

093000-H: CERAMIC TILE & WALL PROTECTION AT WET LOCATIONS

RELATED SECTIONS

Special Instructions to Designers:

- 5.13 MM Healthcare Procedure Room Infection Control Types and Requirements
- 5.14 MM Patient Care and Support Spaces Room Type Requirements
- 5.15 MM Patient and Staff Protection: Falls, Bariatrics, Low Vision, Ergonomics
- 5.16 MM Requirements for Critical Pressure Sensitive Rooms
- 5.17 MM Requirements for Pharmaceutical Drug Compounding Areas

Technical Requirements:

- 010000H Architectural General Design Guidelines
- 06040H Architectural Woodwork
- 080500H Basic Door and Window Materials and Methods
- 092116H Gypsum Board Assemblies
- 079200 Joint Sealant
- 220010H Supplemental Plumbing Specialties

GENERAL

1. Water from plumbing fixtures, patient bathing, handwashing and other sources becomes a maintenance issue that can be hidden until damage is already done. Building materials can be damaged and mold/mildew can develop. Great care in design and specifications of materials, and review of workmanship prior to finish materials being applied.
2. Where ceramic tile is specified, 10% minimum attic stock is to be provided to Hospital Maintenance of each product, profile and size used in the project.
3. Ensure all materials are compatible with each other; follow all manufacturers' instructions.

DESIGN REQUIREMENTS

1. The Michigan Building Code requires that walls that plumbing fixtures are mounted on be of smooth, hard, water proof materials that are not adversely affected by moisture. While the code minimum is 4 feet above the floor and the lateral dimension is 2 feet, in general the entire wall surface should be made of waterproof materials.
2. Some areas are subject to frequent wet cleaning and must also be considered wet locations, including Operating Rooms, Decontamination Rooms, Cart Wash, Sterilizer areas.
3. Acknowledging there is no perfect wall material adjacent to plumbing fixtures, the following assemblies should be considered near sinks and water closets, depending upon location, aesthetics, and project budget:
 - a. Solid surface materials (such as Corian) on cement backer board with a waterproof membrane behind. Joints to be chemically field seamed without open joints. Fabricate assembly so that there is a removable access panel on the wall surface under the sink counter to allow maintenance access to piping for repairs. Access panel to be sealed with waterproof sealant, and removable with Philips head fasteners into blocking within wall.
 - b. Ceramic tile on cement backer board, with a waterproof membrane behind.
 - c. Waterproof impact-resistant sheet wall protection (such as Acrovyn or FRP) on impact resistant, water resistant gypsum board. All seams and joints to be sealed.
4. Weep holes should be drilled in the bottom tracks of metal stud partitions that include plumbing fixtures.
5. Bathing facilities, particularly barrier free roll-in shower facilities, must be designed with redundant and durable waterproofing membranes. Ceramic tile and grout are not water resistant materials and water will penetrate the grout. The entire room must be designed as a shower with continuous waterproofing behind the floor and wall finish materials.

- a. Trench drains are preferred at roll in showers at the shower and at the doorway (refer to 220010-H). Ensure the specified drain is compatible with the selected waterproofing assembly. Penetrations through the slab that are concealed, such as underneath a bathtub or within a wall, must be detailed with water resistant dams.
 - b. Door frames at rooms with roll in showers should be specified as galvanized steel or stainless steel.
6. Ceramic Tile:
 - a. Waterproofing: Select one manufacturer's line for grout, mortar, waterproofing membrane, joint materials, any sealants and specialty membrane trim. Follow all manufacturer's recommendations and ensure the materials are compatible with one another.
 - b. Wall ceramic tile and grout is to be installed on a cement backer board, with the continuous waterproof membrane behind, unless the waterproofing manufacturer's own board is selected.
 - c. Waterproofing membrane is to be continuous and extend to all seams and joints at walls/floor junction, curbs, and other locations.
 - d. Floor ceramic tile is set on a mortar bed on a waterproof membrane that is continuous with the walls. Ensure the drain is compatible with the membrane and install manufacturer's trim per all manufacturer's instructions.

MATERIAL REQUIREMENTS

1. Surface materials should be selected to be:
 - a. Durable; not damaged by water or cleaning materials
 - b. Easily cleanable
 - c. Attractive
 - d. Resistant to vandalism
 - e. Suitable for patient care, low vision and ergonomics
2. Substrate materials must provide redundant waterproofing, and discourage the growth of mold and mildew. Examples cited elsewhere in these guidelines include:
 - a. The use of adjustable cabinet levelers instead of wood bases, with removable recessed toe bases at wet locations. No wood should be in contact with the concrete slab.
 - b. Spacing all wallboard up off of the concrete slab at all locations.
 - c. Sink base cabinets are not to be designed.
3. Ceramic, Porcelain and Stone Tile:
 - a. Acknowledging that all floors crack, a waterproof bond breaker underlayment material (such as Schluter Ditra underlayment) must be installed between the structural slab and any ceramic or porcelain tile flooring in any location. The waterproofing membrane must be continuous at the joint with the walls, curb and other junctions.
 - b. Exposed corners and joints should be designed to include stainless steel or aluminum trim designed for the purpose. (such as Schluter profiles)
 - c. Coved trim should be considered for ease of cleaning at joints; consider stainless steel or aluminum profiles.