

## Pipes & Piping Components

This five-day course is designed to teach maintenance mechanics the importance of pipe installation, selection, and testing. This course encompasses the vast types of tubular products that are available for use when transporting fluids. Plant personnel who routinely install pipelines or are involved in the day-to-day maintenance of components in fluid delivery systems should attend this course.

### I. Codes and Standards

- Regulatory Agencies
- Codes and Standards
- National Plumbing Code

### II. Piping Systems

- Terminology
- Safety
- Piping Identification
- Symbology

### III. Piping Tools

- Basic Tools
- Pipe Bending

### IV. Piping and Tubing

- Metal Piping
- Forged Pipe
- Welded Pipe
- Non-Metallic Piping
- Tubing

### V. Fittings

- Welded Connections
- Flanged Connections
- Threaded Connections
- Miscellaneous Connections
- Joint Preparation and Fit-Up

### VI. Components

- Expansion Joints
- Moisture Separators
- Lubricators
- Temperature Measuring Devices
- Flow Measuring Devices
- Pressure Measuring Devices

### VII. Insulation

- Principle of Insulation
- Types of Insulation
- Insulation Installation

### VIII. Pipe Supports

- Design of Pipe Hangers and Supports
- Hanger Types
- Snubbers
- Traceability

### IX. Testing

- Leak Testing
- Pressure Testing
- Plumbing Systems Tests
- Non-Destructive Testing
- Qualification of NDE/NDT Personnel

### X. Laboratory Exercises