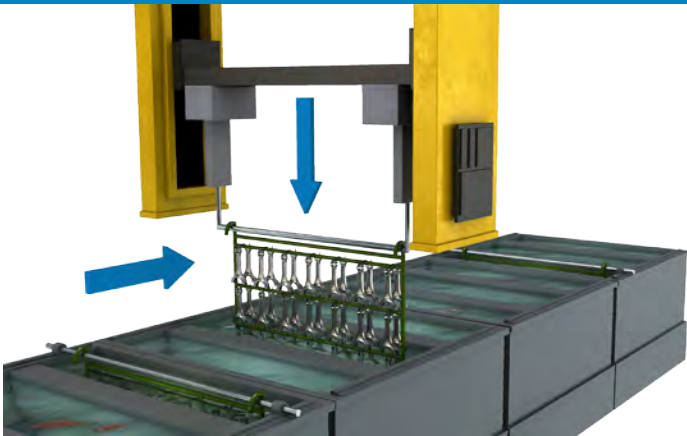


PLATING FUNDAMENTALS

eLearning courses designed to increase productivity and profits



Learning made Simple, Visual, and Interactive

Plating Fundamentals: Metal introduces learners to the basic components, processes, and general terminology associated with metal plating industries. The information critical to metal plating is brought to life in this course using realistic 2D and 3D models, helpful animations, and interactive quizzes. The material in this course is beneficial for both those who are experienced and practiced in metal plating and related concepts, and those who are new to the field.

Credit Hours **3**

Learning Objectives

- Understand the processes of electroplating, electropolishing, electroless plating, and passivating.
- Learn the effects and advantages of common elements used in metal plating.
- Recall some of the primary components of common metal plating processes.
- Differentiate between the various plating methods utilized in the industry.
- Recognize the various defects associated with metal plating.
- Examine possible testing methods and industry specifications.

Table of Contents

I. Introduction to Metal Plating

• Parts and Terminology

- o Electroplating
- o Electropolishing
- o Electroless Plating
- o Passivating

• Plating Metals

- o Copper
- o Chromium
- o Nickel
- o Zinc
- o Tin
- o Precious Metals
- o Noble Metals

- o Immersion Plating
- o Selective Plating
- o Barrel (Mass) Plating
- o Rack Plating
- o Automated Plating
- o Manual Plating

• Plating Processes

- o Electroplating
- o Electropolishing
- o Electroless Plating
- o Passivating

• Testing

- o Surface Appearance
- o Destructive: Adhesion - Chisel or Knife Test
- o Destructive: Adhesion - Bend Test
- o Destructive: Adhesion - Burnishing Test
- o Destructive: Adhesion - Drawing Test
- o Destructive: Adhesion - Heat Quench Test
- o Destructive: Oxidation - Copper-Sulfate Test
- o Destructive: Oxidation - Salt Spray Test
- o Non-Destructive: Thickness Test
- o Non-Destructive: Visual Test

• Industry Standards

- o Safety and Regulations
- o Plating Specifications
- o Certification

II. Common Plating Methods and Processes

• Common Plating Methods

III. Defects and Testing

• Plating Defects

- o Bare Spots
- o Roughness
- o Peeling
- o Pitting

