

Fittings Types

The purpose of a flange is simply to join two pieces of pipe or connect up valves in a piping system. It may be cast, forged, or a ring of steel cut from plate. Generally flanges are manufactured in pressure classes of 150, 300, 400, 600, 900, 1500 and 2500 lbs.

Facing

One of the most important parts of the flange is the facing. Here are the most commonly used facings:



FLAT FACE



RAISED FACE



**RING TYPE
FACING**

Standard Flange Designs



Threaded - The bore of this flange is threaded to match the pipe size. *Usage: Low pressure systems and where welding could be hazardous.*



Lap Joint - Bored slightly larger than the OD of the pipe, the radius on the bottom matches the radius on the stub end. It is slipped over the pipe and a stub end is welded onto the pipe. The flange is then slipped over the stub end and bolted up. *Usage: For systems that need frequent cleaning and/or inspection.*



Welding Neck - Bored to the ID of the pipe and has a high neck to which pipe is welded. Probably the best welding flange available because of its high, heavy neck. *Usage: Wherever a sound welded joint connection is needed.*

Fittings Types

The purpose of a fitting is to change the direction or volume of the flow in piping.

Welding Fittings - These fittings are made from wrought materials and manufactured in both Seamless and Welded construction.

Seamless - The tubing or pipe is heated to a temperature at which the metal is workable and is forced over a mandrel into its final shape. The rough fitting is cooled and machined to apply bevels, then cleaned and marked.

Welded - A plate is cut to size and formed in dies. The two sides are welded together, X-rayed on the weld and then beveled. Fittings can also be manufactured from welded pipe in the same manner as seamless.

Screwed Fittings - These fittings are made in sizes 1/8" through 4" and in pressure ratings of 150 lb. (300 lbs. WOG), 300 lb. (1000 lbs. WOG), 2000, 3000, and 6000 lbs. The 150 lb. and 300 lb. fittings are made in cast material. The others are of forged material.

Socket Weld Fittings - This fitting design has a socket or recess for the pipe to slip into. A back weld is applied to hold the pipe in the fitting. Socket Weld fittings are formed by either the drop forge or upset forging method. They are forged solid and require complete machining. These fittings can be made of carbon, alloy, or stainless steel and in nickel alloys in 3000, 6000, and 9000 lb. ratings. The bore or waterway is machined to conform with Schedule 40, 160 and XXH pipe. They are available in the same shapes and sizes as Screwed Fittings including reducing insert bushings. Special bores may be purchased by agreement.

BPS wishes to thank NASPD for the above information.