

PART 1: GENERAL

1.01 Purpose:

- A. This standard is intended to provide useful information to the Professional Service Provider (PSP) to establish a basis of design. The responsibility of the engineer is to apply the principles of this section such that the University may achieve a level of quality and consistency in the design and construction of their facilities. Deviations from these guidelines must be justified through LCC analysis and submitted to the University for approval.

1.02 References:

A. Codes and Standards that are Standard at the University:

1. AMCA 210 and 300: Fans must be licensed to bear the AMCA Certified Ratings Seal for both air and sound. Sound rate centrifugal fans in accordance with the latest version of AMCA 300 "Test Code for Sound Rating Air Moving Devices".
2. AMCA 204: Balance Quality and Vibration Levels for Fans
3. ASHRAE Compliance: Test and rate centrifugal fans in accordance with the latest version ASHRAE 51 (AMCA 210) "Laboratory Methods of Testing Fans for Rating".
4. UL Compliance: Provide centrifugal fan electrical components which have been listed and labeled by UL.

1.03 Requirements:

C. Housings: Provide curved scroll housings; lockseam construction for sizes 24 inches to 40 inches,

D. Wheel: Aluminum airfoil blades on aluminum hub.

2.06 Vane Axial Fans:

- A. Fan Units: Provide factory-assembled and tested fan units consisting of housing, propeller and hub, fan shaft, bearings, and fan drive
- B. Housing: Shall be constructed of steel with welded construction or corrosion resistant fasteners
- C. Propeller: Shall be adjustable pitch with cast aluminum blades

2.07 Plug Fans:

- A. Fan Units: Provide a centrifugal plug fan built to Class II construction (minimum). Provide factory assembled and tested fan units consisting of frame, wheel, shaft, bearings, and support structure.
- B. Housing: Panels and framework shall be constructed of heavy gauge steel, pre-punched for ease of installation, with die formed flanges and welded corners. Rigid steel gussets are welded to the frame and motor supports to assure precise drive alignment, and to provide a rigid structure to support the shaft and bearings, and reduce low frequency vibration.
- C. Wheels: The fan wheel shall be of the non-overloading backward inclined centrifugal type. Wheels shall be statically and dynamically balanced to balance grade G6.3 per ANSI S2.19. Fan wheel shall be manufactured with continuously welded steel blades. The wheel and fan inlet shall be