# Packaging Management and Technology: Materials, Specifications and Transport Packaging

5 – 9 April 2027
Paris - Right Bank business hotel



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## Introduction:

Packaging management decisions made without a written specification lead to crushed cartons, collapsing pallets, short shelf life, excess board and film, and freight paid on empty space. This Core Concept course trains packaging, supply chain, procurement, quality and product development staff to apply packaging management and technology across primary, secondary and transit levels: selecting paper and board, plastics, glass and metal, writing specifications, planning performance tests, building stable unit loads and costing packs over their whole life. Participants produce a Packaging Specification and Cost-Sustainability Review for a case product line.

## Course Objectives:

- Define the protection, containment, barrier, information and convenience functions a pack must deliver at primary, secondary and transit level
- Select paper and board, plastics, glass or metal packaging materials by comparing strength, barrier, weight and end-of-life properties
- Write a packaging specification with dimensions, material grades, tolerances, acceptance criteria and test methods
- Plan compression, drop, vibration and conditioning tests and read the results to approve or reject a pack design
- Design pallet patterns and unit loads that raise cube utilisation and hold load stability through handling and transport
- Calculate total packaging cost and compare redesign options on cost, product damage and material reduction

## Target Audience:

- Packaging technologists who develop and approve pack formats for new and existing products
- Supply chain and logistics staff who plan pallet loads, shipping units and transport damage prevention
- Procurement and sourcing staff who buy corrugated board, films, bottles, cans and closures
- Quality assurance staff who inspect incoming packaging materials and investigate pack failures
- Product development staff who brief pack formats for food, fresh produce and consumer goods

## Course Outline:

### Day 1: Packaging Functions, Levels and Current Pack Audit

- Packaging Function Matrix: Protection, Containment, Barrier, Information and Convenience
- Primary, Secondary and Transit Packaging Level Map for One Product
- Distribution Hazard Profile: Shock, Vibration, Compression, Humidity and Temperature
- Pack Failure Log Review: Crushed Cartons, Leaks, Punctures and Load Shift
- Current Pack Audit Checklist and Packaging Bill of Materials

### Day 2: Packaging Materials and Their Properties

- Paper and Board Grades: Corrugated Flute Profiles, Folding Carton Board and Moisture Effects
- Plastics Selection Chart: Rigid Containers, Flexible Films and Laminates
- Glass Containers: Strength, Weight, Breakage Risk and Closure Fit
- Metal Packaging: Tinplate and Aluminium Cans, Tubes and Foils
- Material Comparison Scorecard: Barrier, Strength, Weight and Recyclability

### Day 3: Packaging Specifications, Testing and Unit Load Design

- Packaging Specification Template: Dimensions, Grades, Tolerances and Acceptance Criteria
- Box Compression and Stacking Strength Estimate with Humidity Correction
- Drop, Shock and Random Vibration Test Planning with Sample Conditioning
- Pallet Pattern Design and Cube Utilisation Calculation
- Load Stabilisation Methods: Stretch Wrap, Strapping, Shrink Hood and Corner Boards

### Day 4: Food and Fresh Packaging, Labelling, Cost and Circularity

- Modified Atmosphere Packaging: Gas Mix, Headspace and Film Permeability
- Barrier Film Selection and Shelf Life Trial Design for Fresh and Chilled Foods
- Generic Pack Labelling Elements: Product Identity, Net Contents, Batch Code and Handling Marks
- Total Packaging Cost Model: Material, Conversion, Filling, Freight, Damage and Disposal
- Packaging Reduction and Recyclable Design Review Using the Reduce-Reuse-Recycle Hierarchy

### Day 5: Packaging Supplier Control and Case Product Line Review

- Packaging Supplier Qualification and Incoming Material Inspection Plan
- Case Product Line Analysis: Snack, Fresh Produce and Household Liquid Packs
- Packaging Specification Drafting for the Case Product Line
- Cost-Sustainability Review: Redesign Options Ranked on Cost, Damage and Material Use
- Specification Peer Challenge and Implementation Action Plan

## Skills You Will Gain:

- Packaging Material Selection
- Packaging Specification Writing
- Transport Package Testing
- Pallet Pattern and Unit Load Design
- Modified Atmosphere Pack Design
- Total Packaging Cost Analysis
- Recyclable Pack Design
- Packaging Supplier Qualification

## Why Attend This Course:

- Return with a Packaging Specification and Cost-Sustainability Review for a case product line, tested in peer challenge
- Cut transport damage and freight paid on empty space by fixing pack strength and pallet patterns
- Brief packaging suppliers with measurable grades, tolerances and test acceptance limits
- Compare pack decisions with peers from food, fresh produce, consumer goods and industrial supply

## Conclusion:

A pack earns its cost when it protects the product through every handling step, fills the pallet and vehicle efficiently and uses no more material than the route requires. The course moves from packaging functions and levels, through material properties, specifications, testing and unit load design, to modified atmosphere packs, labelling basics, total cost and recyclable design. The final day applies these methods to a case product line and produces a Packaging Specification and Cost-Sustainability Review ready for supplier and management discussion.