

## WALLS, PARTITIONS

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**Exterior Walls:** Exterior wall construction for standard campus buildings shall consist of a structural steel frame with masonry infill. The standard masonry infill shall consist of nominal 8" cmu, an air gap filled with 1 ½" - 2" of rigid polystyrene insulation, cavity drainage (see *Division 4 Technical Sections*), and nominal 4" face brick. Exterior wall construction for less significant buildings shall incorporate 6" minimum CMU and brick veneer. Additional insulation and/or interior finishes may be added based on design requirements. Stud and drywall backup is not allowed. The use of brick veneer with steel studs requires an approved project variance. If a variance is approved to allow brick veneer, then the AE shall calculate the location of the dew point within the wall, and verify that the dew point falls within the cavity or brick veneer.

**EIFS:** Exterior insulated finish systems (e.g. "Drivit" and other imitation stucco systems) are not allowed.

**R-Value:** All exterior envelope assemblies shall comply with the requirements of ASHRAE 90.1. The decision to follow the prescriptive method or the energy model method of compliance shall be consistent with other sections of these *Standards*. However, regardless of which method is chosen for ASHRAE compliance, and what other energy performance criteria are achieved in other assemblies and systems, the minimum R value for any exterior wall assembly shall be 13. Every building should be evaluated and carefully optimized.

**Vapor Barrier/Insulation:** Consistent with the requirements of ASHRAE 90.1, a vapor barrier shall be provided on the interior side of insulated walls. Quality installation of the vapor barrier and the insulation are critical to their performance. Therefore, design documents addressing their installation shall be very detailed.

**Air Retarder:** An air retarder (i.e. "building wrap") shall be installed in conjunction with each exterior wall. When insulation and a vapor barrier are installed, an air retarder shall be installed in addition to them.

**Special Construction:** Special exterior wall construction shall be employed as

appropriate in conjunction with a winter interior design relative humidity greater than 35% and/or a summer interior design space temperature less than 65 degrees F. Improved thermal resistance and/or an improved or additional vapor barrier are typically required in such cases.

**Partition Walls:** In keeping with our goal of institutional quality, masonry partition wall construction is required in most locations. The only locations in which metal stud and gypsum construction is permitted without a written variance are: private offices, ceilings (in locations where a lay-in ceiling, the preferred ceiling construction, is not feasible) soffits and bulkheads at ceilings.. Prior to choosing such systems, consider the limitations on flexibility inherent in these systems. CMU partitions offer ultimate flexibility in mounting shelving, cabinets and other equipment. To try to achieve a similar level of flexibility with stud construction, a layer of plywood should be installed beneath the gypsum. Alternatively, blocking systems which are designed to fit in between the studs may be used.

In any location where stud construction is permitted, all studs shall be a minimum of 20 ga. "Equivalent gage" studs, that is studs made of a thinner metal but formed with dimples to increase rigidity, are NOT PERMITTED. Studs must be installed at a maximum of 16" O. C. Any gypsum shall be a minimum of 5/8" thick unless used in a multi-layer application. Any gypsum used in walls below 48" shall be abuse resistant. All partitions shall extend to the underside of the deck above to provide stability and sound isolation. Wood studs are not allowed.

**Corridors / Public Areas:** Corridor and other general public area walls shall be cmu construction. If a higher level of finish is desired, the cmu may be plastered prior to painting. This requirement is IN ADDITION to requirements of the Life Safety Code. Corridor walls shall be extended to the structural ceiling. A guard constructed of highly durable material, such as 16 GA stainless steel, shall be installed on each wall corner that is exposed to the flow of traffic.

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**Service Rooms/Areas:** The requirements stated above for corridor partition walls also apply to service rooms/areas (e.g. custodial rooms, lamp rooms, recycling rooms, receiving areas, etc.)

**Restrooms:** All restroom, shower room and locker room walls shall be CMU construction and shall be extended to the structural ceiling. All walls in these types of rooms shall be finished with ceramic tile to match the floor, up to an elevation that is well above that of all fixtures, to facilitate cleaning. Base molding shall be ceramic cove to connect the floor and wall tile.

**Equipment Rooms:** Mechanical and electrical equipment room walls, as well as elevator machine room and hoist way walls, shall be CMU or poured concrete construction and shall be extended to the structural ceiling.

**Folding Partition Walls:** Folding partition walls shall be avoided. Even the highest quality such partitions require a tremendous amount of maintenance and provide little acoustical separation.

**Sound Transmission:** Priority consideration shall be given to sound transmission in the design of partition walls. Not only service room, restroom and equipment room walls, but all partition walls where sound transmission is a concern shall be extended to the structural ceiling (e.g. at conference rooms, executive offices, etc.) Consideration shall be given to the installation of sound attenuating batts in stud type partition walls. Proper sealing of openings and perimeters of these walls is critical for good sound attenuation.

Fiberglass batts shall NOT be laid over the top of ceiling tile. These batts are frequently moved by mechanics who need to gain access to above-ceiling equipment and fixtures. They are seldom properly replaced, thus compromising the sound attenuation. In locations where stud partitions are used, it is permissible to provide gypsum board to the ceiling on only one side of the partition, to support the batts, and to assist with attenuation.

**Finish Schedule:** See the *Master Room Finish Schedule* found within the *Exhibits* for a summary of wall finish and materials of construction requirements for each space type.