

**Mechanical Fitting or Reusable Fitting:** A fitting not permanently attached to a hose which can be disassembled and used again.

**Medium (Singular)/Media (Plural):** The substance(s) being conveyed through a piping system.

**Minimum Bend Radius:** The smallest radius to which a hose can be bent without suffering permanent deformation of its convolutions.

**Misalignment:** A condition in which two points, intended to be connected, will not mate due to their being laterally out of line with each other.

**Nominal Diameter:** A term used to define the dimensions of a component. It indicates the approximate inside diameter.

**Offset – Lateral, Parallel, & Shear:** The amount that the ends of a hose assembly are displaced laterally in relation to each other as the result of connecting two misaligned terminations in a piping system, or intermittent flexure required in a hose application.

**Operating Conditions:** The pressure, temperature, motion, media, and environment that a hose assembly is subjected to.

**Outside Diameter:** This refers to the external diameter of a metal hose, measured from the top of the corrugation or braiding.

**Penetration (Weld):** The percentage of wall thickness of the two parts to be joined that is fused into the weld pool in making a joint. Our standard for penetration of the weld is 100 percent, in which the weld goes completely through the parent metal of the parts to be joined and is visible on the opposite side from which the weld was made.

**Percent Of Braid Coverage:** The percent of the surface area of a hose that is covered by braid.

**Permanent Bend:** A short radius bend in a hose assembly used to compensate for misalignment of rigid piping, or where the hose is used as an elbow. Hose so installed may be subjected to minor and/or infrequent vibration or movement.

**Pipe Gap:** The open space between adjacent ends of two pipes in which a hose assembly may be installed.

**Pitch:** The distance between the two peaks of adjacent corrugation.

**Ply, Plies:** The number of individual thicknesses of metal used in the construction of the wall of a corrugated hose.

**Pressure:** Usually expressed in pounds per square inch (PSI) and, depending on service conditions, may be applied internally or externally to a hose.

- a. **Absolute Pressure** – A total pressure measurement system in which atmospheric pressure (at sea level) is added to the gage pressure, and is expressed as PSIA.
- b. **Atmospheric Pressure** – The pressure of the atmosphere at sea level which is 14.7 PSI, or 29.92 inches of mercury.
- c. **Burst Pressure (Actual And Rated)**
  1. **Actual** – Failure of the hose determined by the laboratory test in which the braid fails in tensile, or the hose ruptures, or both, due to the internal pressure applied. This test is usually conducted at room temperature with the assembly in a straight line, but for special applications, can be conducted at elevated temperatures and various configurations.
  2. **Rated** – A burst value which may be theoretical, or a percentage of the actual burst pressure developed by laboratory test. It is expected that, infrequently, due to manufacturing limitations, an assembly may burst at this pressure, but would most often burst at a pressure greater than this.
- d. **Deformation Pressure (Collapse)** – The pressure at which the corrugations of a hose are permanently deformed due to fluid pressure applied internally, or, in special applications, externally.
- e. **Feet of Water or Head Pressure** – Often used to express system pressure in terms of water column height. A column of water 1 ft. high exerts a .434 PSI pressure at its base.
- f. **Proof Pressure or Test Pressure** – The maximum internal pressure which a hose can be subjected to without either deforming the corrugations, or exceeding 50 percent of the burst pressure. When a hose assembly is tested above 50 percent of its burst pressure, there often is a permanent change in the overall length of the assembly, which may be undesirable for certain applications.
- g. **PSIA** – Pounds per square inch absolute.
- h. **PSIG** – Pounds per square inch gauge.
- i. **Pulsating Pressure** – A rapid change in pressure above and below the normal base pressure, usually associated with reciprocating type pumps. This pulsating pressure can cause excessive wear between the braid and the tops of the hose corrugations.
- j. **Shock Pressure** – A sudden increase of pressure in hydraulic or pneumatic system, which produces a shock wave. This shock can cause severe permanent deformation of the corrugations in a hose as well as rapid failure of the assembly due to metal fatigue.
- k. **Static Pressure** – A non-changing constant pressure.
- l. **Working Pressure** – The pressure, usually internal, but sometimes external, imposed on a hose during operating conditions.