



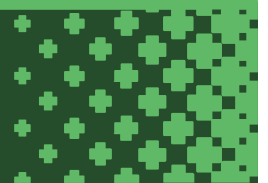
# AHAD ENGINEERING WORKS

MANUFACTURER & SUPPLIERS OF

M. S. FLANGES

M. S. CIRCLES

AGRICULTURAL TOOLS





## INTRODUCTION:

**Ahad Engineering Works** is a renowned organization which is engaged with manufacturing & supplying of steel and metal flanges. Our product range includes M S Flanges, Ring Joint Flanges, Industrial Flanges, Mild Steel Flanges, Threaded Flanges, Lap Joint Flange, Raised Face Flanges, Back Up MS Flanges and many more.

We manufacture the products using optimum quality raw material procured from authorized vendors in the markets. Good quality iron plates with anti-Rust coating of transparent lacquer, oil and red oxide are used to manufacture the products. With durability, heat persistence and power resistance features these products are made in accordance of industrial standards and are available at affordable price.

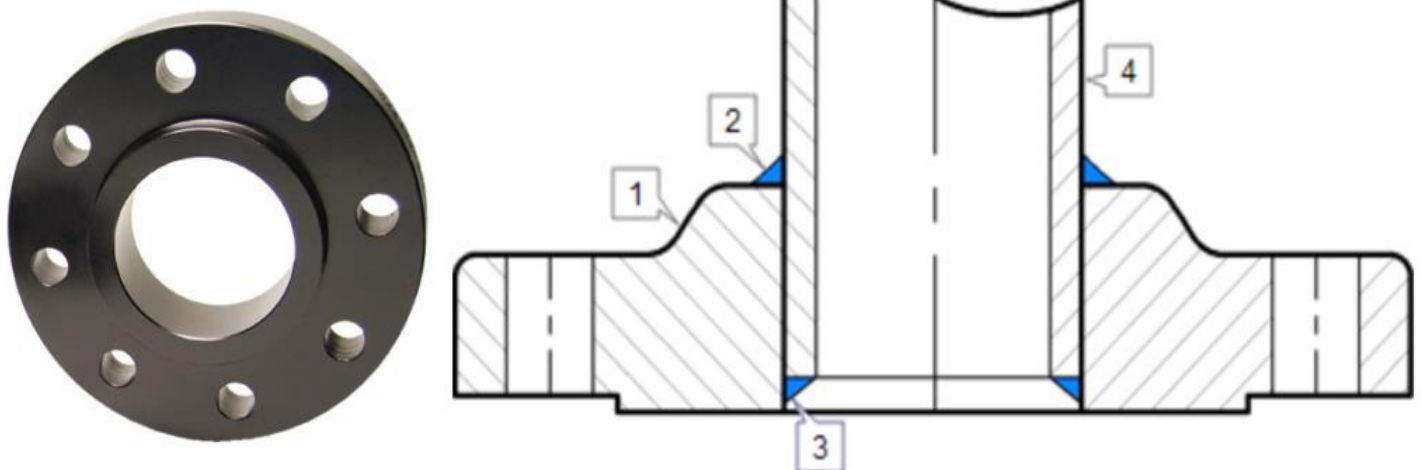
Over two decades of successful trading have enabled us to build the resources and background expertise which today guarantees our customers satisfaction through product quality, reliability and continuity of supply.

- Our product range includes Slip on flanges, Raised faced flanges, Blind flanges, Ring joint flanges, Industrial flanges, and many more...

## • Slip On Flange –

The Slip On type flanges are attached by two fillet welds, inside as well as outside the flange. The calculated strength from a Slip On flange under internal pressure is of the order of two-thirds that of Welding Neck flanges, and their life under fatigue is about one-third that of the latter. Normally, these flanges are of forged construction and are provided with hub. Sometimes, these flanges are fabricated from plates and are not provided with the hub. The disadvantage of the flange is that a combination of flange and elbow or flange and tee is not possible because named fittings have not a straight end that complete slid in the Slip On flange.

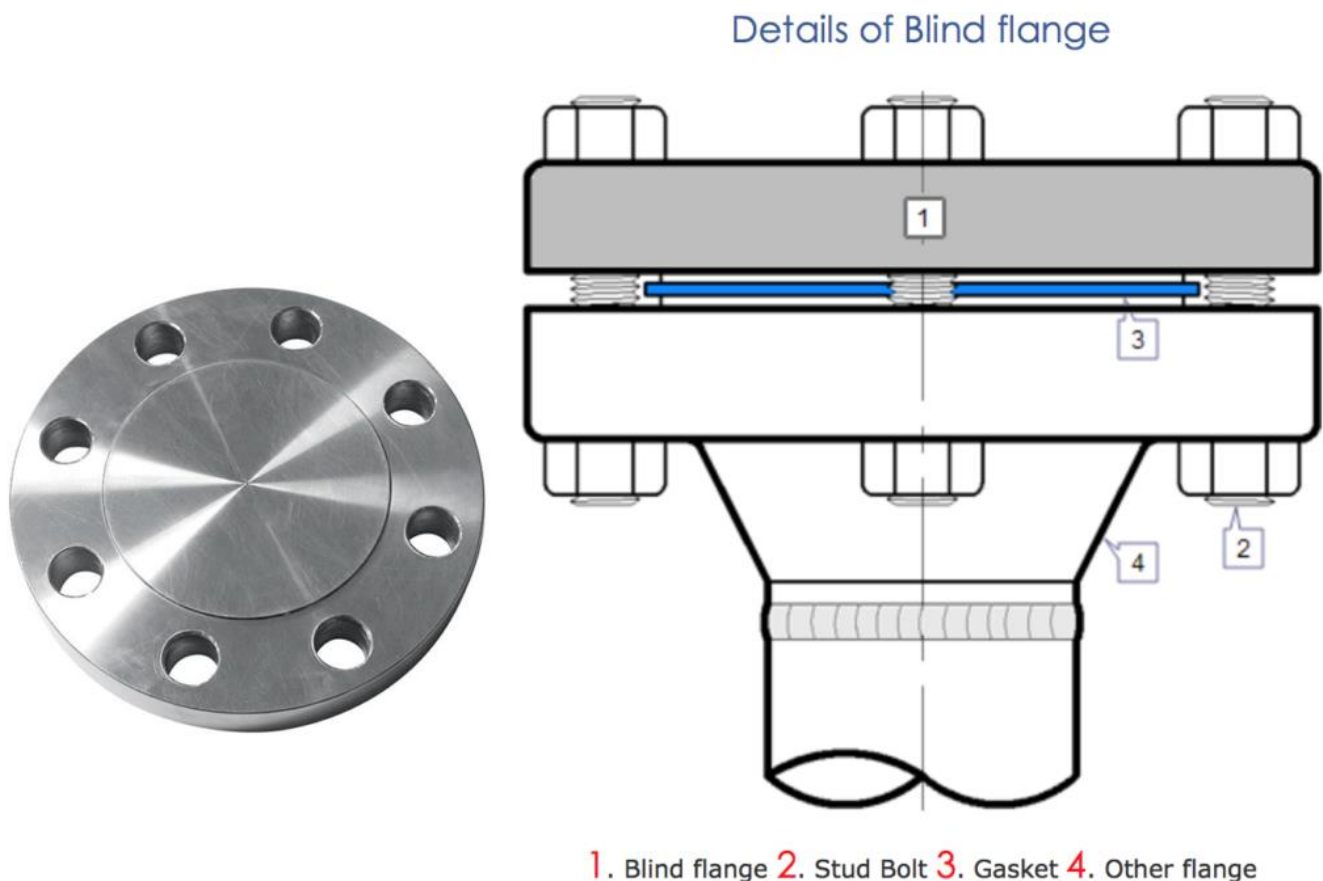
Details of Slip On flange



1. Slip On flange 2. Filled weld outside  
3. Filled weld inside 4. Pipe

## • Blind Flange –

Blind Flanges are manufactured without a bore and used to blank off the ends of piping, Valves and pressure vessel openings. From the standpoint of internal pressure and bolt loading, blind flanges, particularly in the larger sizes, are the most highly stressed flange types. However, most of these stresses are bending types near the center, and since there is no standard inside diameter, these flanges are suitable for higher pressure temperature applications.



## Raised Face Flange (RF) –

The Raised Face flange is the most common type used in process plant applications, and is easily to identify. It is referred to as a raised face because the gasket surfaces are raised above the bolting circle face. This face type allows the use of a wide combination of gasket designs, including flat ring sheet types and metallic composites such as spiral wound and double jacketed types. The purpose of a RF flange is to concentrate more pressure on a smaller gasket area and thereby increase the pressure containment capability of the joint. For 150# and 300# flanges, the raised face is of 1.6 mm (1/16 inch) and is included in the thickness specified. For higher rating, the flange thickness does not include the raised face thickness. The raised face thickness for higher rating is 6.4 mm (1/4 inch). The typical flange face finish for ASME B16.5 RF flanges is 125 to 250  $\mu\text{in}$  Ra (3 to 6  $\mu\text{m}$  Ra).



## • Flat Face Flange (FF) –

The Flat Face flange has a gasket surface in the same plane as the bolting circle face. Applications using flat face flanges are frequently those in which the mating flange or flanged fitting is made from a casting. Flat face flanges are never to be bolted to a raised face flange. ASME B31.1 says that when connecting flat face cast iron flanges to carbon steel flanges, the raised face on the carbon steel flange must be removed, and that a full face gasket is required. This is to keep the thin, brittle cast iron flange from being sprung into the gap caused by the raised face of the carbon steel flange.



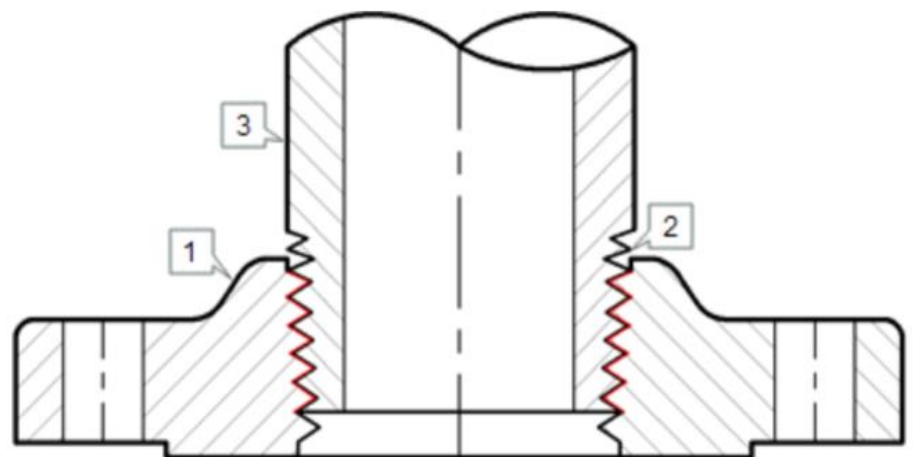
## • Screwed Flange –

The Screwed or Threaded flanges are used on pipe lines where welding cannot be carried out. A threaded flange or fitting is not suitable for a pipe system with thin wall thickness, because cutting thread on a pipe is not possible.

Thus, thicker wall thickness must be chosen. ASME B31.3 Piping Guide says *Where steel pipe is threaded and used for steam service above 250 psi or for water service above 100 psi with water temperatures above 220° F, the pipe shall be seamless and have a thickness at least equal to schedule 80 of ASME B36.10.* Socket welding and threaded flanges are not recommended for service above 250°C and below -45 C.



Details of Threaded flange



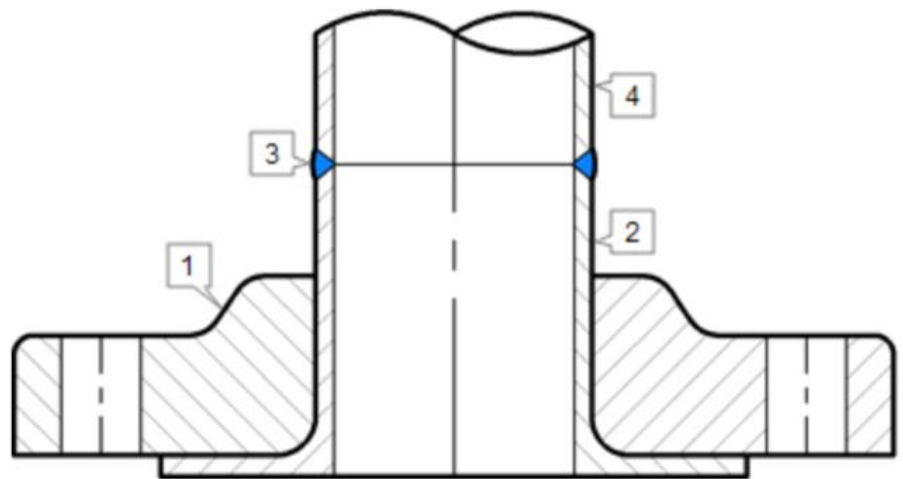
1. Threaded flange 2. Thread 3. Pipe or Fitting



## • Lap Joint Flange –

The Lap joint flanges are used with stub ends when piping is of a costly material. For example, in a stainless steel pipe system, a carbon steel flange can be applied, because flange will not come in contact with the product in the pipe. The stub ends will be butt-welded to the piping and the flanges are kept loose over the same. The inside radius of these flanges is chamfered to clear the stub end radius. These flanges are nearly identical to a Slip On flange with the exception of a radius at the intersection of the flange face and the bore to accommodate the flanged portion of the Stub End. Their pressure-holding ability is little, if any, better than that of Slip On flanges and the fatigue life for the assembly is only one tenth that of Weld Neck flanges. Thus this flange connections are applied in low-pressure and non critical applications.

Details of Lap Joint Flange



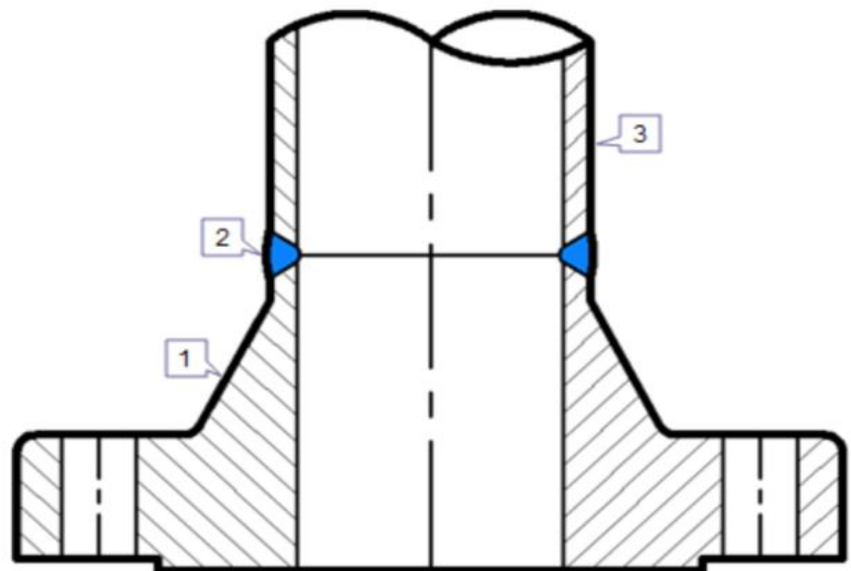
1. Lap Joint flange 2. Stub End  
3. Butt weld 4. Pipe or Fitting



## Weld Neck Flange –

Welding Neck Flanges are easy to recognize as the long tapered hub, that goes gradually over to the wall thickness from a pipe or fitting. The long tapered hub provides an important reinforcement for use in several applications involving high pressure, sub-zero and / or elevated temperatures. The smooth transition from flange thickness to pipe or fitting wall thickness effected by the taper is extremely beneficial, under conditions of repeated bending, caused by line expansion or other variable forces. These flanges are bored to match the inside diameter of the mating pipe or fitting so there will be no restriction of product flow. This prevents turbulence at the joint and reduces erosion. They also provide excellent stress distribution through the tapered hub. The Weld neck flanges are attached by butt-welding to the pipes. These are used mainly for critical services where all the weld joints need radiographic inspection. While specifying these flanges, the thickness of the welding end also should be specified along with flange specification.

Details of Welding Neck flange



1. Weld Neck flange 2. Butt Weld  
3. Pipe or Fitting



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