

SECTION 15885  
AIR FILTERS

PART 1 GENERAL

1.1 REFERENCES

- A. ANSI/UL 900: Test Performance of Air Filter Units.
- B. ASHRAE 52-1976: Method of Testing Air Cleaning Devices Used in General Ventilation for Removing Particulate Matter.

1.2 SUBMITTALS

- A. Submit under provisions of Section 15000.
- B. Product Data: For each filter used in this project, provide catalog data for filter media, support grid, enclosing frame, and performance data.
- C. Samples: Not required.

1.3 QUALITY ASSURANCE

- A. Filter media shall be ANSI/UL 900 listed, Class 2.
- B. Provide all filters as product of one manufacturer.

1.4 DELIVERY, STORAGE AND HANDLING

- A. Deliver filters to site in original factory boxes, labeled with manufacturer's identification.
- B. Store filters in original factory boxes, and protect from weather and construction traffic.
- C. Protect filters against dirt, water, chemical and mechanical damage.

PART 2 PRODUCTS

2.1 AIR HANDLING UNITS: Air filters shall be 2" thick, medium efficiency, pleated, disposable type. Each filter shall consist of a non-woven cotton and synthetic fabric media, media support grid and enclosing frame. UL shall classify the filter for flammability as Class 2. Performance specification is based on Cam-Farr UL Class 2 30/30 filters. Other filters satisfying the specifications are acceptable.

- A. Filter media shall have an average efficiency of 25-30% and an average arrestance of 90-92% in accordance with ASHRAE 52-1976. The effective filter media shall be not less than 4.6 sq ft per 1.0 sq ft of filter face area. The initial resistance shall not exceed 0.08" WG at 250 FPM (0.28" WG at 500 FPM). The final resistance shall be capable of 0.9" WG.
- B. Media Support Grid: a welded wire grid with an effective open area of not less than 96% shall support media. The grid shall be bonded to the filter media to eliminate the possibility of media oscillation and media pull away. The grid shall allow total use of the filter media. Filters for Student Housing shall be located in the return air grille or other easily accessible location for periodic (monthly) maintenance purposes.
- C. Enclosing frame shall be constructed of rigid, heavy-duty, high wet-strength beverage board, with diagonal support members bonded to the air entering and air leaving sides of each pleat, to ensure pleat stability. The inside periphery of the enclosing frame shall be bonded to the filter pack, thus, eliminating the possibility of air bypass.
- D. Provide new clean filter sets and use as follows:

1. Provide as many filter sets as required during construction. Low efficiency filters shall NOT be used during construction. If low efficiency filters were used, the mechanical contractor shall clean the coils prior to Substantial Completion.
  2. Provide one filter set for test and balance work. The mechanical contractor shall coordinate the installation of new filters prior to test and balance work with the mechanical contractor's/Florida Tech's test and balance contractor.
  3. Provide second filter set as the Florida Tech's spare. Store filter set in closed original factory filter boxes within AHU room and mark the AHU number on the filter boxes. The mechanical contractor shall NOT use this filter set during construction.
  4. On the date of Certificate of Occupancy all HVAC equipment shall have fresh clean air filters.
- E. Provide filter pressure gage for each filter bank. Refer to Section 15135, Flow Meters, Gages and Thermometers.
- 2.2 RETURN AIR GRILLES: During construction, provide temporary filters over the return air grilles to minimize dust from entering the return air system.
- A. Filter media shall be 1" thick, non-woven polyester with an average arrestance of 88% per ASHRAE 52-1976.
  - B. Provide as many filter sets as required during construction.
  - C. The mechanical contractor shall coordinate the removal of the temporary filters prior to test and balance work with the test and balance contractor.
- 2.3 EXHAUST AIR GRILLES: During construction, provide temporary filters over the exhaust air grilles to minimize dust from clogging up the blades on the fan wheels.
- A. Filter media shall be 1" thick, non-woven polyester with an average arrestance of 88% per ASHRAE 52-1976.
  - B. Provide as many sets of filters as required during construction.
  - C. The mechanical contractor shall coordinate the removal of the temporary filters prior to test and balance work with the test and balance contractor.

## PART 3 EXECUTION

### 3.1 INSTALLATION

- A. Air Handling Units: Install air-cleaning devices in accordance with manufacturer's instructions.
- B. Air Handling Units: Prevent passage of unfiltered air around filters with felt, rubber, or neoprene gaskets.
- C. Do not operate air-handling units or exhaust fans until filters are in place.

END OF SECTION