

PART 1 GENERAL

1.1 References

- .1 AMCA 99-1986, Standards Handbook.
- .2 ANSI/AMCA 210-1985, Laboratory Methods of Testing Fans for Rating.
- .3 AMCA 300-1985 Revised 1987, Reverberant Room Method for Sound Testing of Fans.
- .4 AMCA 301-1990, Methods for Calculating Fan Sound Ratings from Laboratory Test Data.
- .5 ANSI/ASHRAE 51- 1985, Laboratory Methods of Testing Fans for Rating.
- .6 CGSB 1-GP-181M-77, Coating, Zinc Rich, Organic, Ready Mixed.

1.2 Shop Drawings And Product Data

- .1 Provide:
 - .1 Fan performance curves showing point of operation, BHP and efficiency.
 - .2 Sound rating data at point of operation.
- .2 Indicate:
 - .1 Motors, sheaves, bearings, shaft details.

1.3 Closeout Submittals

- .1 Provide operation and maintenance data for incorporation into maintenance manual.

1.4 Extra Materials

- .1 Provide maintenance materials as follow:
 - .1 Spare parts to include:
 - .1 Matched sets of belts.
 - .2 Furnish list of individual manufacturer's recommended spare parts for equipment such as bearings and seals, and addresses of suppliers, together with list of specialized tools necessary for adjusting, repairing or replacing, for placement into operating manual.

PART 2 PRODUCTS

2.1 Fans General

- .1 Capacity: flow rate, total pressure, bhp, efficiency, revolutions per minute, power, model, size, sound power data and as indicated on schedule.
- .2 Fans: statically and dynamically balanced, constructed in conformity with AMCA 99.

- .3 Sound ratings: comply with AMCA 301, tested to AMCA 300. Unit shall bear AMCA certified sound rating seal.
- .4 Performance ratings: based on tests performed in accordance with ANSI/AMCA 210, and ANSI/ASHRAE 51. Unit shall bear AMCA certified rating seal, except for propeller fans smaller than 300 mm diameter.
- .5 Motors:
 - .1 Sizes as specified.
- .6 Accessories and hardware: matched sets of V-belt drives, adjustable slide rail motor bases, belt guards.
- .7 Factory primed before assembly in colour standard to manufacturer.
- .8 Bearing lubrication systems plus extension lubrication tubes where bearings are not easily accessible.
- .9 Vibration isolation: install spring vibration isolators in fan hanger rods.
- .10 Flexible connections: provide flexible connection at fan inlet and outlet.

2.2 Centrifugal Fans

- .1 Fan wheels:
 - .1 Welded steel construction.
 - .2 Maximum operating speed of centrifugal fans not more than 50 % of first critical speed.
 - .3 Backward inclined blades, as indicated.
- .2 Bearings: heavy duty grease lubricated ball or roller self aligning type with oil retaining, dust excluding seals and a certified minimum rated life of 100,000.
- .3 Housings:
 - .1 Volute with inlet cones: fabricated steel, braced, and with welded supports.
- .4 Acceptable material: Greenheck.

2.3 Utility Sets

- .1 Characteristics and construction: for centrifugal fans.
- .2 Preassemble single width centrifugal fan with removable protective hood with vents.
- .3 Provide belt driven sets with adjustable motor bed plate and variable pitch driver sheave.
- .4 Acceptable material: Greenheck.

PART 3 EXECUTION

3.1 Fan Installation

- .1 Install fans as indicated, complete with resilient mountings.
- .2 Provide sheaves and belts required for final air balance.
- .3 Bearings and extension tubes to be easily accessible.

END OF SECTION