

WELDING AND CUTTING

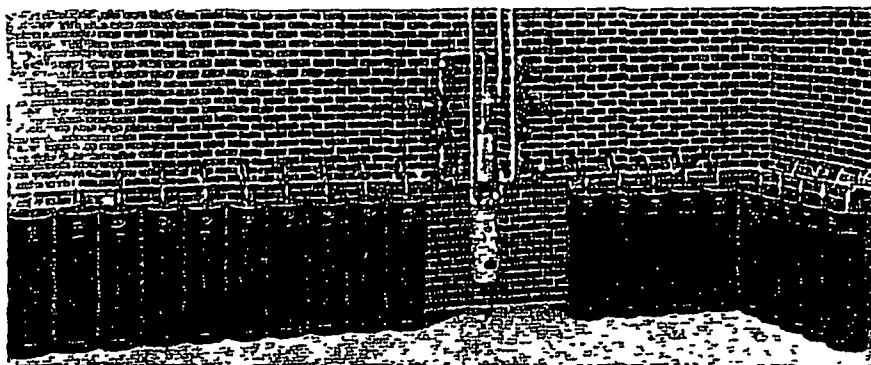


Fig. 29-1. Well-designed manifold system for acetylene cylinders

Courtesy Linde Co., Division of Union Carbide Corp

- 13 Never bring cylinders into tanks or un-ventilated rooms
- 14 Do not fill cylinders except with the consent of the owner and then only in accordance with ICC regulations. Do not attempt to mix gases in a compressed gas cylinder or to use it for purposes other than those intended by the supplier

Manifolds

Cylinders are manifolded to centralize the gas supply and to provide gas continuously and at a rate in excess of that which may be obtained from a single cylinder. Manifolds must be of substantial construction and of a design and material suitable for the particular gas and service for which they are to be used. Manifolds should be obtained from, and installed under the supervision of, a reliable manufacturer familiar with safe practices in construction and use of manifolds.

Portable manifolds connect a small number (usually not over five) of cylinders for direct supply to a consuming device. The cylinders may be connected by individual leads to a single, common coupler block or individual cylinders may be connected to a common line with coupler tees attached to the cylinder valves. A properly supported regulator serves the group of connected cylinders.

Stationary manifolds connect a larger

number of cylinders for supply through piped distribution systems. This type of manifold consists of a substantially supported stationary pipe header to which the cylinders are connected by individual leads (Fig 29-1). One or more permanently mounted regulators serve to reduce and regulate the pressure of the gas flowing from the manifold.

Oxygen manifolds should be located away from highly flammable material, especially oil, grease, and the like. They should not be located in acetylene generator rooms, or in close proximity to cylinders of combustible gases. There should be a fire-resistant partition between an oxygen manifold and combustible gas cylinders, unless the manifold and such cylinders are well separated. Regulations of NFPA Standard No 51 should be followed.

Distribution piping

Distribution piping carrying oxygen from a manifold or other centralized supply should be of steel, wrought iron, brass, or copper. For pressures over 150 psi, extra-heavy pipe and fittings should be used. For lower pressures, standard weight pipe and fittings or seamless nonferrous gas tubing and fittings may be used.

All pipe and fittings for oxygen service lines should be examined before use, and, if necessary, tapped with a hammer to free them from dirt and scale. They should, in