

AUTOMOTIVE PACKAGING CERTIFICATE

COURSE CATALOG

THE AUTOMOTIVE PACKAGING CERTIFICATE

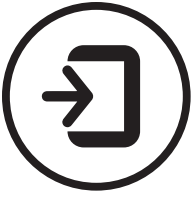
A 12 week program designed to be taken by working professionals and students entering the field.
9 Courses | 21 hours | 2 CEUs

Learning Objectives:

The Automotive Packaging Certificate is a fully online academic program that enables you to develop the professional skill set needed to be successful within automotive packaging.

The Certificate provides a comprehensive understanding of the packaging supply chain and its connection of automotive manufacturers, part suppliers, and packaging providers.

- You'll understand the unique roles of Tier 1s and OEMs within their sequenced Just in Time supply chain
- Cover part and packaging storage, handling, identification, and customization
- Packaging options, such as returnable packaging (e.g., racks and totes) and expendable packaging (e.g., corrugated containers)
- We cover costing, provide cheat sheets and templates, and help you understand how to decide on the best packaging options for your projects.



Automotive Packaging Overview - 8 micro-lessons, 45 minutes

This course will serve as an introduction to the automotive packaging industry and provide the fundamental knowledge necessary to get you up to speed. We'll overview the packaging processes involved in packaging production, overseas distribution, and after sales operations.

1. Automotive Packaging Overview

- 1.1. Platform Navigation (Video, 3:00)
- 1.2. Introduction (Video, 4:00)
- 1.3. Production Packaging (Video, 3:00)
- 1.4. Overseas Packaging (Video, 8:00)
- 1.5. After Sales Packaging (Video, 7:00)
- 1.6. Knowledge Check (Quiz, 6 Questions)
- 1.7. Resources (Text, 5:00)
- 1.8. Course Disclaimer (PDF, 5:00)



Returnable Packaging - 18 micro-lessons, 180 minutes

With increasing focus on sustainability and environmental performances, returnable packaging solutions are increasing in demand and importance worldwide. We will focus on the two major categories that need to be acknowledged; returnable metal racks and cages and returnable plastic bulk containers, totes, and pallets.

2. Returnable Packaging

- 2.1. Introduction (Video, 2:00)
- 2.2. Metal Packaging
 - 2.2.1. Introduction (Video, 3:00)
 - 2.2.2. Wire Cages: Introduction (Video, 3:00)
 - 2.2.3. Wire Cages Design Factors and Application (Interactive Presentation, 20:00)
 - 2.2.4. Returnable Racks: Introduction (Video, 3:00)
 - 2.2.5. Returnable Racks: Design Factors and Applications (Presentation, 20:00)
 - 2.2.6. Design and Production Workflow (Video, 5:00)
 - 2.2.7. Let the Experts Talk (Video, 9:00)
 - 2.2.8. Returnable Packaging Design Checklist (PDF, 5:00)
- 2.3. Plastic Packaging
 - 2.3.1. Introduction (Video, 3:00)
 - 2.3.2. Returnable Totes (Video, 9:00)
 - 2.3.3. Returnable Bulk Bins (Video, 11:00)
 - 2.3.4. Product Selector (Interactive Guide, 10:00)
 - 2.3.5. Returnable Pallets (Presentation, 10:00)
- 2.4. Wrap Up
 - 2.4.1. Industry Overview of Returnable Packaging Providers (Spreadsheet, 10:00)
 - 2.4.2. Challenges and Trends (Presentation, 30:00)
 - 2.4.3. Knowledge Check (Quiz, 13 Questions)
 - 2.4.4. Resources (Text, 5:00)



Expendable Packaging - 28 micro-lessons, 320 minutes

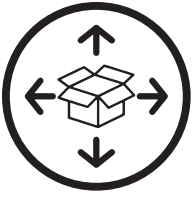
Expendable packaging is a necessity in all areas of the Automotive Supply Chain. It's used by OEM's and process partners whenever returnable packaging usage is not feasible or not available. A working one-way packaging solution has to be implemented to ensure deliveries overseas.

The following lessons will walk you through the different materials that are used in automotive packaging and transportation. You will be introduced to corrugated containers and boxes, films and bags as well as various cushion materials.

We'll then take a deep dive into important corrosion control strategies as well as wood applications.

3. Expendable Packaging

- 3.1. Introduction (Video, 4:00)
- 3.2. Corrugated
 - 3.2.1. Corrugated Overview (Video, 6:00)
 - 3.2.2. Corrugated Basics (Video, 10:00)
 - 3.2.3. Corrugated Case Study (PDF, 10:00)
 - 3.2.4. Corrugated Challenges (Presentation, 20:00)
- 3.3. Wood
 - 3.3.1. History and Introduction (Video, 4:00)
 - 3.3.2. Considerations for Selecting Wood (PDF, 3:00)
 - 3.3.3. Automotive Packaging Users (PDF, 5:00)
 - 3.3.4. Automotive Wood Styles (Video, 21:00)
 - 3.3.5. Fasteners (Presentation, 30:00)
 - 3.3.6. Fasteners Cheat Sheet (PDF, 5:00)
 - 3.3.7. Regulations (Presentation, 20:00)
 - 3.3.8. Let the Experts Talk (Video, 6:00)
- 3.4. Protective Packaging and Dunnage
 - 3.4.1. Introduction (Video, 2:00)
 - 3.4.2. Dunnage Case Study (PDF, 3:00)
 - 3.4.3. Poly Bags (Presentation, 15:00)
 - 3.4.4. Paper (Presentation, 10:00)
 - 3.4.5. Polymeric Foam (Presentation, 20:00)
 - 3.4.6. Air Packaging (Presentation, 15:00)
 - 3.4.7. Protective Packaging Material Guide Selection (PDF, 5:00)
- 3.5. Corrosion Control
 - 3.5.1. Corrosion and Rust (Video, 11:00)
 - 3.5.2. Importance in Automotive (Video, 10:00)
 - 3.5.3. Production of VCI Films (Video, 3:00)
 - 3.5.4. VCI Solutions (Interactive Presentation, 30:00)
 - 3.5.5. Let the Experts Talk (Video, 9:00)
 - 3.5.6. Case Study (Video, 3:00)
- 3.6. Wrap Up
 - 3.6.1. Industry Overview of Expendable Packaging Providers (Spreadsheet, 10:00)
 - 3.6.2. Knowledge Check (Quiz, 31 Questions)
 - 3.6.3. Resources (Text, 5:00)



Packaging Distributors - 12 micro-lessons, 160 minutes

The role of Packaging Distributors in Automotive Packaging and their advantages and limitations are discussed in this course. Packaging Distributors are not material bound and provide all types of materials, expendable and returnable.

We will discuss when it makes sense for an automotive customer to work with a Packaging Distributor.

4. Packaging Distributors

- 4.1. Introduction (Video, 3:00)
- 4.2. Roles and Functions (Presentation, 8:00)
- 4.3. Supply Chain Solutions (Video, 8:00)
- 4.4. Case Studies (Interactive Presentation, 20:00)
- 4.5. Downloadable E-Book - Foam-in-Place Packaging (PDF, 25:00)
- 4.6. Downloadable E-Book - Auto Bagging Systems (PDF, 25:00)
- 4.7. Let the Experts Talk (Video, 8:00)
- 4.8. Application Examples (Video, 4:00)
- 4.9. Decision Matrix (Interactive Spreadsheet, 20:00)
- 4.10. Industry Overview of Packaging Distributors (Spreadsheet, 25:00)
- 4.11. Your Turn (Discussion Forum, 10:00)
- 4.12. Resources (Text, 5:00)



Packaging Operations at OEMs - 32 micro-lessons, 205 minutes

The packaging perspective as seen through the eyes of OEMs is being discussed in this course. We have interviewed OEM industry professionals and you will learn packaging challenges and differences among OEMs.

5. Packaging Operations at OEMs

- 5.1. OEM Basics
 - 5.1.1. Introduction (Video, 3:00)
 - 5.1.2. OEM Map (PDF, 10:00)
 - 5.1.3. Launches (Text, 30:00)
 - 5.1.4. Packaging Handbooks (Video, 9:00)
 - 5.1.5. Packaging and Logistics Handbooks (PDF, 30:00)
 - 5.1.6. Packaging Costs (Text, 10:00)
 - 5.1.7. RFQ and Packaging Development Template (PDF, 5:00)
- 5.2. OEM Optimization
 - 5.2.1. Packaging Development Process Alignment (PDF, 15:00)
 - 5.2.2. Lean Manufacturing Approach (Presentation, 15:00)
 - 5.2.3. Fleet Calculations (Video, 12:00)
 - 5.2.4. Returnable Fleet Calculation Tool (15:00)
- 5.3. Package Testing
 - 5.3.1. Introduction (Video, 1:00)
 - 5.3.2. Atmospheric Pre-Conditioning (Video, 1:00)
 - 5.3.3. Drop Test (Video, 1:00)
 - 5.3.4. Rotational Edge Drop Test/Tilt Test (Video, 1:00)
 - 5.3.5. Incline Impact Test/Horizontal Shock Test (Video, 1:00)
 - 5.3.6. Vibration Test (Video, 1:00)
 - 5.3.7. Shock Test (Video, 1:00)
 - 5.3.8. Compression Test (Video, 1:00)



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- 5.4. BMW Returnable Packaging with Drew Cockman
 - 5.4.1. Downloadable Takeaways (PDF, read along with videos)
 - 5.4.2. Introduction (Video, 2:00)
 - 5.4.3. What Differentiates a Tier 2 and a Tier 1 from an OEM? (Video, 2:00)
 - 5.4.4. A Typical Day as an OEM Engineer (Video, 3:00)
 - 5.4.5. Packaging Planning at an OEM (Video, 2:00)
 - 5.4.6. Vehicle Launches (Video, 3:00)
 - 5.4.7. Packaging Challenges for Sequenced Parts (Video, 2:00)
 - 5.4.8. Returnable Packaging Challenges and Solutions (Video, 5:00)
 - 5.4.9. Expendable Backup Packaging (Video, 3:00)
 - 5.4.10. Future Outlook (Video, 2:00)
 - 5.4.11. Advice for Students in Packaging (Video, 3:00)
- 5.5. Wrap Up
 - 5.5.1. Knowledge Check (Quiz, 10 Questions)
 - 5.5.2. Resources (Text, 5:00)



Packaging Operations Tier 1s - 8 micro-lessons, 65 minutes

Tier 1 part suppliers are not only responsible to manage OEM returnable and expendable packaging but also their internal packaging such as WIP (Work in Progress) packaging, storage packaging, and packaging management for Tier X part suppliers.

- 6. **Packaging Operations Tier 1s**
 - 6.1. Introduction (Video, 4:00)
 - 6.2. Introduction Script (PDF, 4:00)
 - 6.3. Tier 1 Processes (Video, 5:00)
 - 6.4. Technical Challenges (Video, 6:00)
 - 6.5. Let the Experts Talk (Video, 8:00)
 - 6.6. Tier 1 Supplier Database (PDF, 20:00)
 - 6.7. Your Turn (Discussion Forum, 10:00)
 - 6.8. Resources (Text, 5:00)



Transportation - 10 micro-lessons, 155 minutes

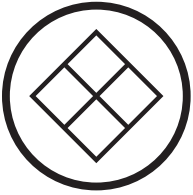
This course outlines different transportation modes (air, road, truck, etc.) in the Automotive Supply Chain. We will discuss alternative shipping methods such as FTL (full truck loads, vs. LTL (less than full truckload) and how it affects packaging and handling.

- 7. **Transportation**
 - 7.1. Introduction (Video, 2:00)
 - 7.2. Transportation Mode Rail (Presentation, 25:00)
 - 7.3. Transportation Mode Truck (Video, 6:00)
 - 7.4. Transportation Mode Ocean (Presentation, 25:00)
 - 7.5. Transportation Mode Air (Presentation, 25:00)



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- 7.6. Shipping Methods (PDF, 15:00)
- 7.7. Load Security (Presentation, 20:00)
- 7.8. Carrier Rules (Video, 10:00)
- 7.9. Knowledge Check (Quiz, 16 Questions)
- 7.10. Resources (Text, 5:00)



Hazmat Packaging - 12 micro-lessons, 45 minutes

This course is designed to provide basic information about common dangerous goods transported in the automotive industry. There are many requirements associated with transporting dangerous goods. These are defined within mode-specific transportation regulations which include training, classification, packaging, marking, labeling, and communication.

8. Hazmat Packaging

- 8.1. Introduction (Video, 1:00)
- 8.2. The Basics (Video, 3:00)
- 8.3. What is the big deal? (Video, 1:00)
- 8.4. Keys to Compliance: Overview (Video, 1:00)
- 8.5. Keys to Compliance: Regulations (Video, 1:00)
- 8.6. Keys to Compliance: Training (Video, 1:00)
- 8.7. Keys to Compliance: Packaging (Video, 4:00)
- 8.8. Keys to Compliance: Marking, Labeling, and Hazard Classes (Video, 10:00)
- 8.9. Keys to Compliance: Load Securement (Video, 1:00)
- 8.10. Handling Investigations and Penalties (Video, 8:00)
- 8.11. Knowledge Check (Quiz, 10 Questions)
- 8.12. Resources (Text, 5:00)



Course Conclusion - 5 micro-lessons, 100 minutes

This course is designed to summarize what was learned in this program and offer students useful information to use in their profession.

9. Conclusion

- 9.1. That's a Wrap (Video, 3:00)
- 9.2. Glossary of Terms (PDF, 15:00)
- 9.3. Company and Contact Overview (Text, 15:00)
- 9.4. Final assessment (Exam, 50 Questions)
- 9.5. Survey (Questionnaire, 10:00)



Questions?
We'd love to hear from you.

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