

**BuildingName**  
**The Description of the Project**  
**P00000000 0000**

ARCHITECTURE & ENGINEERING  
326 East Hoover, Mail Stop B  
Ann Arbor, MI 48109-1002  
Phone: 734-764-3414  
Fax: 734-936-3334

**SPECIFICATION DIVISION 9**

**NUMBER            SECTION DESCRIPTION**

**DIVISION 09 FINISHES**

SECTION 096500 - RESILIENT FLOORING

**END OF CONTENTS TABLE**



**DIVISION 09 FINISHES**  
**SECTION 096500 - RESILIENT FLOORING**

**PART 1 - GENERAL**

**1.1 SUMMARY**

- A. Extent of resilient flooring and accessories is indicated on Drawings and schedules.
- B. Types of resilient flooring and accessories include the following:

***EDIT BELOW TO SUIT PROJECT.***

- 1. Vinyl composition tile.
- 2. Sheet vinyl flooring.
- 3. Rubber stair treads.
- 4. Wall base.

**1.2 SUBMITTALS**

- A. Product Data: Manufacturer's literature and installation instructions.
- B. Samples for Initial Selection: Submit sample of each type, color and pattern of resilient flooring and accessories.

***INCLUDE BELOW FOR ALL PROJECTS.***

- C. Affidavits of Compliance to be included in final inspection manual:
  - 1. Provide manufacturer's letter of certification showing compliance with finish testing and classification requirements referenced by current adopted NFPA 101 "Life Safety Code".
  - 2. Letter shall include project number, project name, and building name.

**PART 2 - PRODUCTS**

***WARNING: CHECK SAMPLES FOR SUITABILITY BEFORE SELECTING ANY OF THE PRODUCTS LISTED BELOW.***

**2.1 VINYL COMPOSITION TILE**

***BELOW DESCRIBES STANDARD VCT - ADD AMTICO, AZROCK, OR KENTILE WHERE "THRU-CHIP" PERFORMANCE (DURABILITY) IS NOT REQUIRED.***

- A. Vinyl Composition Tile: ASTM F 1066 Composition 1, Class 2; 12-inch by 12-inch by 1/8-inch thick.
  - 1. Vinyl Composition Tile Manufacturer/Style: Subject to compliance with requirements provide one of the following:

**CONSULT SAMPLES FOR COLOR/PATTERN SUITABILITY FOR THE PROJECT. SELECTION BELOW IS MINIMAL AND DOES NOT REPRESENT FULL AVAILABLE RANGE OF TILE.**

- a. "Imperial Excelon"; Armstrong, Inc.
- b. "Inspirations"; Mannington, Inc.
- c. "Expressions"; Tarkett, Inc..

**RETAIN BELOW UNLESS COLOR AND PATTERN HAS BEEN PRE-SELECTED AND INCLUDED WITH PRODUCT DESCRIPTION ABOVE.**

2. Color/Pattern: Selected from manufacturer's standard range for products indicated.

**BELOW DESCRIBES STANDARD SHEET VINYL WITH BACKING. ALL LISTED PRODUCTS BELOW ARE ACCEPTABLE TO THE UNIVERSITY'S MAINTENANCE DEPT. MULTI-LAYERED SOLID VINYL (SMARAGD AND ARMSTRONG TRANSLATIONS) AND LINOLEUM HAVE NOT BEEN APPROVED.**

## **2.2 VINYL SHEET FLOORING**

**BACKED PRODUCTS ARE GENERALLY LESS EXPENSIVE AND MAY BE MORE SUITABLE FOR APPLICATION OVER SLABS-ON-GRADE.**

- A. Vinyl Sheet with Backing: Vinyl sheet with pattern and color extending through full thickness, complying with FS L-F-475A, Type II, Grade A. Manufacturer's standard width rolls.

1. Wear Layer Thickness: 0.050-inch.
2. Overall Thickness: Not less than 0.080-inch.
3. Vinyl Sheet Manufacturer/Style: Subject to compliance with requirements, provide one of the following:
  - a. "Classic Corlon"; Armstrong, Inc.

**ABOVE IS STANDARD VINYL SUITABLE FOR CHEMICALLY WELDED SEAMING - BELOW HAS CHEMICAL RESISTANCE PERFORMANCE SIMILAR TO REGULAR MEDINTECH BUT WITH BACKING AND CAN HAVE EITHER CHEMICAL- OR HEAT-WELDED SEAMS.**

- b. "Medintech Tandem"; Armstrong, Inc.

**THE PRODUCTS BELOW MAY HAVE EITHER CHEMICAL- OR HEAT-WELDED SEAMS, BUT DO NOT HAVE MEDINTECH'S CHEMICAL RESISTANCE. CHECK SUITABILITY FOR USE ON SLABS ON GRADE. CHECK SAMPLES TO ENSURE DESIRABILITY OF COLORS/PATTERNS.**

- c. "Possibilities"; Armstrong, Inc.
- d. "Fields"; Mannington, Inc.
- e. "Images"; Tarkett, Inc.

**RETAIN BELOW UNLESS COLOR AND PATTERN HAS BEEN PRE-SELECTED AND INCLUDED WITH PRODUCT DESCRIPTION ABOVE.**

4. Color/Pattern: Selected from manufacturer's standard range for products indicated.

**BELOW DESCRIBES HOMOGENOUS SHEET VINYL WITH HEAT WELDABLE SEAMS FOR "SEAMLESS" FLOOR. THESE FLOORS ARE MORE DURABLE THAN THE BACKED TYPE. IN ADDITION, MEDINTECH HAS PROVEN RELATIVELY STAIN AND CHEMICAL RESISTANT.**

- B. Vinyl Sheet Without Backing: Vinyl sheet with pattern and color extending through full thickness, complying with ASTM E 84 (75 or less), and ASTM E 662 (NBS Smoke 450 or less). Manufacturer's standard width rolls.

1. Thickness: 0.080-inch.
2. Vinyl Sheet Manufacturer/Style: Subject to compliance with requirements, provide one of the following:
  - a. "Medintech"; Armstrong, Inc.

**BELOW IS CLAIMED BY MANUFACTURER TO BE EQUIVALENT TO MEDINTECH FOR CHEMICAL RESISTANCE. SAMPLES HAVE NOT BEEN CHECKED BY UM. SELECT WITH CAUTION.**

- b. "Biospec"; Mannington Inc.
- c. "Expressions" "Eminent/Optima/Collage Optima"; Tarkett, Inc.

**RETAIN BELOW UNLESS COLOR AND PATTERN HAS BEEN PRE-SELECTED AND INCLUDED WITH PRODUCT DESCRIPTION ABOVE.**

3. Color/Pattern: Selected from manufacturer's standard range for products indicated.

## 2.3 RUBBER STAIR TREAD

**BELOW DESCRIBES STANDARD RUBBER STAIR TREAD UNITS.**

- A. Preformed Rubber Stair Treads: Homogenous vulcanized rubber composition units complying with Fed. Spec. RR-T-650D, Composition A, Type 2; with raised, slip-resistant pattern on tread surface, reinforced nose, of manufacturer's standard thickness for indicated pattern, and as follows:

**SELECT ONE OF THE FOLLOWING.**

1. Pattern: Raised disk.
2. Pattern: Straight ribs.
3. Pattern: Diagonal grid (diamond).

**BELOW ARE EXAMPLES ONLY. CHECK SAMPLES FOR WIDER SELECTION. AVOID BLACK STAIR TREAD (LIGHTING PROBLEMS UNDER EMERGENCY FIXTURE OPERATION). IT IS ALSO BEST TO AVOID WHITE AND BLACK TREAD DUE TO CLEANING PROBLEMS.**

4. Color: Gray.
5. Color: Tan.
6. Color: Selected from manufacturer's standard range.

**DELETE BELOW IF NOT DESIRED. ADDITIONAL COST MAY NOT BE JUSTIFIED IN TYPICAL SERVICE STAIRS.**

7. Provide 1/8-inch gage coved rubber risers matching tread composition and color.
8. Manufacturers: Subject to compliance with requirements, one of the following:  
Armstrong.  
Flexco.  
Musson.  
Johnsonite.  
Nora  
RCA.

Roppe.  
VPI.

## 2.4 RESILIENT WALL BASE

**BELOW DESCRIBES 100% VULCANIZED RUBBER COVE BASE - STANDARD FOR MOST UNIVERSITY PROJECTS AND ALL MED SCHOOL PROJECTS. COLOR IS HOMOGENOUS**

- A. Rubber Base: ASTM F 1861, Type TS (rubber, vulcanized thermoset), Group I (solid, homogeneous).

**SELECT STYLE FROM OPTIONS BELOW. TYPICALLY SELECT "COVE (BASE WITH TOE)"**

1. Style: Cove (base with toe).
2. Style: Straight (flat or toeless).
3. Style: Butt to (fit-to-floor).
4. Minimum Thickness: 0.125 inch.

**SELECT HEIGHT FROM OPTIONS BELOW. 4 INCHES IS TYPICAL. OTHER OPTIONS ARE AVAILABLE.**

5. Height: 2-1/2 inches.
6. Height: 4 inches.
7. Height: 6 inches.

**BELOW ARE EXAMPLES ONLY. CHECK SAMPLES FOR WIDER SELECTION.**

8. Color: Black.
9. Color: Dark brown.
10. Color: Selected from manufacturer's standard range.
11. Furnish cove base in continuous length rolls.

**USUALLY RETAIN ABOVE AND DELETE BELOW, UNLESS COST AND DELIVERY TIME IS PARAMOUNT.**

12. Furnish cove base in standard 6-foot lengths.

**DELETE BELOW IF NOT DESIRED.**

13. Provide matching end stops and preformed corner units.
14. Manufacturers: Subject to compliance with requirements, one of the following:  
Burke Mercer.  
Flexco.  
Roppe.

**BELOW DESCRIBES THERMOPLASTIC RUBBER COVE BASE (RUBBER / VINYL BLEND). DISADVANTAGES INCLUDE DECREASED DURABILITY AND VISIBILITY OF SCRATCHES. ADVANTAGES INCLUDE MORE MRFS, SLIGHTLY LOWER COST AND WIDER COLOR SELECTION.**

**TYPICALLY CHOOSE GROUP II, GROUP I IS NOT AVAILABLE IN ALL LISTED MRFS.**

- B. Rubber Base: ASTM F 1861, Type TP (rubber, thermoplastic), Group I (solid, homogeneous) or Group II (layered).

**SELECT STYLE FROM OPTIONS BELOW. TYPICALLY SELECT "COVE (BASE WITH TOE)"**

1. Style: Cove (base with toe).

2. Style: Straight (flat or toeless).
3. Style: Butt to (fit-to-floor).
4. Minimum Thickness: 0.125 inch.

**SELECT HEIGHT FROM OPTIONS BELOW. 4 INCHES IS TYPICAL. OTHER OPTIONS ARE AVAILABLE.**

5. Height: 2-1/2 inches.
6. Height: 4 inches.
7. Height: 6 inches.

**BELOW ARE EXAMPLES ONLY. CHECK SAMPLES FOR WIDER SELECTION.**

8. Color: Black.
9. Color: Dark brown.
10. Color: Selected from manufacturer's standard range.
11. Furnish cove base in continuous length rolls.

**USUALLY RETAIN ABOVE AND DELETE BELOW, UNLESS COST AND DELIVERY TIME IS PARAMOUNT.**

12. Furnish cove base in standard 6-foot lengths.

**DELETE BELOW IF NOT DESIRED.**

13. Provide matching end stops and preformed corner units.
14. Manufacturers: Subject to compliance with requirements, one of the following:
  - Armstrong.
  - Burke Mercer.
  - Flexco.
  - Johnsonine.
  - Nafco by Tarkett.
  - Roppe.
  - VPI.

**BELOW DESCRIBES STANDARD VINYL BASE. DRAWBACKS INCLUDE REDUCED DURABILITY. COLOR IS NOT HOMOGENOUS. DISADVANTAGES INCLUDE DECREASED DURABILITY AND VISIBILITY OF SCRATCHES. ADVANTAGES INCLUDE MORE MRFS, LOWER COST AND WIDER COLOR SELECTION.**

- C. Vinyl Wall Base: ASTM F 1861, Type TV (vinyl, thermosplastic), Group II (layered).

**SELECT STYLE FROM OPTIONS BELOW. TYPICALLY SELECT "COVE (BASE WITH TOE)"**

1. Style: Cove (base with toe).
2. Style: Straight (flat or toeless).
3. Style: Butt to (fit-to-floor).
4. Minimum Thickness: 0.125 inch.

**SELECT HEIGHT FROM OPTIONS BELOW. 4 INCHES IS TYPICAL. OTHER OPTIONS ARE AVAILABLE.**

5. Height: 2-1/2 inches.
6. Height: 4 inches.
7. Height: 6 inches.

**BELOW ARE EXAMPLES ONLY. CHECK SAMPLES FOR WIDER SELECTION.**

8. Color: Black.
9. Color: Dark brown.

10. Color: Selected from manufacturer's standard range.
11. Furnish cove base in continuous length rolls.

**USUALLY RETAIN ABOVE AND DELETE BELOW, UNLESS COST AND DELIVERY TIME IS PARAMOUNT.**

12. Furnish cove base in standard 6-foot lengths.

**DELETE BELOW IF NOT DESIRED.**

13. Provide matching end stops and preformed corner units.
14. Manufacturers: Subject to compliance with requirements, one of the following:
  - Armstrong.
  - Burke Mercer.
  - Flexco.
  - Johnsonine.
  - Nafco by Tarkett.
  - Roppe.
  - VPI.

**INCLUDE BELOW FOR INTEGRAL COVE BASE ON WELDABLE SHEET VINYL FLOORS.**

- D. Integral Cove Base Accessories: Provide the following accessory items for integral sheet vinyl cove base installations.
  1. Cap Trim: Provide aluminum or stainless steel flash-cove capping trim at top edge of integral base.

**BELOW OPTIONAL - USUALLY DELETE. CORNERS COMMONLY FORMED FROM FLOORING MATERIALS.**

2. Corner Trim: Provide aluminum or stainless steel corner trim at inside and outside corners of flash-coving.

**USUALLY RETAIN BELOW FOR INTEGRAL COVERED BASE APPLICATIONS.**

3. Cove Stick: At each wall/floor intersection, provide wood or plastic cove stick materials manufactured specifically for use as back-up for flash-coving.

## **2.5 ACCESSORIES**

- A. Transition (Reducer) Strips: Provide units fabricated of solid rubber or vinyl as required to match specified topset cove base materials.
- B. Adhesives: Provide Manufacturer's recommended non-asbestos-containing adhesive for each type of flooring, wall base and substrate indicated.

**DELETE THE FOLLOWING IF NO HEAT WELDED SEAMS.**

- C. Welding Rods: Provide manufacturer's welding rods for heat-welded seam installations.
  1. Color: Selected from manufacturer's standard range to coordinate with flooring.

**BELOW AVAILABLE FROM ARMSTRONG FOR MEDINTECH PRODUCTS.**

2. Color: Selected from manufacturer's patterned, premium grade rods designed to blend with color and pattern of flooring for a near-invisible joint.

### **PART 3 - EXECUTION**

#### **3.1 EXAMINATION**

- A. In presence of Installer, inspect substrate conditions for compliance with resilient flooring manufacturer's installation recommendations. Report, in writing, deleterious conditions to Owner's Representative.

##### **USUALLY INCLUDE BELOW.**

1. Obtain Architect's written approval before beginning installation.

#### **3.2 PREPARATION**

- A. In general: Prepare substrates as required to receive new materials. Remove dirt and debris from substrate. Adhesive removal is included in Division 2 Section "Selective Demolition."
- B. Where uneven floor levels or holes occur, fill, patch, and provide underlayment as required to level surface prior to installation of finished floor material. Underlayment may be latex cement as applicable.

##### **REQUIREMENT BELOW IS INTENDED TO LIMIT CLAIMS FOR EXTRAS. INCREASE OR DECREASE AREA PERCENT BASED ON YOUR JUDGMENT, OR DELETE ENTIRELY FOR NEW CONCRETE FLOORS.**

1. Patching is required for approximately [not less than] 20 percent of the gross floor area of the Project.

##### **INCLUDE BELOW FOR LARGE AREAS OF PATCHING OR LEVELING. COORDINATE WITH "CONCRETE FLOOR UNDERLAYMENT" SECTION.**

2. Floor patching and leveling is included in Division 3 Section "Hydraulic Cement Underlayment."

- C. Clean floors and apply substrate primer (if recommended by flooring manufacturer) in accordance with flooring manufacturer's instructions.

#### **3.3 INSTALLATION, GENERAL**

- A. Comply with flooring manufacturer's recommendations for type(s) of materials, project conditions, and intended use.
- B. Place resilient flooring continuously under locations of the following:

##### **MODIFY THE FOLLOWING TO SUIT PROJECT.**

1. Movable partition systems.
2. Laboratory casework.

##### **INCLUDE BELOW FOR ALL MEDICAL SCHOOL PROJECTS.**

- C. Apply continuous bead of sealant along perimeter edge of installation and around all floor penetrations prior to installing wall base.

### 3.4 SHEET VINYL INSTALLATION

**INCLUDE BELOW FOR STANDARD SHEET VINYL PRODUCTS - CHEMICAL WELDING IS NOT IMPLY SEAMLESS FLOORING.**

- A. Chemically Welded Vinyl Sheet: Manufacturer's standard chemical joint adhesive system.

**DELETE ABOVE AND INCLUDE BELOW FOR HEAT-WELDED "SEAMLESS" FLOORING ONLY.**

- B. Vinyl Sheet with Heat Welded Seams: Manufacturer's standard seam sealing system with seam edges heated and fused with specifically compounded vinyl welding rods, resulting in a seamless installation.

### 3.5 TILE INSTALLATION

- A. Lay out tiles from center marks established with principal walls, discounting minor offsets, so tiles at opposite edges of room are of equal width. Adjust as necessary to avoid using cut widths that equal less than one-half of a tile at perimeter.

- 1. Lay tiles square with room axis, unless otherwise indicated.

**DELETE SUBPARA ABOVE OR BELOW, OR REVISE IF FLOOR GEOMETRY OR PATTERN DICTATES ANOTHER RELATIONSHIP OF TILES WITH ROOM AXIS.**

- 2. Lay tiles at a 45-degree angle with room axis, unless otherwise indicated.

- B. Match tiles for color and pattern by selecting tiles from cartons in the same sequence as manufactured and packaged, if so numbered. Cut tiles neatly around all fixtures. Discard broken, cracked, chipped, or deformed tiles.

**RETAIN ONE SUBPARA BELOW OR INSERT REQUIREMENTS TO SUIT PROJECT.**

- 1. Lay tiles with grain running in one direction.
  - 2. Lay tiles in basket-weave pattern with grain direction alternating in adjacent tiles.
  - 3. Lay tiles in pattern of colors and sizes indicated on Drawings.

**IF ANY BUILT-IN ITEMS ARE REQUIRED TO BE SET ON TOP OF TILE, INDICATE ON DRAWINGS AND REVISE PARA BELOW ACCORDINGLY.**

- C. Scribe, cut, and fit tiles to butt neatly and tightly to vertical surfaces and permanent fixtures, including built-in furniture, cabinets, pipes, outlets, edgings, door frames, thresholds, and nosings.
- D. Extend tiles into toe spaces, door reveals, closets, and similar openings.

- E. Maintain reference markers, holes, and openings that are in place or marked for future cutting by repeating on finish flooring as marked on subfloor. Use chalk or other nonpermanent, nonstaining marking device.

**DELETE PARA BELOW IF NO COVERS.**

- F. Install tiles on covers for telephone and electrical ducts, and similar items in finished floor areas. Maintain overall continuity of color and pattern with pieces of flooring installed on covers. Tightly adhere edges to perimeter of floor around covers and to covers.

**REVISE PARA BELOW IF OTHER THAN FULL-SPREAD ADHESIVE METHOD IS RECOMMENDED BY TILE MFR FOR SUBSTRATE AND TILE PRODUCTS SELECTED.**

- G. Adhere tiles to flooring substrates using a full spread of adhesive applied to substrate to comply with tile manufacturer's written instructions, including those for trowel notching, adhesive mixing, and adhesive open and working times.
  - 1. Provide completed installation without open cracks, voids, raising and puckering at joints, telegraphing of adhesive spreader marks, and other surface imperfections.

**DELETE BELOW IF ROLLING IS NOT REQUIRED FOR PRODUCTS SELECTED.**

- H. Hand roll tiles according to tile manufacturer's written instructions.

### **3.6 WALL BASE INSTALLATION**

**COORDINATE THE FOLLOWING WITH LABORATORY CASEWORK SPECIFICATIONS, CONCERNING PROVISION OF BASE ON CASEWORK.**

- A. Apply wall base in lengths as long as practicable to walls, columns, and all permanent fixtures and where indicated. Mitered outside corners not acceptable.

**RETAIN BELOW WITH CASEWORK.**

- B. Apply base to fixed cabinetry as follows:
  - 1. Base cabinet toe spaces.
  - 2. Exposed sides of base cabinets.
  - 3. Filler and closure panels extending to floor.

**DELETE ABOVE AND INCLUDE BELOW FOR SHEET VINYL FLOORS WITH INTEGRAL COVE BASE.**

- C. Form flooring material into continuous cove base at walls, columns, and permanent fixtures (including fixed casework) and where indicated. Heat weld all seams.
  - 1. Provide metal cap trim at exposed edges of base, and where base is formed into outside corners. Mitered and welded outside corners without metal trim are not acceptable.
  - 2. Apply base to fixed laboratory cabinetry as follows:
    - a. Base cabinet toe spaces.

- b. Exposed sides of base cabinets.
  - c. Filler and closure panels extending to floor.
- D. On masonry or other irregular surfaces, fill voids behind base and along top edge with manufacturer's recommended adhesive filler.

### **3.7 CLEANING**

- A. Clean floors and accessories after installation in accordance with flooring manufacturer's instructions.
  - 1. Do not polish floors.

**END OF SECTION 096500**