

## Pipe Fittings & Flanges

### 1. How can flanges be classified based on Pipe Attachment?

**Answer:**

- **Slip-on:** Welded inside and outside, forged construction.
- **Socket Weld:** Welded on one side only, used for small bore.
- **Screwed:** Used where welding cannot be carried out.
- **Lap Joint:** Used with stub ends.
- **Welding Neck:** Butt welded to pipe, used for critical services.
- **Blind:** To close ends.
- **Reducing:** Connect larger to smaller sizes.
- **Integral:** Cast with the component/equipment.

### 2. How can flanges be classified based on Pressure-Temperature ratings?

**Answer:** 150#, 300#, 400#, 600#, 900#, 1500#, 2500# (Pressure-temperature rating charts in ASME B16.5)

### 3. How can flanges be classified based on facing?

**Answer:** A. Flat Face (FF) B. Raised Face (RF) C. Tongue and Groove (T/G) D. Male and Female (M/F) E. Ring Type Joint (RTJ)

### 4. How can flanges be classified based on face finish?

**Answer:** A. Smooth finish B. Serrated finish

### 5. Where the smooth finish flange & serrated finish flange finds its use?

**Answer:** Smooth finish → with metallic gasket; Serrated finish → with non-metallic gasket.

### 6. What are the types of serrated finish provided on flange face?

**Answer:** Concentric or Spiral (Phonographic)

### 7. How the serration on flanges is specified?

**Answer:** By Arithmetic Average Rough Height (AARH).

### 8. Where the concentric serration is insisted for face finish?

**Answer:** Where fluid has very low density and can find leakage path through cavity.

### 9. How the Gaskets are classified based on the type of construction?

**Answer:** Full face, Spiral wound metallic, Ring type, Metal jacketed, Inside bolt circle.

**10. What is the most commonly used material for Gasket?**

**Answer:** Compressed Asbestos Fibre.

**11. Which type of gasket is recommended for high temperature & high-pressure application?**

**Answer:** Spiral Wound Metallic Gasket.

**12. What are the criteria for selection of MOC of Spiral Wound metallic Gasket winding material?**

**Answer:** Corrosive nature, operating temperature, relative cost.

**13. What are the most common materials used for spiral wound metallic gasket winding?**

**Answer:** Austenitic SS 304/316/321 with asbestos filler.

**14. Which material is used as filler material for spiral wound gasket in case of high temperature services?**

**Answer:** Graphite filler.

**15. What is centering ring in connection to spiral wound gasket?**

**Answer:** Carbon steel external ring.

**16. What will be the AARH finish on flange face for using spiral wound gasket?**

**Answer:** 125-250 AARH.

**17. On which type of flanges the use of spiral wound gasket are restricted?**

**Answer:** ASME B16.5 does not recommend 150# spiral wound on flanges other than welding neck and lap joint.

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