**The AWWA C207 specification covers carbon steel ring type slip on flanges and blind flanges.**

General Information about AWWA Flanges

AWWA flanges are commonly used in waterworks, wastewater, slurry, plant piping or other light duty applications generally requiring pressures of less than 300 psi. Pressure ratings for AWWA flanges range from the Class B flange rated at 86 psi to Class F flanges rated at 300 psi. **Class D flanges are by far the most commonly specified among AWWA flange users, and carry a pressure rating of 175 psi for sizes below 12", and 150 psi for sizes 12" and larger.**

The use of AWWA ring type steel flange has long been accepted for steel and concrete piping systems, and more recently with polyethylene piping, as a backup ring. When used with low-pressure piping, AWWA flanges can frequently offer the user a cost savings over common forged flanges (typically ANSI B16.5 hub type flanges) which are generally designed for higher-pressure applications such as oil, steam, chemical, etc.

**Flange Material**

The AWWA C207 specification does not require a specific grade of steel. Instead, it establishes minimum physical and chemical properties as follows:

Minimum Tensile 50,000 psi

Minimum Yield 32,000 psi

Elongation 2" - 18%; 8" - 14"

Maximum Carbon .29%

Maximum Phosphorus .04 %

Maximum Sulfur .05 %

Frequently used materials might include: ASTM A-36 or ASTM A-283 plate steels or ASTM A181 or A105 forged steel meeting the requirements of AWWA C207.

**Flange Facing**

Flanges shall have a serrated finish of approximately 24 to 55 grooves per inch resulting in a 125-500 RMS surface finish. Serrations may be spiral or concentric. Other types of facings are also available upon request. AWWA flanges are normally supplied as flat faced, unless raised face is specified by customer.

**Drilling Templates**

Drilling templates are in multiples of four so that fittings may be made to face any quarter. Bolt holes straddle the center line. For flanges up to 84" holes are drilled 1/8 inch larger in diameter than the diameter of the bolt. For flanges larger than 84" holes are drilling 3/16" larger than the bolt diameter. Bolt holes may also be oversized by an additional 1/8" to accommodate insulators or to facilitate alignment.

**Flange Tolerances**

Inside Diameter + 1/16" - 0

Outside Diameter +- 1/8"

Thickness (18" and smaller) + 1/8" -0

Thickness (20" and larger) +3/16" -0

Bolt Circle Diameter +- 1/16"

Bolt Hole Spacing +- 1/32"