SECTION 230530 - DUCT AND COIL CLEANING

PART 1 - GENERAL

1.1 APPLICABLE REQUIREMENTS

A. All work to be furnished and installed under this section shall comply with all the requirements of General Conditions, Supplemental Conditions, Division 01 - General Requirements, Section 230500 - Basic HVAC Materials and Methods, and other Sections in Division 23 specified herein.

1.2 RELATED WORK IN OTHER SECTIONS

A. Section 230500: Basic HVAC Materials and Methods.

1.3 SCOPE

A. Clean the inside surface of all ductwork and plenums.

B. Clean all evaporator and condenser coils.

C. Clean all condensate pans.

D. Clean all fan blades and assemblies.

E. Clean all dampers, motors and linkages.

1.4 MAINTAINING EXISTING SERVICES

A. The existing heating, ventilating and air conditioning system shall be maintained to all occupied areas during the normal working week. Any exceptions to this rule must be arranged thru the Owner beforehand.

1.5 PROPER EQUIPMENT

A. The Contractor shall provide the power vacuum operating at a minimum of 16,000 cfm at 21" wc; 25 CFM air compressor operating at 210 psi; electric power vent cleaner and reverse jet air flow nozzle, all staging, scaffold, ladders or similar equipment required to properly carry on the work. Suitable protective covering shall be provided by the Contractor in all areas of work operation. Any mechanical defects to be reported to all person/persons in charge.

1.6 EXPERIENCED SUPERVISION

A. All work shall be supervised by a Foreman having thorough knowledge and experienced in the cleaning of heating and air conditioning systems. The work shall be performed by experienced, qualified personnel. Contractor shall be responsible to coordinate with the Owner's Representative. This will insure that both parties are fully aware of work to be performed and time perimeters that work will be completed.

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PART 2 - PRODUCTS

2.1 MATERIALS

A. All materials specified by brand names used for the work described herein shall be delivered to the job site in original, un-opened, clean containers with labels in place. All such materials shall be of the brand and type specified. Substitution of any materials will not be permitted, unless pre-qualified and approved by the Owner's Representative.

2.2 GASKETING

A. Gasketing shall be a polyethylene foam, self adhering type with a minimum width of 1/4".

2.3 FIBERGLASS INSULATION MATERIAL

A. Fiberglass insulation material to be repaired will be of equal quality and thickness as contained in equipment requiring repair. Fiberglass will be sealed together by means of wall tacks, lagging tape lagging adhesive and lagging coating. Materials used will be of the highest quality (ie: Foster White, Foster Coating: respectively).

PART 3 - EXECUTION

3.1 STORAGE OF CONTRACTOR'S EQUIPMENT AND MATERIALS

A. The contractor shall remove all materials from job site daily. Owner shall not be responsible for loss, theft or damage of any materials, equipment or devices provided by the Contractor while used on Owner's property.

3.2 CLEAN-UP

A. Contractor shall, at the end of each shift, remove all waste, dirt and debris, resulting from the work performed. Such material shall be removed from the property and disposed of at the Contractor's expense, unless pre-qualified and approved by the Owner's Representative.

3.3 ACCESS OPENINGS AND DOORS

A. Access will be cut into duct for proper cleaning. Sheet metal panels with proper caulking and of the same or heavier gauge metal shall be installed when the ducts are cleaned.

3.4 CAULKING

A. Caulking shall be performed in a neat and effective manner. No caulking shall be applied over surfaces which contain dirt, rust, oil, scale, deteriorated caulking or other foreign matter which would affect adhesion. All caulking shall be Loctite Super Flex Caulking Compound or equivalent, as approved by the Owner's Representative.

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3.5 COILS - (HEATING AND COOLING)

A. Cleaning will consist of high power wash downstream of coil first and then upstream of coil. A detergent solution specifically designed for this purpose will be used in washing. Process will be repeated until coils have been rendered clean.

B. High power wash will be performed with a water spray device that delivers a minimum of 500 psi. Detergent cleaning shall be followed by a thorough rinsing with fresh water.

C. A degreasing solution shall be used in areas required, (i.e. oil, grease, rubber or adhesive) build-up of the coils. Any degreasing of coils shall be performed before final cleaning of coils to insure complete removal of any residual build-up.

D. Drain pans are to be cleaned and cleared before and after any pressure washing is performed, thus assuring complete and safe drainage.

3.6 PLENUM AREAS

A. All interior walls, ceilings and floors shall be power vacuumed. Plenum areas shall be inspected and sealed air tight with approved caulking compound.

B. Fiberglass insulating material found to be in need of repair will be repaired or replaced and properly bonded with adhesive, clips and proper lagging material.

C. Fiberglass material shall be sealed with Quaker Koat after it has been thoroughly hand vacuumed to insure proper adhesion.

3.7 FANS AND FAN HOUSING

A. Fan and fan assemblies shall be thoroughly cleaned by Power Vacuuming and high-pressure washing. Degreasing, scraping and wire brushing will be performed where required.

3.8 FILTERS

A. New filters shall be installed when unit has been completely cleaned. Filters shall be provided by the Owner.

3.9 DAMPERS, MOTORS AND LINKAGE

A. Dampers will be inspected and repaired.

B. Repairs will include straightening and aligning of blades and linkage.

C. All related equipment will be power vacuumed and high pressure washed where required.

D. Areas with rust or scale build-up will be wire brushed or scraped.

E. All damper motors and linkage will be lubricated and set into their original position upon completion of work in plenum areas.

F. All ducts shall be thoroughly cleaned by power vacuuming. Ductwork that does not allow complete access shall be entered by means of access holes.

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G. All ducts will be cleaned, and inspected, as work proceeds. Any major repairs will be brought to the attention of the Owner's Representative.

H. Minor repairs (ie: caulking, sealing, reconnecting) of ductwork will be performed in the normal manner of the contractor's work.

3.10 DAMAGE BY DIRT OR DUST

A. The Contractor shall be responsible for all damage to any part of the Owner's premises, equipment or machinery due to dirt or dust attributed to the negligence of his work. The Contractor shall clean, repair or replace such damages at no expense to the Owner.

3.11 CLOSING IN OF UNINSPECTED WORK

A. Contractor shall not allow or cause any of the work to be covered up or enclosed until it has been inspected and approved by an authorized person. Should any of his work be covered up or enclosed before such inspection, he shall, at his own expense, uncover the work, and after it has been inspected and approved, make all repairs with such materials as may be necessary to restore all his work to its original and proper conditions.

END OF SECTION 230530

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