



CRITERIA FOR MECHANICAL ROOMS

(A) General

- (1) Mechanical rooms shall be properly conditioned – See Division 23 HEATING, VENTILATING, AND AIR CONDITIONING (HVAC)
- (2) Layout:
 - a. Mechanical rooms shall be of sufficient size to provide adequate space for equipment access and maintenance. Equipment access/clearance requirements shall be coordinated with the equipment manufacturers and shall be indicated on the Construction Documents.
 - b. Mechanical rooms shall include a designated area for electrical panels and control panels and associated working clearances. Panel locations shall be indicated on the Mechanical Construction Documents for coordination purposes. Avoid locating water lines above electrical panels.
 - c. Where possible provide a connected storage closet (with a lockable door) for filters, parts, and attic stock.
- (3) Construction of assemblies:
 - a. Partitions, floors, ceilings, and related penetrations shall comply with applicable codes and regulations for Fire and Smoke Protection features.
 - b. Partitions, floors, and ceilings shall have a minimum Sound Transmission Coefficient (STC) rating of 45.
- (4) Specify all mechanical and electrical equipment rooms to have a smooth troweled concrete floor, finished with a high-performance coating/surface hardener.
- (5) Schedule the following mechanical room surfaces to be painted: walls, ceilings, exposed ductwork, air handling units, tanks, pumps, air compressors, boilers, all surfaces with sweating or excess moisture conditions, exposed uncovered piping, exposed insulated piping, hangers and supports for piping and all electrical devices and conduit not having prefinished surfaces.
- (6) Mechanical equipment shall be installed on housekeeping pads.
- (7) Large rotating mechanical equipment that is not internally isolated shall be installed on vibration isolation pads.
- (8) Condensate lines serving equipment within the mechanical room shall be piped to the sanitary sewer due to chemical contamination from ruptured coils or other sources.
- (9) Each mechanical equipment room shall have a hose bib for wash-down/cleaning, etc. (excludes electrical, UAIT, and elevator mech spaces).

(B) Doors and Access

- (1) Provide exterior access when possible.
- (2) Door openings shall be sized to accommodate the installation and removal of the largest piece of equipment.



- (3) Door(s) shall swing out of the room.
- (4) Doors shall be keyed to the current FAMA keying system – coordinate with the designated FAMA construction coordinator. Provide panic hardware when required by code.
- (5) Access to penthouses shall be provided using permanent stairs with landings (stair to roof level). Hatches, ladders, and/or alternating tread devices will not be accepted.

Note: For rooftop equipment located outside of a penthouse, access shall be provided as required by code. The UA preference is by way of a stair to the roof level. If exterior ladders are provided, the ladders shall not rely on mechanical extensions and security points shall only be located at landings.

(C) **Protection against water damage.**

- (1) Floors shall be sloped to drain.
- (2) Mechanical rooms shall have an appropriate number of floor drains located at the lowest part of the floor slope. Floor drains shall be equipped with automatic trap primers per the Arkansas Mechanical Code and shall be plumbed to the sanitary sewer.
- (3) Regardless of the required fire-protection rating, all floor penetrations shall be properly sleeved/sealed against water intrusion with a Class 1 W-rated system; the assembly must withstand a 3-ft head of water for 72 hours with no leakage.
- (4) Groups of penetrations, large knock-outs, and irregular annular spaces shall be curbed or otherwise edged to prevent water intrusion.
- (5) Elevate storage areas to prevent water intrusion.

(D) **Power and Lighting**

- (1) Each mechanical room shall have at least one *125-volt, single-phase, 20-ampere-rated receptacle outlet* for servicing equipment. Outlets shall be accessible with locations not exceeding 25' apart.
- (2) All wall-mounted equipment shall be installed on a Fire-Resistant Treated (FRT) plywood backer.
- (3) Mechanical room lighting shall provide a minimum illumination level of 30-foot candles at 30" AFF.
- (4) Light fixture locations shall be coordinated with equipment, duct, and piping locations such that equipment work areas are adequately illuminated and fixtures are accessible for maintenance.
- (5) Mechanical room lighting shall be on an emergency generator when available.

(E) **Fire Protection**

- (1) Mechanical rooms shall be equipped with heat and smoke detectors connected to the building fire alarm system.



- (2) Mechanical rooms shall be equipped with a fire alarm A/V device, portable fire extinguisher, and data outlet/preferred wireless access point.

END OF DOCUMENT