



Course 364: Structural Painting

Covers the techniques of selecting and applying paints and coatings to buildings, inside and out. Describes the composition of paints and other coatings, and how to use brushes, rollers, spray guns, and other tools of application. Also describes how to prepare new and existing surfaces for coating, and explains the easiest, most successful techniques of application.

TPC Training is accredited by IACET to offer **0.7 CEU** for this program.



Lesson 1: Paint Selection for Normal Conditions

Topics

Why Paint?; Ingredients of Paint; General Types of Paint; Coating Selection; Substrate; Ferrous Metals; Nonferrous Metals; Concrete; Wood; Environment; Other Factors

Objectives

- Explain the three basic reasons for using paint.
- Identify the ingredients of paint and explain the importance of each.
- Name several generic paint types and describe their uses in normal industrial applications.
- Compare the characteristics of ferrous and nonferrous metals, concrete, and wood as substrates.
- Discuss environmental factors that influence paint choices.

Lesson 2: Coatings for Extreme Conditions

Topics

Extreme Conditions; Causes of Corrosion; Galvanic Couplings; Storage Tanks; Waste-Treatment Plants; Chemical Plants; Food and Beverage Plants; Safety Markings; Pipe Identification

Objectives

- Give at least four examples of extreme workplace conditions.
- Explain the electrochemical process of corrosion and its effect in a galvanic coupling.
- Identify some paint types used for storage tanks and in waste-treatment plants.
- Discuss coatings appropriate for chemical plants and various areas of food and beverage plants.
- Explain the meaning of the colors used in the standard safety and piping codes.

Lesson 3: Painting Tools

Topics

Brushes; Rollers; Spray Applications; Air Spray Guns; Airless Sprayers; Other Spray Equipment; Types of Blasting Equipment; Wet Blasters; Abrasives; Testing and Inspection Tools

Objectives

- Describe the different types of paint brushes.
- Explain the uses of different roller constructions and different lengths of roller nap.
- Discuss the various types of spray equipment.
- Compare the different types of blasting equipment and the abrasives used with them.
- Explain how film gauges, holiday detectors, and surface profile devices work.

Lesson 4: Surface Preparation

Topics

Importance of Surface Preparation; SSPC and NACE Standards; Chemical Cleaning; Cleaning with Hand Tools; Cleaning with Power Tools; Abrasive Blasting; Concrete Preparation; Preparing Special Surfaces; Inspection

Objectives

- Discuss the importance of correct surface preparation and compare SSPC and NACE standards.
- Compare the various methods of chemical cleaning.
- Name the hand tools and power tools used for cleaning.
- Explain the characteristics and applications of the different grades of abrasive blasting.
- Describe surface preparation techniques for concrete, galvanized metal, wood, mildewed surfaces, and chain-link fencing.

Lesson 5: Painting Techniques

Topics

Mixing and Thinning; Brush Application; Roller Application; Spray Application; Blasting; Coating Failures; Calculating Coverage; Follow-Up Records

Objectives

- Describe correct mixing and thinning methods.
- Point out the dos and don'ts of brush and roller usage.
- Explain how to use and troubleshoot spray equipment correctly and how to set up blasting equipment.
- Discuss the causes of common coating failures and explain how to prevent them.
- Calculate estimated coverage and keep satisfactory records.

Lesson 6: Ground and Aerial Supports

Topics

Developing a Safe Attitude; Special Conditions; General Safety Rules; Ladders; Raising a Ladder; Using Ladders Safely; Stationary Scaffolds; Scaffold Planking; Ropes and Cables; Using Stationary Scaffolds Safely; Portable Support Systems; Using Portable Supports Safety; Rigging Systems; Using Rigging Safely; Lifelines

Objectives

- Explain the importance of attitude in preventing injury, and how heat, cold, wind, and heights can be dangerous.
- Compare different types of ladders and tell how to use them safely.
- Discuss stationary scaffolding and accessories.
- Describe boom and scissors lifts and tell how to use them safely.
- Compare bosun's chairs, work cages, and swinging scaffolds and platforms.
- Point out safety measures necessary when using cable-supported or suspended units.

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Lesson 7: Handling Hazardous Materials Safely

Topics

Hazardous Materials; Fire Hazards; Explosives; Prevention of Fires; Health Hazards; Toxic Materials; Dermatitic Materials; Threshold Limit Value; Avoiding Health Hazards; Respiratory Protection; Safety in Confined Spaces; Protective Clothing; Material Safety Data Sheet

Objectives

- Explain how painting materials cause fire or explosions and tell how to reduce these hazards.
- Define six categories of health hazards and name ways to avoid them.
- Give examples of toxic and dermatitic painting materials and explain the purpose of threshold limit values.
- Compare types of respirators and their uses, and list the rules for working safely in confined spaces.
- Describe appropriate uses for safety clothing and tell how to use an MSDS.