

## Glossary

**Mild Steel:** Carbon steel with a maximum of .25 percent carbon.

**Nitriding:** A case hardening process conducted by the introduction of nitrogen into the surface of a solid ferrous alloy.

**Nitrile (Buna N):** A copolymer of butadiene and acrylonitrile. It is the elastomer most widely used to manufacture O-rings.

**Nondestructive:** Inspection or test by methods that do not destroy the part.

**O-ring:** A torus, or doughnut shaped object, generally made from elastomer and is used primarily for sealing.

**Passivation:** A process used to improve corrosive behavior of a metal by changing its chemically active surface to a much less reactive state.

**Pipe:** (1) The defect in wrought or cast products resulting from the central cavity formed by contraction in metal, especially ingots, during solidification. (2) A tubular metal product that includes iron pipe size (I.P.S.) and schedule number in its classification.

**Pipe Thread, Dry Seal:** Tapered pipe threads in which sealing is a function of root and crest interference.

**Pitting:** Forming small sharp cavities in a metal surface by corrosion, mechanical action or nonuniform electrodeposition.

**Plastic Deformation:** Deformation that does or will remain permanent in an element after removal of the stress that caused it.

**Pneumatics:** Engineering science pertaining to gaseous pressure and flow.

**Port:** A terminus of a passage in a component to which conductors can be connected.

**Port, Pipe:** A port which conforms to pipe thread standards.

**Port, Straight Thread:** A port which conforms to straight thread standards. It typically employs an O-ring compressed in a wedge-shaped cavity.

**Power Supply, Fluid:** Energy source which generates and maintains a flow of fluid under pressure.

**Precipitation Hardening:** Hardening caused by the precipitation of a constituent from a supersaturated solid solution.

**Pressure:** Force per unit area, usually expressed in pounds per square inch (psi).

**Pressure, Absolute:** The pressure above absolute zero, i.e., the sum of atmospheric pressure plus gage pressure.

**Pressure, Atmospheric:** Pressure exerted by the atmosphere at any specific location. [Sea level atmospheric pressure is approximately 14.7 pounds per square inch (about 1 bar)]

**Pressure, Burst:** The pressure which causes failure of, and consequential loss of fluid through the product envelope.

**Pressure, Cyclic Test:** A pressure range applied in cyclic endurance tests that are performed to help determine recommended working pressure.

**Pressure, Differential (Pressure Drop):** The difference in pressure between any two points of a system or a component.

**Pressure, Gage:** Pressure differential above or below ambient atmospheric pressure.

**Pressure, Nominal:** A pressure value assigned to a component or system for the purpose of convenient designation.

**Pressure, Operating:** See [WORKING PRESSURE](#).

**Pressure, Proof:** The non-destructive test pressure, in excess of the maximum rated operating pressure, which causes no permanent deformation, external leakage, or other resulting malfunction.

**Pressure, Rated Dynamic:** The maximum fluctuating pressure load that a pressure containing envelope is capable of sustaining for a minimum of 1 million operating cycles without failure.

**Pressure, Rated Static:** The maximum pressure that a pressure containing envelope is capable of sustaining in an application not exceeding 30,000 operating cycles in a system free of pressure surges, shocks, vibration, temperature excursions, etc.

**Pressure, Relief:** The pressure at which the relief valve is set for actuation. This pressure is generally slightly higher than the system working pressure.

**Pressure Shock:** A pressure wave front which moves at a sonic velocity, due to sudden stoppage of fluid flow.

**Pressure, Static:** The pressure in a fluid at rest.

**Pressure, Surge:** The pressure increases resulting from pressure fluctuations in a hydraulic system.

**Pressure, Working:** The pressure at which the apparatus is being operated in a given application.

**Pressure, Working Rated:** The qualified operating pressure which is recommended for a system or a component by the manufacturer.

**Proof Load:** A pre-determined load, generally some multiple of the service load, to which a specimen or structure is submitted before acceptance for use.

**Quenching:** Rapid cooling method used in heat treating process.

**Residual Stress:** Stress existing in a body that is free of external forces or thermal gradients.

**Rockwell Hardness Test:** A test for determining the hardness of a material based upon the depth of penetration of a specified penetrator into the specimen.

**Roughness:** Relatively finely-spaced surface irregularities, the height, width and direction of which establish the predominant surface pattern.

**STP:** Distributed by First Brand Corp. Danbury, CT.

**Scaling:** (1) Forming a thick layer of oxidation products on metals at high temperatures. (2) Depositing water-insoluble constituents on a metal surface, as in cooling tubes and water boilers.

**Seam:** A fold or lap on the surface of a metal appearing as a crack, usually resulting from a defect obtained in casting or in working.

**Segregation:** Concentration of alloying elements in specific regions in a metallic object.