COBBLESTONE

COURSE ID 2841

Flexible Film Structures in Packaging

Design, Machinery Operations and Troubleshooting

DIRECTED BY

Herberto Dutra — Sr. Manager - Engineering

90 MINUTE

ACCREDITED COURSE

Course Topics Include:

- Properties of Plastics Used in Flexible Packaging
- Selecting Machinery
- Troubleshooting

about the course

The aim of this 90-minute accredited training is to aid in the design process of packaging by comprehending the characteristics of plastic materials and their behavior in film converting processes. Additionally, the course will cover the crucial topics of materials-machinery aspects, including sealing parameters, form/fill/seal processes, and key packaging equipment parameters. The training will also provide valuable troubleshooting techniques to help professionals understand the reasons for packaging operation failure, such as imperfectly formed packages, pinhole leaks, wrinkles in sealing areas, adhesion problems, and more.

who should attend

This course is for individuals in Consumer-Packaged Goods industries such as food, beverages, pharmaceutical, cosmetic, chemicals and any other industries where flexible film structures are used in the packaging process.

These professionals include but are not limited to:

- Packaging Engineers
- Packaging Machinery Engineers
- Quality Control Professionals
- Materials Specialists
- Operations Professionals

The course will benefit those concerned with packaging design, selection of the proper packaging machinery for a production line and professionals involved in a day-to-day packaging lines operation.

learning objectives

Upon completion of this course, you will be able to:

- Describe the various types of plastics used in packaging structures
- Explain the properties of various plastics and how these materials can be beneficial in packaging designs
- Select the best process of film conversion based on the final package design targets
- Explain the types of packaging machinery used in Form/Fill/Seal operations
- Describe packaging machinery auxiliary processes such as methods of product metering into packages (weight x volume), Modified Atmosphere Packaging, applications with re-closing features, etc.
- Design a packaging line by properly selecting the film structure and the packaging machinery
- Explain the influence of the packaging machinery parameters in the packaging process
- Troubleshoot a packaging operation and explain when it is a materials or machinery issue

course outline

Review of Learning Objectives

Module 1: Plastics materials and design parameters

- Types of plastic materials used in flexible film; their properties
- Design parameters: Barrier properties, seal ability, mechanical strength, etc.
- Multi-layer laminations
- Film conversion processes
- Structure selection based on the design requirements

Module 2: Equipment technology: line design; interaction with flexible film structures

- Form/Fill/Seal equipment
- Methods of product filling
- Modified atmosphere packaging
- Sealing methods and parameters
- In-line zipper applicators for re-closing
- Key equipment parameters and influence in the line performance
- Leaker's rate: How to properly determine; Methods of testing
- Proper material handling methods

Case study 1: A vertical Form/Fill/Seal bagger

Module 3: Equipment/Materials interaction and troubleshooting techniques

- Film webs specifications
- Printing and registration specs
- Troubleshooting sealing problems: equipment or materials?
- Appearance issues (wrinkles, distortions, physical damage): equipment or materials?

Case study 2: Wrapped cheese with zip-lock feature

Question and Answer Session

Assessment Opportunity

course instructor

Herberto Dutra, Engineer with 30 years' experience in manufacturing, primarily in food, beverages, specialty chemicals and bio-pharma, having worked in companies like Linde Gas, Kraft Foods, Nestle, Schering-Plough, Sensient and Bay Valley. Mr. Dutra is currently the head of engineering and commercialization for ACH Food Companies, with many years of experience in the design, construction, operation and optimization of processing and packaging lines. Academically, Mr. Dutra holds a B.S. in mechanical engineering from Ueri (Rio de Janeiro State University, Brazil), Master of Business Administration from Keller graduate school of management and Master of Science in mechanical engineering from Purdue University. Mr. Dutra also has many years of experience developing and teaching industry related topics both through his employers and through the CfPA.

Accreditations

International Accreditors for Continuing Education and Training (IACET)
Cobblestone has been approved as a CEU Accreditor by IACET and awards CEUs for participation in qualified courses. Cobblestone has demonstrated that it complies with the ANSI/IACET Standards and is authorized to offer IACET CEUs for its programs. CEUs will be awarded for participation in Cobblestone's courses at the rate of .1 CEU per contact hour upon successful completion of the entire course and 70% accuracy in the required Learners' Assessment. A minimum score of 80% is required for all courses within a Cobblestone Certification Program. This course offers a total of 1.5 contact hours, or .2 CEUs. For further information, visit www.iacet.org