AFGlobal - Coffer
Flange Specification Sheet
A105 Carbon Steel Flanges

Scope

This Spec sheet is issued for coverage A105 Carbon Steel Flanges manufactured by AFGlobal's Coffer flange division. ASTM A105 covers the requirements for forged steel components as finished products only. The requirements for raw materials are covered by the. standards specified in Section 2: Referenced Documents of ASTM A 105. Flange dimensions are covered by ANSI B16.5 for parts NPS 24" and smaller, and by ASME b16.47 for sizes larger than 24" NPS.

Heat Treatment

Flanges in pressure classes 400# and larger will be heat treated (normalized) as required by ANSI B16.5/ASME B16.47 . Classes 150# and 300# will be normalized upon request, or as indicated based on compliance with ASME SEC VII DIV 1
Alternate acceptable methods of heat treatment that may be used are annealing, quenching and tempering, normalizing and tempering, in accordance with ASTM A961.

Certification and Testing Documents

Flanges shall be certified to be in accordance with purchasers dimensional requests based on markings that indicate that parts have been furnished in accordance with applicable standards. The specification designation included on test reports shall include the year of issue and revision letter, if any. Mill Test Reports will be the certifying document and will include the following information:

- **Type of heat treatment,**
- **Tensile property results, i.e., yield strength and ultimate**
- **Strength in KSI, elongation and reduction in area, %**
- **Chemical analysis results**
- **Hardness results**
- **Additional results for supplementary testing required by the purchase order.**

Product Marking

All AFGlobal-Coffer flanges will be marked with the required standard information for identification. Parts will be stamped in accordance with the Standard/MSS SP-25. This information will include Nominal Pipe Size, A/SA-A105 (N), Pressure Class, Flange Type, Bore Size, Heat Identification Number and the Coffer Brand logo.

Chemical Requirements

Per ASTM A1505 section 6.1 The steel shall conform to the chemical requirements specified in Table 1, which are shown below

Carbon - .35 Max
Manganese – 0.60-1.05
Phosphorus - .035 Max
Sulfur - .040 Max
Silicon - 0.10-0.35
Copper - .40 Max
Nickel - .40 Max
Chromium - .30 Max
Molybdenum - .12 Max
Vanadium - .08 Max

Mechanical Requirements

Per ASTM A1505 section 7.1 The steel material conform to the requirements prescribed in Table 2 and Table 3 and shown below

Tensile Strength (min) – 70,000 PSI
Yield Strength (min) – 36,000 PSI
Basic Min Elongation for walls 5/16 in and over – 30%
Reduction of are (min) – 30%
Hardness, HB (max) - 187