



Equipment I: Piping, Valves, & Actuators

Piping



Course Objectives

1. Describe the purpose of piping.
2. Identify types of pipe fittings and their uses.
3. Identify symbols representing pipe fittings used on P&IDs.
4. Identify equipment used to restrict pipe movement.
5. Describe connection types associated with piping.
6. Define piping insulation and its uses.
7. Explain the purpose of electrical and steam heat tracing.
8. List common construction materials associated with piping.
9. Discuss reasons for piping failures.
10. Describe safety observations related to piping failures.
11. Describe the purpose of gaskets.
12. List the common types of gaskets used in chemical manufacturing.
13. Discuss reasons for gasket failures.
14. Describe safety observations related to gasket failures.
15. Explain risks and safety concerns associated with asbestos gaskets.



Key Terms (Define the following)

piping - _____

corrosion - _____



Questions

1. What is the purpose of piping within a chemical manufacturing facility?

2. List materials which are commonly used for piping in chemical manufacturing.

3. What are some of the potential causes of piping failures?

4. List the warning signs of a gasket problem.

5. Mark the following as True (T) or False (F).

___ a. Asbestos is an inhalation hazard.

___ b. The mere presence of asbestos is not a hazard if undisturbed.

___ c. Specific personal protective equipment (PPE) is required when disturbing asbestos.

6. Piping can expand or contract due to _____ within the fluid.