

Piping and Chemical Delivery Systems

Piping systems are a basic necessity for the operation of any chemical processing facility. They provide the chemicals needed for production, process piping, and removing the liquid wastes.

Selecting and installing the right piping system for each chemical application is important. Performance, regulatory and safety issues need to be properly addressed and designed into each piping system.

Mech-Chem engineers, designs, and installs piping systems for a wide variety of applications including acids, alkalies, solvents, resins, chemical wastes, wastewater, steam and water. Our expertise and experience with chemical piping systems ensures high-quality, effective, and safe systems properly designed for each chemical application.



Automated delivery system for hydrofluoric (HF) acid and nitric (HNO₃) acid. PLC controlled operation that transfers the acids to three different process tanks through double contained piping.



Automated chemical feed control stations for stainless steel finish line.

PLC control for automated addition of HF, HNO₃, H₂SO₄, and Urea to pickle tubs.

Codes and Regulations

Mech-Chem adheres to the applicable regulations and codes in the engineering, design, and construction of chemical handling and piping systems. For piping systems (including bulk storage, process piping, and secondary containment) these codes include:

- ◆ API Codes
- ◆ UL Codes
- ◆ ASME Codes
- ◆ NFPA Fire Protection Codes
- ◆ OSHA Safety Regulations
- ◆ EPA Environmental Regulations

Applications

Piping systems designed by Mech-Chem Include:

- ◆ Bulk storage operations
- ◆ Waste treatment operations
- ◆ Piping systems that handle:
 - Acids
 - Alkalies
 - Alcohol/Solvents
 - Resins
 - Chemical Wastes

Diverse materials of construction:

- ◆ Stainless Steel/ Nickel Alloys
- ◆ Plastics, Including:
 - PVC/ CPVC
 - Polypropylene
 - PTFE/Teflon
 - Kynar
 - Fiberglass
- ◆ Lined Steel Pipes

Large and small piping systems

- ◆ Piping and pumps for large bulk storage systems
- ◆ Piping and pumps for chemical drum storage
- ◆ Controlled flow and metering systems
- ◆ Acid/chemical blending systems
- ◆ Temperature (heating and cooling) control systems

Safety

OSHA safety regulations are the guideline for safety concerns, but meeting your facility's internal safety requirements is also necessary. Mech-Chem designs bulk storage and piping systems to fulfill regulatory safety requirements but also to ensure the highest possible protection against injury, spills, leaks, breaks, and other safety problems.



Heating/Cooling system for controlling temperature of hydrofluoric (HF) acid/nitric (HNO₃) acid chemical milling bath. Heat exchanger is Teflon impregnated graphite.



View of chemical and process piping installation, piping systems include acid feed piping (PFA in clear PVC containment), caustic feed piping, waste acid transfer piping, chilled water piping, and process air piping.



Telephone: (508) 528-5990

Fax: (508) 528-8972

P.O. Box 473 144 Main Street Norfolk, MA 02056

E-mail: inquiry@mech-chem.com

Visit: www.mech-chem.com