

WAC 296-79-140 Installation, inspection, and maintenance of pipes, piping systems, and hoses. (1) Design and installation. All new piping systems intended to be used in hazardous material service must be designed and installed in accordance with applicable provisions of the ASME Code for Pressure Piping or in accordance with applicable provisions of ANSI B31.1-1995 through B31.8-1995.

(2) Inspection and maintenance.

(a) You must develop a formal program of installation inspections and maintenance for all hazardous material piping systems. The program must be:

(i) Based on sound maintenance engineering principle;

(ii) Demonstrate due consideration for the manufacturing specifications of the pipe, hose, valves and fittings, the ambient environment of the installation and the corrosive or abrasive effect of the material handled within the system; and

(b) Type and frequency of tests and/or inspections and selection of inspection sites must be adequate to give indications that minimum safe design operating tolerances are maintained. The tests may include visual or nondestructive methods.

(3) Inspection records.

(a) Results of inspections and/or tests must be maintained as a record for each system. Portions of systems that are buried or enclosed in permanent structures in such a manner as to prevent exposure to employees even in the event of a failure, may be exempted from the inspection requirements only.

(i) Past records may be discarded provided the current inspection report and the immediately preceding two reports are maintained.

(ii) When a system is replaced, a new record must be established and all past records may be discarded.

(b) Upon request the records for each system must be made available for review by the department of labor and industries.

(4) Systems or sections of systems found to be below the minimum design criteria requirements for the current service must be repaired or replaced with component parts and methods which equal the requirements for new installations.

(5) Identification of piping systems. USAS A13.1-1956, "Scheme for Identification of Piping Systems," must be followed.

(6) Positive identification of a piping system content:

(a) Must have a lettered legend giving the name of the content in full or abbreviated form, or a commonly used identification system;

(b) Must be made and maintained at suitable intervals and at valves, fittings, and on both sides of walls or floors as needed;

(c) May have arrows to indicate the direction of flow; and

(d) May provide necessary supplementary information, such as hazard of use. This may be done by additional legend or by color applied to the entire piping system or as colored bands. Legends may be placed on colored bands.

(7) Examples of legend which may give both positive identification and supplementary information regarding hazards or use are:

Ammonia	Hazardous liquid or gas
Chlorine	Hazardous liquid or gas
Chlorine dioxide	Hazardous liquid or gas
Sulphur dioxide	Hazardous gas
Liquid caustic	Hazardous liquid
Liquid sulphur	Hazardous liquid

Sulphuric acid Hazardous liquid
 Sodium chlorate When dry, danger of fire or
 explosion

Note: Manual L-1, published by Chemical Manufacturers Association, Inc., is a valuable guide in respect to supplementary legend.

(a) When color, applied to the entire piping system or as colored bands, is used to give supplementary information it should conform to the following:

CLASSIFICATION	PREDOMINANT COLOR
F—Fire-protection equipment	Red
D—Dangerous materials	Yellow (or orange)
S—Safe materials	Green (or the achromatic colors, white, black, gray or aluminum)

and, when required,

P—Protective materials	Bright blue
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(b) When legend systems are used, legend boards showing the color and identification scheme in use must be prominently displayed at each plant. They must be located so that employees who may be exposed to hazardous material piping systems will have a frequent reminder of the identification program.

(c) All employees who work in the area of hazardous material piping systems must be given training in the color and identification scheme in use.

(8) Steam hoses. Steam hoses must be specifically designed to safely carry steam at any pressures to which they may be subjected.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. WSR 17-16-132, § 296-79-140, filed 8/1/17, effective 9/1/17. Statutory Authority: RCW 49.17.010, [49.17].040, [49.17].050. WSR 02-12-098, § 296-79-140, filed 6/5/02, effective 8/1/02; WSR 99-16-083, § 296-79-140, filed 8/3/99, effective 11/3/99. Statutory Authority: RCW 49.17.040, 49.17.050 and 49.17.240. WSR 81-13-053 (Order 81-9), § 296-79-140, filed 6/17/81. Statutory Authority: RCW 49.17.040, 49.17.240, and chapters 43.22 and 42.30 RCW. WSR 81-03-007 (Order 80-31), § 296-79-140, filed 1/8/81; Order 74-24, § 296-79-140, filed 5/6/74; Order 70-6, § 296-79-140, filed 7/10/70, effective 8/10/70.]