



## Guidance Document

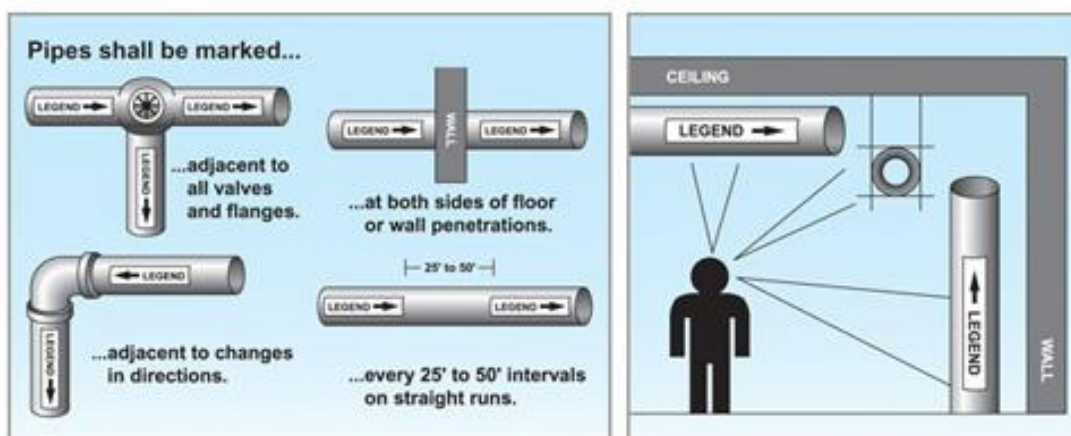
### Labeling Guidelines for Piping and Compressed Gas Tubing

A clear and concise approach to labeling compressed gas tubing and piping systems is important for proper hazard communication and ensuring the proper gas/ hazardous material is connected to the intended system/process.

The minimum requirement for labeling of compressed gas tubing and piping includes:

- Name of the material/gas within the lines to be placed at the following locations:
  - At the point of connection for the source material to tie into the distribution lines.
  - At each process control valve.
  - At piping flanges.
  - On both sides of wall, floor, or ceiling penetrations.
  - Adjacent to changes in pipe/tubing direction.
  - A minimum of every 20 feet.
- Name of the process or location to which the lines connect. This would be required if the point of connection for the source material is not co-located with the process or if the complexity of the system drives a more detailed labeling strategy to prevent miss-directed flow of material.
- Labels should be oriented in a manner that could be easily read from a point of normal approach.
- Figure 1 illustrates most of the information noted above.

Figure 1 – Illustration of Labeling Requirements



Note: CSM uses the NFPA 55<sup>1</sup> requirement for labeling every 20' rather than the general ANSI requirement of labeling every 25' to 50'.

The following best practices from ANSI<sup>2</sup> are recommended labeling guidelines for compressed gas tubing and piping systems.

- Direction of flow. These labels should be incorporated with the material name or be placed adjacent to the material name.
- Color code the labels based upon the type of hazard posed by the tubing/piping content. The recommended color codes are as followed and are illustrated in figure 2 below:
  - For fire quenching fluids\*, white text on red background.
  - For toxic or corrosive fluids, black text on orange background.
  - For flammable fluids, black text on yellow background.
  - For combustible fluids, white text on brown background.
  - For water systems, white text on green background
  - For compressed air, white text on blue background

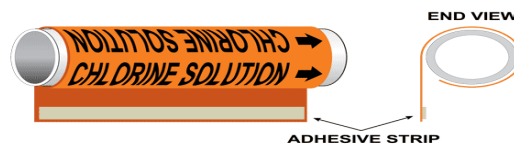
• **Figure 2 – Color Coding of Labels**

FLUID SERVICE	COLOR SCHEME	FLUID SERVICE	COLOR SCHEME
Fire quenching fluids	White on Red	Combustible fluids	White on Brown
Toxic and corrosive fluids	Black on Orange	Potable cooling, boiler feed, and other water	White on Green
Flammable fluids	Black on Yellow	Compressed air	White on Blue



- Labels have a minimum length and letter size based upon the pipe’s outer diameter and conform to the following:

Outside pipe diameter	Minimum Label Length (Field Color)	Minimum Letter Height
0.75” – 1.25”	8”	0.5”
1.5” – 2”	8”	0.75”
2.5” – 6”	12”	1.25”
8” – 10”	24”	2.5”
Over 10”	32”	3.5”



\* The term fluid includes both liquid and gas phases

**References:**

1. NFPA 55 Compressed Gases and Cryogenic Fluids Code
2. ANSI/ASME A13.1 Scheme for the Identification of Piping Systems

**Document Control Log**

Revision #	Revision Description	Date
1	Initial issue	1/12/2016
2		