

Principles of Composites Training | Industrial Materials eLearning Course

Principles of Composites - WXML205-XX01XEN-E1

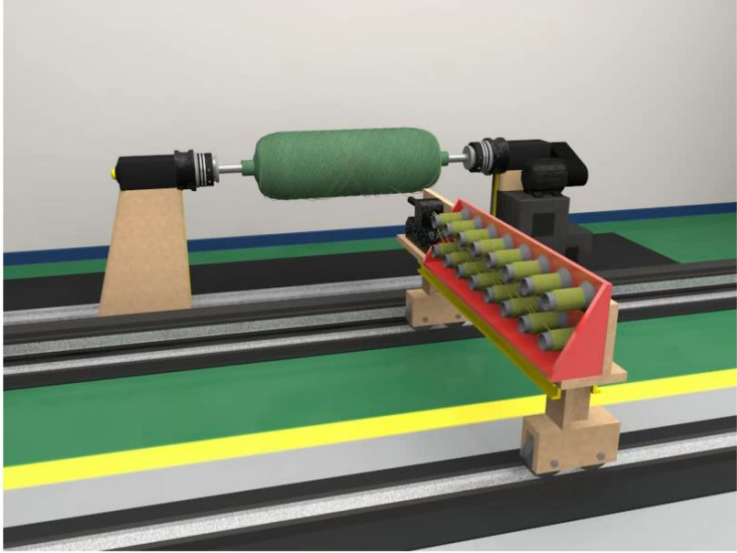
Objective 12: Describe the Filament Winding Process

Filament Winding Curing

In filament winding, a mandrel coated with mold release agent is placed in a special machine that rotates it as reinforcement material is wound around it. The reinforcement is fed from spools and coated with resin just before it is applied to the mandrel.

The spools of reinforcement and the resin applicator are mounted on a carriage that moves back and forth along the length of the mandrel.

This machine operates automatically and is programmed to wind the reinforcement onto the mandrel in a specific pattern.



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eLearning Course: MXML205

Amatrol's Principles of Composites eLearning course (MXML205) introduces the importance, properties, processes, and skills of working with composites. These concepts include the types of materials that make up a composite, the history of composites, mechanical properties, thermal properties, electrical properties, environmental properties, the many types of composite manufacturing processes, and environmental considerations for composites including how the composite industry is reducing its impact on the environment today. This course encompasses knowledge needed in today's world of manufacturing processes and materials.

In-Depth Composites Curriculum

What are Composites?

Composites are materials made up of two or more components, called constituent materials, which have significantly different physical or chemical properties. When these constituent materials are combined, the resulting composite material typically has improved mechanical properties over the individual materials alone.

Many materials, such as concrete and plywood, fit the basic definition of a composite because they are formed by combining dissimilar materials to create a new, stronger material. However, the term 'composite' is typically used to describe a category of materials that are created by reinforcing polymers, commonly known as plastics, with a strong fiber material such as glass. Examples of common composite materials are fiberglass and carbon fiber composites.

Interactive eLearning with Learning Management System

Highly-Interactive Multimedia Format Appeals to All Learning Styles

Amatrol's principles of composite eLearning course features interactive eLearning curriculum that integrates various types of learning methods to create an engaging, effective learning experience. Amatrol's multimedia [eLearning](#) curriculum includes text with voiceovers, videos, 3D animations, pictures, and interactive activities, quizzes, and self-reviews.

Free Learning Management System (LMS)

Amatrol eLearning is easy-to-use for both students and instructors. Its web-based interface is simple to navigate and available on any WebGL-compatible Internet browser. Instructors love Amatrol eLearning for its simple, yet sophisticated Learning Management System (LMS). The LMS allows instructors to create custom courses, monitor student participation, track course progress, assess knowledge levels prior to a course, and test knowledge levels after completion. Learners appreciate the fact that they can start and stop as needed, moving through each Amatrol course at their own pace. If a self-review reveals that they didn't understand a particular topic as well as they thought they did, they can revisit it before moving on.

Additional Info

Requires:

- Computer (see [Computer Requirements](#))

Options:

- Amatrol SkillTrace Software (94-ST1)

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