

DIVISION 9 – FINISHES

09200 - LATH AND PLASTER

1. Industry Standards

1.1. Requirements for lath and plaster materials and application shall be detailed and specified in accordance with the latest published recommendations of the Gypsum Construction Handbook.

1.2. Specifications and details for lath and plaster materials, mixes, applications and finishes shall be in accordance with the material manufacturer's recommendations, and shall include specific requirements for each type of lath and plaster used in the work.

1.3. Plaster, including additives such as epoxy or other resin, shall have a low VOC content. Refer to Appendix GG - Definitions of Low VOC Content Levels for specific definitions of low VOC levels.

2. Lath Materials: Lath shall be galvanized metal lath. Steel lath shall maximize recycled steel.

3. Plaster Types and Finish

3.1. Portland cement plaster shall be used for exterior and interior applications that are exposed to moisture. Other areas shall be gypsum plaster. High strength, thin veneer systems may be substituted for conventional plaster in instances where specialized aesthetics finishes are required or to match adjacent existing appearances.

3.2. When plaster is installed in bathrooms, kitchens, janitor closets, garbage and recycling rooms, and other sanitary areas, it shall have a smooth finish. All other plaster shall have a sand float finish.

4. Control Joints: Galvanized control joints shall divide Portland cement plaster and stucco so that uninterrupted surfaces do not exceed 10 feet in either direction.

09250 - GYPSUM DRYWALL SYSTEMS

1. Industry Standards: Requirements for gypsum drywall systems shall be detailed and specified in accordance with the latest published recommendations of the Gypsum Construction Handbook.

2. General Requirements

2.1. There shall be specific requirements for each product used for drywall system materials, applications and finishes, including the following:

- A. Types, spacing, erection and fire rating of metal drywall stud systems, furring and suspension systems
- B. Types and application of gypsum board drywall materials and joint finishing systems
- C. Types and application of drywall accessories such as casing bead, corner bead, control joints and reinforcement
- D. Refer to Appendix B - Dust, Contaminant, Odor and Fungal Control Measures

2.2. Provide for thorough cleaning of all silica/gypsum dust after the gypsum drywall is installed. Cleaning shall include, but not be limited to, all components in plenum spaces such as tops of pipes and sills, and inside and outside of ducts.

3. Framing Requirements

3.1. Walls typically shall be constructed with minimum 3-5/8 inch metal studs.

3.2. Walls more than 9 feet high shall be framed using metal studs at intervals not greater than 16 inches on center.

3.3. In metal-stud framed drywall partitions, provisions shall be made for blocking and reinforcing anchoring of wall-mounted shelves and screens, cabinets, accessibility accessories, window treatments, chalkboards, markerboards, display boards, toilet compartments and toilet accessories.

3.4. Applications of multi-layer gypsum board shall be attached with screws. Do not laminate the boards with adhesives.

3.5. Steel studs, runners and channels for framing shall maximize recycled steel content.

4. Surface Materials

4.1. PROHIBITED: Fiberglass tapes.

4.2. All gypsum board shall be a minimum of 5/8 inches thick, type x.

4.3. Use cement board or cement plaster in high moisture areas in the following rooms adjacent to the fixtures: janitor closets, wet laboratory areas, restrooms, kitchens, showers, bathrooms and dishwashing areas.

4.4. Gypsum board should contain recycled or synthetic gypsum, where available. Facing paper shall be manufactured from recycled newsprint, including post-consumer waste.

4.5. Glass fiber insulation blankets used for sound attenuation shall maximize recycled material.

4.6. Joint compound shall have low VOC content.

4.7. Only paper joint tape shall be used.

4.8. Mineral fiber blankets used for sound attenuation shall maximize recovered materials.

09310 - CERAMIC TILE

1. Tile Materials

1.1. Ceramic tile and quarry tile shall comply with ANSI A-137.1 - Standard Grade.

1.2. Floor tile for wet areas, stairs and ramps shall have a non-slip finish, except under food service equipment.

1.3. Provide a smooth finish under kitchen equipment. Refer to Appendix EE - Food Service Construction Guide.

2. Setting Beds

2.1. PROHIBITED: Using cement board for a floor setting bed as a replacement for a conventional cement mortar bed.

2.2. Choose setting bed materials that the Tile Council of America Inc. recommends for the particular applications based upon its latest edition of "Handbook for Ceramic Tile Installation." The materials shall be mixed and applied in accordance therewith.

2.3. Conventional reinforced Portland cement mortar that is 1-1/4 inches thick is required over a waterproof membrane in wet areas. Thin set may be acceptable in other areas such as patio and entrance areas.

2.4. On existing painted walls, prepare subsurface to accept waterproof mastic.

2.5. A setting bed over a wood subsurface shall consist of a minimum 30# asphalt felt, anchored galvanized lath and a Portland cement mortar bed that is a minimum of 1-inch thick.

3. Waterproof Membrane

3.1. PROHIBITED: Waterproof membranes for floors that are liquid-applied or applied with a trowel.

3.2. A waterproof membrane shall be sheet-type; turned up 6 inches at walls to form a watertight pan.

4. Control Joints

4.1. Provide control and expansion joints for tile work in accordance with the recommendations of the Tile Council of America Inc. Seal joints with appropriate long-life sealant.

4.2. Provide control joints at all sub-floor control joints. If there are no sub-floor control joints, control joints must be placed 10 feet to 15 feet in all directions depending on the size of the room and tile layout. If columns are present, control joints should run between each column.

5. Grout

5.1. Select dark colors for floor grout to reduce discoloration.

5.2. Use grout that the Tile Council of America Inc. recommends for the particular application conditions. Stain-resistant or acid-resistant grout materials shall be used for tile surfaces subject to heavy use or chemical exposure. Use epoxy grout in wet areas.

6. Sealer: Apply base sealers to grout on floors. Provide a maintenance manual, including information on sealing grout on floors. The owner shall apply the sealant after initial curing period.

09400 - TERRAZZO

1. Industry Standards: Terrazzo type, materials, placement, construction system, finishing, and divider strip types, location and spacing shall be detailed and specified in accordance with the latest published recommendations of the National Terrazzo and Mosaic Association Inc.

2. Sealers shall be of low VOC content.

09500 - ACOUSTICAL TILE CEILINGS

1. Industry Standards: Acoustic materials, applications, installations and test methods shall comply with applicable ASTM standard. Specifications and details for acoustic materials, application and installation shall conform to the recommendations of the manufacturer of the material used.

2. Materials and Systems: The following criteria shall pertain to selection of acoustic materials and systems:

2.1. PROHIBITED: Concealed spline support systems.

2.2. PROHIBITED: Acoustical ceiling tiles in food preparation and serving areas. Refer to Appendix EE - Food Service Construction Guide.

2.3. Support systems in high humidity areas shall be of non-corrosive materials.

2.4. Refer to Appendix DD - Requirements for University Classrooms for information on materials for classrooms.

09550 - WOOD FLOORING

1. PROHIBITED: Due to limited life span, parquet and laminated wood flooring material.

2. Flooring Types: Wood flooring shall be hardwood, and kiln dried to maximum moisture content of 8 percent.

3. Application

3.1. Wood flooring installed over a concrete slab shall be applied over a vapor barrier membrane.

3.2. Expansion voids shall be provided at walls and other permanent obstructions. The dimension of expansion voids shall be no less than what the flooring manufacturer recommends.

3.3. This section shall include pre-finished and unfinished solid wood that is in the form of strip or plank. All wood flooring finishes and refinishing systems also shall be included.

3.4. Unique woodworking types of wood flooring, and all wood decks and porches are specified in Division 6 - Wood and Plastics.

3.5. Resilient wood flooring such as engineered flooring assemblies shall be design-engineered for its intended use. Examples include wood aerobic flooring,

wood gymnasium flooring, wood handball courts and other wood athletic flooring.

4. Operations and Maintenance Manual: Provide an O and M manual for referencing other wood flooring requirements.

09650 - RESILIENT FLOORING AND BASE

1. Standard

1.1. PROHIBITED: Light-colored materials susceptible to visible soil.

1.2. PROHIBITED: Resilient tile floors in toilet rooms, wet areas or areas exposed to grease or chemical spillage.

1.3. Resilient floors shall be of vinyl composition, except in kitchens and animal rooms, which shall be composed of seamless epoxy.

1.4. Resilient floors shall have a cove to form an integral base. Alternately, if a top-applied base is used, it shall be made of rubber or vinyl, be a minimum of 4 inches high and be sealed to the floor with impermeable caulk.

1.4.1. Rubber base systems shall maximize recycled materials.

1.5. Adhesives shall be of low VOC content.

1.6. Sheet vinyl floor covering shall be installed with water-based, low VOC adhesives per the manufacturer's instructions.

1.7. See Appendix EE - Food Service Construction Guide for kitchen specifications.

2. Laboratories: Laboratories shall have smooth, seamless, non-porous vinyl flooring with a minimum of 4 inches of an integral cove base. Mitters and seams shall be welded in conformance with the manufacturer's instructions to produce a seamless installation. Flooring for laboratories shall be resistant to a wide range of chemicals and shall be installed to prevent liquids from leaking to lower floors. See Appendix L - Laboratories Where Hazardous Chemicals Are Present.

3. Animal Holding Areas: Floors in animal-holding areas shall be monolithic and readily sanitized. Refer to Appendix L - Laboratories Where Hazardous Chemicals Are Present, item 2.11.

4. Kitchens: Commercial kitchens shall have quarry or epoxy smooth seamless, non-porous floors or ceramic tiles. Non-commercial kitchens such as kitchenettes shall have

high-quality residential furnishings and finishes. Refer to Appendix EE - Food Service Construction Guide.

09680 - CARPET

1. Materials

1.1. All carpet materials, accessories and installation methods shall be selected and specified as indicated in Appendix M - Carpet Specification Guide, sections 09680 and 09685. For information on current university carpet and material installation contracts, contact Jerry Taintor of University Purchasing Services.

1.2. At the discretion of the owner's representative, carpet materials and installation may be provided under a separate contract directly with the university or by the general contractor.

1.3. Provide a maintenance care manual for carpet cleaning.

09900 - PAINTING

1. Responsibility: The A/E is responsible for color selection and coordination of all interior and exterior finishes, including all factory pre-finished equipment/surfaces. For pre-finished products, the A/E shall indicate in the contract documents which colors/finishes were selected from the equipment or product manufacturer's standard color palette, or the optional manufacturer's custom colors/finishes where appropriate to a specific project. The university recommends and supports the use of rebleded paints and reprocessed paints where appropriate. Refer to Appendix O - Rebleded Post Consumer Latex Paint.

2. Work Included

2.1. Exterior wood, except redwood and certain treated wood products, shall be painted or stained/sealed.

2.2. Exterior ferrous metals, including piping, ducts, stacks, fans, and other exterior mechanical and electrical items that are not furnished with a complete factory finish shall be painted. Refer to item 1. Responsibility in this section.

2.3. Interior wood shall be painted, or stained and varnished/sealed.

2.4. Interior exposed ferrous metals that are not furnished with a complete factory finish shall be painted. Refer to item 1. Responsibility in this section.

2.5. Drywall finishes shall be painted.

2.6. Plaster finishes shall be painted.

2.7. Piping, ducts, radiation, grilles, diffusers, conduit and electric panels in finished spaces that are not furnished with a complete factory finish shall be painted. Refer to item 1. Responsibility in this section.

2.8. Concrete and masonry shall be painted in spaces that contain sensitive equipment such as elevator or telephone equipment.

3. Paint Materials: The A/E shall select and provide specifications and finish schedules in the contract documents for paint materials and application methods that meet or exceed the requirements specified in Appendix N - Paint Specifications Guide. The university recommends and supports the use of rebleded and reprocessed post-consumer latex paint. Refer to Appendix O - Rebleded Post-Consumer Latex Paint. The A/E shall specify rebleded or reprocessed post-consumer latex paint where appropriate.

3.1. PROHIBITED: Water-based paints formulated with aromatic hydrocarbons (organic solvent with a benzene ring in its molecular structure), formaldehyde, solvents with halogens, mercury or mercury compounds, or tinted with pigments of lead, cadmium, chromium VI and their oxides.

3.2. PROHIBITED: Solvent-based paints, if necessary to use, that are formulated with formaldehyde, solvents with halogens, mercury or mercury compounds, or tinted with pigments of lead, cadmium, chromium VI and their oxides. They also shall not be formulated with more than 10 percent aromatic hydrocarbons by weight.

3.3. Water-based paints shall have a low VOC content and shall have a flash point of 61 degrees Celsius or greater. Refer to Appendix GG - Definition of Low VOC Content Levels for specifications.

3.4. Solvent-based paints shall be formulated for low VOC emissions. Refer to Appendix GG - Definition of Low VOC Content Levels for specifications.

3.5. The following shall be low VOC and not be formulated with aromatic hydrocarbons (organic solvent with a benzene ring in its molecular structure), formaldehyde, solvents with halogens, mercury or mercury compounds, or tinted with pigments of lead, cadmium, chromium VI and their oxides:

- A. High performance water-based acrylic coatings
- B. Pigmented acrylic sealers
- C. Catalyzed epoxy coatings
- D. High-performance silicone grafted epoxy coatings

4. Paint Colors: The A/E shall select the paint colors from the University of Minnesota Official Color Standards for the current year. A color schedule shall be included in the

contract documents, and shall be updated and submitted with other record documents to the university at the conclusion of the project.

5. Finishes shall generally be as follows:

- 5.1. Finish for exterior wood, except wood to be stained, shall be of top quality alkyd or latex paint applied over a compatible primer.
- 5.2. Finish for exterior ferrous metals shall contain a rust inhibitor, and be applied over a compatible shop prime coat.
- 5.3. Finish for interior wall and ceiling surfaces shall be latex or enamel paint with a semi-gloss finish over primers or shop coats compatible with the substrate material.
- 5.4. Finish for door frames and other surfaces that are heavily used or are frequently cleaned shall be alkyd base semi-gloss.
- 5.5. Finish for interior wood doors, cabinetwork and trim shall be alkyd base semi-gloss. Surfaces may be stained and varnished in lieu of enameling.
- 5.6. For laboratory finishes, Refer to Appendix L - Laboratories Where Hazardous Chemicals are Present.

6. Commercial Kitchens: Refer to Appendix EE - Food Service Construction Guide for specifications regarding paints.

End of Division 9 - Finishes
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