP Systems
- Importance of Cybersecurity in ERP & Digital Packaging Operations
- Data Security Best Practices: Encryption, Access Control, & Authentication
- Compliance with Data Protection Regulations (GDPR, ISO 27001)
- Risk Management & Contingency Planning for ERP Security

Course 6: AI, IoT & Automation in Digital Transformation
- Role of Artificial Intelligence (AI) in ERP for Smart Manufacturing
- Internet of Things (IoT) for Machine-to-Machine Communication
- Robotic Process Automation (RPA) for ERP Efficiency
- Case Studies on AI & IoT-Enabled ERP in Packaging



chapter 13: Project Development & Business Planning

Course 1: Feasibility Study for New Packaging Ventures
- Key Components of a Feasibility Study
- Market Research & Demand Analysis for Packaging Solutions
- Technical & Financial Feasibility of a New Packaging Business
- Case Studies on Feasibility Assessments in the Packaging Industry

Course 2: Business Strategies for the Bangladesh Market
- Understanding the Local Packaging Industry & Market Trends
- Competitive Analysis & Positioning Strategies
- Government Incentives & Trade Policies in Bangladesh
- Case Studies on Successful Packaging Businesses in Bangladesh

Course 3: Investment Planning & ROI Calculation
- Capital Budgeting & Investment Planning for Packaging Projects
- Cost Estimation & Profitability Analysis
- ROI, Payback Period, & Break-even Analysis
- Funding Options: Bank Loans, Venture Capital, Private Equity

Course 4: Risk Management in the Packaging Industry
- Identifying Financial, Operational, & Market Risks
- Mitigation Strategies for Raw Material Price Fluctuations
- Business Continuity Planning & Crisis Management
- Insurance & Risk Financing for Packaging Businesses

Course 5: Regulatory & Legal Compliance for Packaging Businesses
- Licensing & Permits for Packaging Companies in Bangladesh
- Compliance with Local & International Packaging Regulations
- Intellectual Property (IP) & Trademark Considerations
- Import-Export Regulations & Customs Procedures

Course 6: Sustainability & Green Investment Strategies
- Business Models for Sustainable & Eco-Friendly Packaging
- Green Financing & Government Grants for Sustainable Ventures
- Circular Economy & Waste Management Strategies
- Case Studies on Profitable Sustainable Packaging Businesses

our faculty

md. aminul islam, PhD
Assistant Professor
Material Science & Engineering, RUET

md. ariful haque
Advisor, BIP

md. iasin islam
Country Head
Boond Engineering Bangladesh Pvt. Ltd.

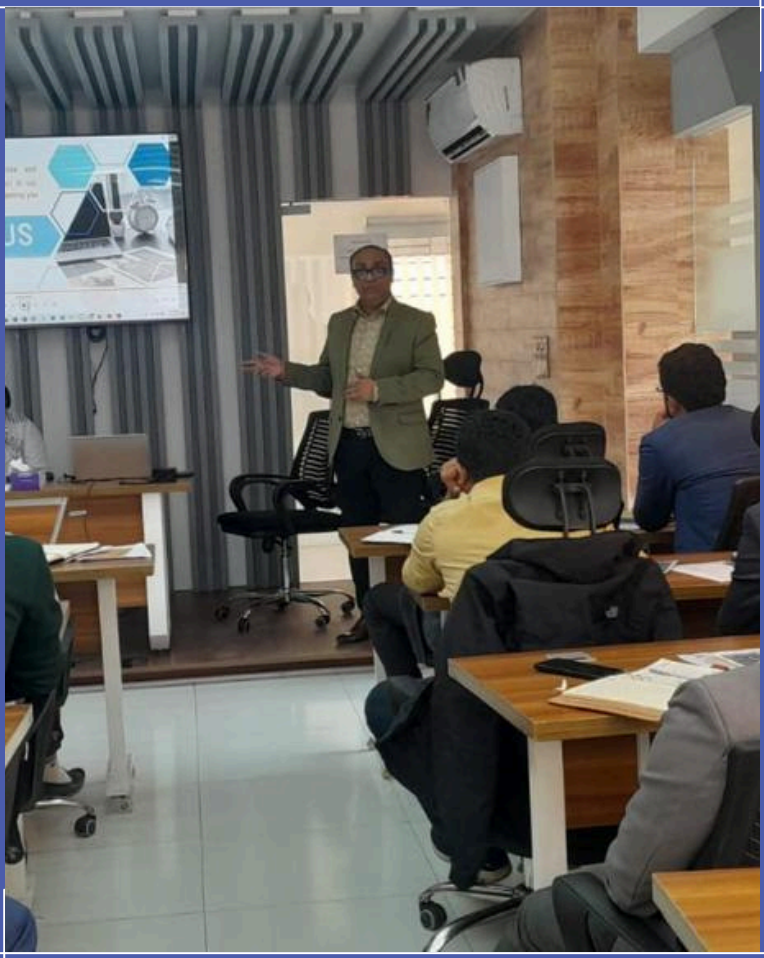
adnan hossain
Director, Arbab Group

md. mazharul islam
BSc (Hons) & MSc (MSE)
PhD Fellow - Packaging
Vice President-BIP

md. salah uddin
BSc (Hons) & MSc (Chemistry)
MBA (Finance)
AGM - Factory, KR Flexipack Ltd.

md. afsar uddin
Sr. Manager, Eng. & Dev.
TK Group

Bangladesh Institute of Packaging (BIP



Mohonpur, Ring Road, Shyamoli, Dhaka-1207

www.bipbd.org
info@bipbd.org
@+88 01303 916785