

Tools for Life – Weekly Health & Safety Meeting

The logo for Apollo Mechanical Contractors, featuring the word "Apollo" in a white, cursive script font inside a dark blue oval.

— MECHANICAL CONTRACTORS —
Building People Who Build Great Things

Home Healthy - Home Safe

Date: August 2022

System Pressure Testing Safety

Most of the hazards associated with pressure testing come from the sudden, unintended release of stored energy. The risk of injury from a failing joint, connection, gauge, valve, fitting, or another component increases during the testing process, especially during pneumatic testing. Safe work practices are needed for all types of pressure testing to protect the workers performing the tests, and others in the test area. AISH 41 Flushing and Pressure Testing was developed by using best practices, lessons learned, and industry standards to ensure Apollo employees are meeting quality and safety needs for their projects.

Pressure Testing Hazards Include:

- Flying objects such as valves, flanges, gauges, and fittings.
- Flying shrapnel such as small pieces of pipe, pipe fittings, or other system components that shatter into parts from the pressure.
- Oxygen displacement from an inert gas used for testing.
- Flooding in areas where energized electrical sources are present.

Common precautions outlined in the Apollo Pressure Testing Procedure are:

- Inspect all testing equipment/fittings to ensure they are free from damage or recognized hazards
- Identify unwanted components subject to pressure testing by isolating and minimizing the system before testing
- Whenever possible, use hydrostatic testing as opposed to pneumatic
- Use isolation barriers, signage, safety zone site coordination, or physical safeguards to keep testing area free of unwanted personnel. Use AISH 41-C for recommended safe distances.
- Use AISH 41 Pressure Test Certificate to document and verify test specifications
- Do not perform pressure tests without a pressure relief valve that is in place and in working order (AISH 41-B)
- Bring test pressures up by a 1/3 at a time
- No close inspection or tampering with the system while under full pressure

Pressure testing is a necessary part of business for Apollo's day to day work. Utilizing AISH 41 and the Pressure Testing Certificate to set parameters and controls it is a task that can be accomplished safely every time. Planning the work and working the plan is the number one key to a successful safe pressure test. Additional information on safe pressure testing can be found through the MCAA (Mechanical Contractors Association of America) website.

HEALTHY OR SAFETY REMINDER: Copper pipes control bacteria in water and have been proven to reduce viruses such as Polio, Legionnaire and E-Coli. Even water that only was exposed to copper overnight was found to have positive effects on controlling bacteria.

Discussion Points/Quiz Questions:

1. When is a situation where a pneumatic test must be used?
2. Why is a hydro test safer than a pneumatic test?