

Armstrong Flooring Inc.



Guide Specification Rejuvenations™ Heterogeneous Sheet Flooring (Ambigu™, StoneRun™ and TimberLine®) with Diamond10® Technology Coating

Armstrong Flooring Inc. is a global leader in the design and manufacture of flooring. Offering innovative and award-winning commercial flooring designs, Armstrong Flooring's comprehensive solutions enable delivery of exceptional interior spaces that surpass a client's expectations. All around the world, Armstrong Flooring supports different market segments. Armstrong Flooring is committed to systematically reducing our environmental footprint, while providing innovative products and services that enable our customers to create sustainable indoor environments. For more information about Armstrong Flooring Commercial Floors and detailed product technical information, please visit the website at www.armstrongflooring.com/commercial.

Resilient Flooring Specification

Please understand that you are responsible for the accuracy of all project specifications, including any Armstrong Flooring guide specifications that you use.

ARMSTRONG FLOORING INC. SHALL NOT BE LIABLE FOR ANY DAMAGES ARISING OUT OF THE USE OF ANY OF ITS GUIDE SPECIFICATIONS.

SECTION 09 65 16.23

Resilient Flooring – Vinyl Sheet Flooring

Created June 2018

PART 1 - GENERAL

1.01 SUMMARY

- A. Section Includes:
 - 1. Flooring and accessories as shown on the drawings and schedules and as indicated by the requirements of this section.
- B. Related Documents
 - 1. Drawings and General Provisions of the Contract (including General and Supplementary Conditions and Division 1 sections) apply to the work of this section.

Specifier Note: Revise paragraph below to suit project requirements. Add section numbers and titles per CSI MasterFormat™ and specifier's practice.

- C. Related Sections:
 - 1. Other Division 9 sections for floor finishes related to this section but not the work of this section
 - 2. Division 3 Concrete; not the work of this section
 - 3. Division 6 Wood and Plastics; not the work of this section

4. Division 7 Thermal and Moisture Protection; not the work of this section

1.02 REFERENCES

- A. Armstrong Flooring Technical Manuals
 1. Armstrong Flooring Guaranteed Installation Systems manual, F-5061
 2. Armstrong Flooring Maintenance Recommendations and Procedures, manual, F-8663
- B. ASTM International:
 1. ASTM E 648 Standard Test Method for Critical Radiant Flux of Floor-Covering Systems Using a Radiant Heat Energy Source
 2. ASTM E 662 Standard Test Method for Specific Optical Density of Smoke Generated by Solid Materials
 3. ASTM F 710 Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring
 4. ASTM F 1303 Standard Specification for Sheet Vinyl Floor Covering with Backing
 5. ASTM F 1482, Standard Guide to Wood Underlayment Products Available for Use Under Resilient Flooring
 6. ASTM F 1861 Standard Specification for Resilient Wall Base
 7. ASTM F 1869 Standard Test Method for Measuring Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride
 8. ASTM F 2170 Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using in situ Probes
- C. National Fire Protection Association (NFPA):
 1. NFPA 253 Standard Method of Test for Critical Radiant Flux of Floor Covering Systems Using a Radiant Heat Energy Source
 2. NFPA 258 Standard Test Method for Measuring the Smoke Generated by Solid Materials
- D. Standards Council of Canada
 1. CAN/ULC-S102.2 Standard Test Method for Surface Burning Characteristics of Flooring, Floor Covering and Miscellaneous Materials and Assemblies

1.03 SYSTEM DESCRIPTION

- A. Performance Requirements: Provide flooring which has been manufactured, fabricated and installed to performance criteria certified by manufacturer without defects, damage, or failure.
- B. Administrative Requirements
 1. Pre-installation Meeting: Conduct an on-site pre-installation meeting to verify project requirements, substrate conditions, manufacturer's installation instructions and manufacturer's warranty requirements. Comply with Division 1 Project Management and Coordination (Project Meetings) Section.
 2. Pre-installation Testing: Conduct pre-installation testing as follows: [Specify testing (i.e. moisture tests, bond test, pH test, etc)]

Specifier Note: Retain paragraph below for erected assemblies (either on-site or off-site) required for review of construction, coordination of work of several sections, testing, or observation of operation. Mock-ups, when accepted or approved, establish standards by which work will be judged. Coordinate below with Division 1 Quality Control (Mock-Up Requirements) Section

- C. Test Installations/ Mock-ups: Install at the project site a job mock-up using acceptable products and manufacturer approved installation methods, including concrete substrate testing. Obtain Owner's and Consultant's acceptance of finish color, texture and pattern, and workmanship standards.

Specifier Note: Contact an Armstrong Flooring Sales Representative for more information about test installations.

1. Mock-Up Size: [Specify mock-up size.]
2. Maintenance: Maintain mock-up during construction for workmanship comparison; remove and legally dispose of mock-up when no longer required.
3. Incorporation: Mock-up may be incorporated into the final construction with Owner's approval.

D. Sequencing and Scheduling

1. Install flooring and accessories after the other finishing operations, including painting, have been completed. Close spaces to traffic during the installation of the flooring.
2. Do not install flooring over concrete slabs until they are sufficiently dry to achieve a bond with the adhesive, in accordance with the manufacturer's recommended bond, moisture tests and pH test.

Specifier Note: Some products may be installed using an Armstrong high moisture adhesive..

1.04 SUBMITTALS

- A. Submit shop drawings, seaming plan, coving details, and manufacturer's technical data, installation and maintenance instructions (latest edition of Armstrong Flooring Guaranteed Installation Systems manual, F-5061) for flooring and accessories.
- B. Submit the manufacturer's standard samples showing the required colors for flooring, welding rods, and applicable accessories.

Specifier Note: Order product samples at Armstrong's Commercial Flooring website, www.armstrongflooring.com/commercial, create a free MyArmstrong login and password to save information about the samples and other technical documents, including installation instructions, product specification sheets, SDS and many more.

- C. Submit Safety Data Sheets (SDS) available for adhesives, weld rod, moisture mitigation systems, primers, patching/leveling compounds, floor finishes (polishes) and cleaning agents and Material Information Sheets for flooring products.
- D. If required, submit the manufacturer's certification that the flooring has been tested by an independent laboratory and complies with the required fire tests.
- E. Closeout Submittals: Submit the following:
 1. Operation and Maintenance Data: Operation and maintenance data for installed products in accordance with Division 1 Closeout Submittals (Maintenance Data and Operation Data) Section. Include methods for maintaining installed products, and precautions against cleaning materials and methods detrimental to finishes and performance.
 2. Warranty: Warranty documents specified herein

1.05 QUALITY ASSURANCE

- A. Single-Source Responsibility: provide types of flooring and accessories supplied by one manufacturer, including moisture mitigation systems, primers, leveling and patching compounds, and adhesives.

- B. Select an installer who is experienced and competent in the installation of Armstrong resilient sheet flooring [using heat-welded seams][using Armstrong Flooring S-761 Seam Adhesive method] and the use of Armstrong Flooring subfloor preparation products.
 - 1. Engage installers certified as Armstrong Commercial Flooring Certified Installers
 - 2. Confirm installer's certification by requesting their credentials
- C. Fire Performance Characteristics: Provide resilient vinyl sheet flooring with the following fire performance characteristics as determined by testing material in accordance with ASTM test methods indicated below by a certified testing laboratory or other testing agency acceptable to authorities having jurisdiction:
 - 1. ASTM E 648 Critical Radiant Flux of 0.45 watts per sq. cm. or greater, Class I
 - 2. ASTM E 662 (Smoke Generation) Maximum Specific Optical Density of 450 or less
 - 3. CAN/ULC-S102.2 – Flame Spread Rating and Smoke Developed – Results as tested

Specifier Note: With a MyArmstrong login and password, download the latest Fire and Smoke reports at www.armstrongflooring.com/commercial

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Comply with Division 1 Product Requirements Sections
- B. Comply with manufacturer's ordering instructions and lead time requirements to avoid construction delays.
- C. Deliver materials in good condition to the jobsite in the manufacturer's original unopened containers that bear the name and brand of the manufacturer, project identification, and shipping and handling instructions.
- D. Store materials in a clean, dry, enclosed space off the ground, protected from harmful weather conditions and at temperature and humidity conditions recommended by the manufacturer. Protect adhesives from freezing. Store flooring, adhesives and accessories in the spaces where they will be installed for at least 48 hours before beginning installation.

1.07 PROJECT CONDITIONS

- A. Maintain a minimum temperature in the spaces to receive the flooring and accessories of 65°F (18°C) and a maximum temperature of [100°F (38°C)][85°F (29°C)] for at least 48 hours before, during, and for not less than 48 hours after installation. Thereafter, maintain a minimum temperature of 55°F (13°C) in areas where work is completed. Protect all materials from the direct flow of heat from hot-air registers, radiators, or other heating fixtures and appliances. Refer to the Armstrong Flooring Guaranteed Installations Systems manual, F-5061 for a complete guide on project conditions.

1.08 LIMITED WARRANTY

- A. Resilient Flooring: Submit a written warranty executed by the manufacturer, agreeing to repair or replace resilient flooring that fails within the warranty period.
- B. Limited Warranty Period: 10 years
- C. The Limited Warranty shall not deprive the Owner of other rights the Owner may have under other provisions of the Contract Documents and will be in addition to and run concurrent with other warranties made by the Contractor under the requirements of the Contract Documents.

- D. For the Limited Warranty to be valid, this product is required to be installed using the appropriate Armstrong Flooring Guaranteed Installation System. Product installed not using the specific instructions from the Guaranteed Installation System will void the warranty.

Specifier Note: To deliver your client the best customer experience, register the product and installation with the Product Registration service provided at www.armstrongflooring.com/commercial.

1.09 EXTENDED SYSTEM LIMITED WARRANTY

- A. Resilient Flooring System: Submit a written warranty executed by the manufacturer, agreeing to repair or replace system (subfloor preparation products, adhesive, and floor covering) that fails within the warranty period.
- B. Limited Warranty Period: 10 years on top of the Resilient Flooring Limited Warranty
- C. [S-453 Level Strong™ cement based self-leveling compound] [S-456 Patch Strong™ flexible patching and smoothing compound] [S-454 Prime Strong™ acrylic primer for porous substrates] [S-455 Prime Strong™ acrylic primer for non-porous substrates] [S-452 Seal Strong™ two part moisture mitigation system]
- D. The installation of an Armstrong Flooring product along with the recommended Armstrong Flooring adhesive, as well as any one of the Strong System subfloor preparation products listed above, provides 10 additional years of limited warranty coverage. The Strong System limited warranty covers the installation integrity for the length of the flooring product warranty plus 10 years. In order to qualify for the Strong System Warranty, any subfloor preparation product needed for an installation must be an Armstrong Flooring product.
- E. For the System Limited Warranty to be valid, this product is required to be installed using the appropriate Armstrong Flooring Guaranteed Installation System. Product installed not using the specific instructions from the Guaranteed Installation System will void the warranty.
- F. When Armstrong Flooring Strong System subfloor preparation products are used with other manufacturers' floor coverings, adhesives, or other subfloor preparation products, Armstrong Flooring warrants our products to be free from manufacturing defects from the date of purchase through the limited warranty period of 20 years.

Specifier Note: To deliver your client the best customer experience, register the product and installation with the Product Registration service provided at www.armstrongflooring.com/commercial.

1.10 MAINTENANCE

- A. Extra Materials: Deliver extra materials to Owner. Furnish extra materials from same production run as products installed. Packaged with protective covering for storage and identified with appropriate labels.

Specifier Note: Revise paragraph below specifying size and percentage as required for project.

1. Quantity: Furnish quantity of flooring units equal to [] % of amount installed.
2. Delivery, Storage and Protection: Comply with Owner's requirements for delivery, storage and protection of extra material.

PART 2 - PRODUCTS

2.01 MANUFACTURER

A. Resilient sheet flooring, wall base, adhesives and subfloor preparation products and accessories:

1. Armstrong Flooring Inc., 2500 Columbia Avenue, Lancaster, PA 17603, www.armstrongflooring.com/commercial
2. Manufacturer must have a headquarters in the United States of America

Specifier Note: Retain article below for proprietary method specification. Add product attributes, performance characteristics, material standards and descriptions as applicable. Use of such phrases as "or equal" or "or approved equal" or similar phrases may cause ambiguity in specifications. Such phrases require verification (procedural, legal and regulatory) and assignment of responsibility for determining "or equal" products.

2.02 RESILIENT SHEET FLOORING MATERIALS

Specifier Note: For a product specification snapshot which includes product structures, packaging information and color choices, visit www.armstrongflooring.com/commercial

- A. Provide Rejuvenations™ with Diamond 10 Technology coating [Ambigu™] [StoneRun™] [TimberLine®] Heterogeneous Sheet Flooring.
1. Description: A multi-layered construction consisting of a clear vinyl wear layer and a printed, reinforced fiberglass inner layer on a solid vinyl backing. Protected by a UV-cured, high performance diamond-infused polyurethane finish, the wear surface has an overall embossed texture. Colors are insoluble in water and resistant to cleaning agents and light.
 2. Heterogeneous sheet flooring shall conform to the requirements of ASTM F1303 Standard Specification for Sheet Vinyl Floor Covering with Backing, Type I, Grade 1, with Class B backing
 3. Pattern and Color: in [%COLOR%][color selected from the range currently available from Armstrong Flooring Inc.]
 4. Width: 6 ft. 7 in. (2.0 m).
 5. Length: up to 82 lineal feet (25 meters)
 6. Thickness: 0.080 in. (2.0 mm)
 7. Wear layer thickness : 0.022 in. (0.55 mm)
 8. ASTM F 1515 Resistance to Light – Max. Avg. $\Delta E \leq 8$
 9. EN660-2 – Wear Group Classification per EN649-volume loss: Wear Group T ≤ 2.0 mm³
 10. Product shall be heat weldable
- B. Vinyl Weld Rod:
1. [Provide solid color vinyl weld rod as produced by Armstrong Flooring Inc., and intended for heat welding of seams. Color shall be compatible with field color of flooring or as selected by Architect to contrast with field color of flooring. Color selected from the range currently available from Armstrong Flooring Inc.]
- C. Seam Adhesive:
1. [Provide Armstrong Flooring S-761 Seam Adhesive at seams as recommended by the resilient flooring manufacturer.]

2.03 PRODUCT SUBSTITUTION

- A. Substitutions: No substitutions permitted because of the specific attributes listed in Section 2.02.

Specifier Note: Add article below for alternates required for the project, state work covered. Coordinate with other sections, as needed.

2.04 WALL BASE MATERIALS

- A. For integral flash cove base: Provide integral flash cove wall base by extending sheet flooring [4 in. (10.16 cm)] [6 in. (15.24 cm)] [] up the wall using adhesive, welding rod, and accessories recommended and approved by the flooring manufacturer.
- B. [For top set wall base: Provide [0.080 in. (2.0 mm)] [1/8 in. (3.2 mm)] thick, [2 1/2 in. (6.35 cm)] [4 in. (10.16 cm)] [6 in. (15.24 cm)] high Armstrong Flooring Color-Integrated Wall Base with a matte finish, conforming to ASTM F 1861, [Type TV - Vinyl, Thermoplastic] [Type TP - Rubber, Thermoplastic], Group 1 - Solid, [Style A – Straight] [Style B – Cove]]

2.05 ADHESIVES

- A. Provide Armstrong [S-599 ChoiceStrong™ Vinyl Sheet Adhesive Premium Commercial] [S-240 Epoxy Adhesive] for field areas and Armstrong [S-580 Flash Cove Adhesive at flash coving][S-725 Wall Base Adhesive at the wall base] as recommended by the flooring manufacturer.
- B. [Provide Armstrong S-543 Commercial Sheet Flooring and LVT Adhesive for field areas and Armstrong [S-580 Flash Cove Adhesive at flash coving][S-725 Wall Base Adhesive at the wall base] as recommended by the flooring manufacturer].
- C. [For Spray Adhesive installation, provide Armstrong Flooring Flip™ Spray Adhesive for field areas and Armstrong [S-580 Flash Cove Adhesive at flash coving][S-725 Wall Base Adhesive at the wall base] as recommended by the flooring manufacturer].
- D. For non-heat welded seams: [Provide Armstrong Flooring S-761 Seam Adhesive at seams as recommended by the resilient flooring manufacturer].

2.06 ACCESSORIES

- A. For patching, smoothing, and leveling monolithic subfloors (concrete, terrazzo, quarry tile, ceramic tile, and certain metals), provide Armstrong [S-184 Fast-Setting Cement-Based Patch and Underlayment] [S-194 Cement-Based Patch, Underlayment and Embossing Leveler / S-195 Underlayment Additive] [S-453 Level Strong™ cement based self-leveling compound] [S-456 Patch Strong™ flexible patching and smoothing compound].
- B. [For priming porous substrates to aid in adhesive bond strength and reducing subfloor porosity, provide S-454 Prime Strong™ acrylic primer for porous substrates. For non-porous substrates, provide S-455 Prime Strong™ acrylic primer for non-porous substrates].
- C. [For creating a moisture barrier, provide S-452 Seal Strong™ two part moisture mitigation system].
- D. For sealing joints between the top of wall base or integral cove cap and irregular wall surfaces such as masonry, provide plastic filler applied according to the manufacturer's recommendations.
- E. [Provide top edge trim caps of [plastic] [anodized aluminum] [plastic zero reducer] for integral flash cove as approved by the Architect.]

- F. [Provide a fillet support strip for integral cove base with a minimum radius of 1 in. (2.54 cm) of wood or plastic.]
- G. Provide transition/reducing strips tapered to meet abutting materials.
- H. Provide threshold of thickness and width as shown on the drawings.
- I. Provide resilient edge strips of width shown on the drawings, of equal gauge to the flooring, homogeneous vinyl or rubber composition, tapered or bullnose edge, with color to match or contrast with the flooring, or as selected by the Architect from standard colors available.
- J. Provide metal edge strips of width shown on the drawings and of required thickness to protect exposed edges of the flooring. Provide units of maximum available length to minimize the number of joints. Use butt-type metal edge strips for concealed anchorage, or overlap-type metal edge strips for exposed anchorage. Unless otherwise shown, provide strips made of extruded aluminum with a mill finish.

PART 3 - EXECUTION

3.01 MANUFACTURER'S INSTRUCTIONS

- A. Compliance: Comply with manufacturer's product data, including technical bulletins, product catalog, installation instructions, and product carton instructions for installation and maintenance procedures as needed.

3.02 EXAMINATION

- A. Site Verification of Conditions: Verify substrate conditions (which have been previously installed under other sections) are acceptable for product installation in accordance with manufacturer's instructions (i.e. moisture tests, bond test, pH test, etc.).
- B. Visually inspect flooring materials, adhesives and accessories prior to installation. Flooring material with visual defects shall not be installed and shall not be considered as a legitimate claim.
- C. Examine subfloors prior to installation to determine that surfaces are smooth and free from cracks, holes, ridges, and other defects that might prevent adhesive bond or impair durability or appearance of the flooring material.
- D. Inspect subfloors prior to installation to determine that surfaces are free from curing, sealing, parting and hardening compounds; residual adhesives; adhesive removers; and other foreign materials that might prevent adhesive bond. Visually inspect for evidence of moisture, alkaline salts, carbonation, dusting, mold, or mildew.
- E. Report conditions contrary to contract requirements that would prevent a proper installation. Do not proceed with the installation until unsatisfactory conditions have been corrected.
- F. Failure to call attention to defects or imperfections will be construed as acceptance and approval of the subfloor. Installation indicates acceptance of substrates with regard to conditions existing at the time of installation.

3.03 PREPARATION

- A. [Subfloor Preparation: Smooth concrete surfaces, removing rough areas, projections, ridges, and bumps, and filling low spots, control or construction joints, and other defects with Armstrong Flooring [S-184 Fast-Setting Cement-Based Patch and Underlayment][S-194 Cement-Based Patch, Underlayment and Embossing Leveler / S-195 Underlayment Additive] [S-453 Level Strong™ cement based self-leveling compound] [S-456 Patch Strong™ flexible

patching and smoothing compound] [S-454 Prime Strong™ acrylic primer for porous substrates] [S-455 Prime Strong™ acrylic primer for non-porous substrates] as recommended by the flooring manufacturer. Refer to Armstrong Flooring Guaranteed Installation Systems manual, F-5061 and ASTM F 710 Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring for additional information on subfloor preparation.]

- B. [Subfloor Preparation Moisture Mitigation: Smooth concrete surfaces, removing rough areas, projections, ridges, and bumps, and filling low spots, control or construction joints, mitigate moisture and other defects with Armstrong Flooring [S-184 Fast-Setting Cement-Based Patch and Underlayment][S-194 Cement-Based Patch, Underlayment and Embossing Leveler / S-195 Underlayment Additive] [S-453 Level Strong™ cement based self-leveling compound] [S-456 Patch Strong™ flexible patching and smoothing compound] [S-452 Seal Strong™ two part moisture mitigation system] [S-454 Prime Strong™ acrylic primer for porous substrates] [S-455 Prime Strong™ acrylic primer for non-porous substrates] as recommended by the flooring manufacturer. Refer to Armstrong Flooring Guaranteed Installation Systems manual, F-5061 and ASTM F 710 Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring for additional information on subfloor preparation.]
- C. Subfloor Cleaning: The surface shall be free of dust, solvents, varnish, paint, wax, oil, grease, sealers, release agents, curing compounds, residual adhesive, adhesive removers and other foreign materials that might affect the adhesion of resilient flooring to the concrete or cause a discoloration of the flooring from below. Remove residual adhesives as recommended by the flooring manufacturer. Remove curing and hardening compounds not compatible with the adhesives used, as indicated by a bond test or by the compound manufacturer's recommendations for flooring. Avoid organic solvents. Spray paints, permanent markers and other indelible ink markers must not be used to write on the back of the flooring material or used to mark the concrete slab as they could bleed through, telegraphing up to the surface and permanently staining the flooring material. If these contaminants are present on the substrate they must be mechanically removed prior to the installation of the flooring material. Refer to the Armstrong Flooring Guaranteed Installation Systems manual, F-5061 and ASTM F 710 Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring for additional information on subfloor preparation.
- D. Moisture Testing: [When using S-599 Adhesive, perform subfloor moisture testing in accordance with [ASTM F 2170, Standard Test Method for Determining Relative Humidity in Concrete Slabs Using *in-situ* Probes][ASTM F 1869, Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride] and Bond Tests as described in publication F-5061 Armstrong Flooring Guaranteed Installation Systems, manual, to determine if surfaces are dry; free of curing and hardening compounds, old adhesive, and other coatings; and ready to receive flooring. [Internal relative humidity of the concrete shall not exceed 90%.][MVER shall not exceed 5 lbs./1000 sq. ft./24 hrs.] On installations where both the Percent Relative Humidity and the Moisture Vapor Emission Rate tests are conducted, results for both tests shall comply with the allowable limits listed above. Do not proceed with flooring installation until results of moisture tests are acceptable. All test results shall be documented and retained]
- E. Moisture Testing: [When using Armstrong Flooring S-543 Adhesive), perform subfloor moisture testing in accordance with [ASTM F 2170, Standard Test Method for Determining Relative Humidity in Concrete Slabs Using *in-situ* Probes][ASTM F 1869, Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride] and Bond Tests as described in publication F-5061, Armstrong Flooring Guaranteed Installation Systems, manual, to determine if surfaces are dry; free of curing and hardening compounds, old adhesive, and other coatings; and ready to receive flooring. [Internal relative humidity of the concrete shall not exceed 90%.][MVER shall not exceed 5 lbs./1000 sq. ft./24 hrs.] On installations where both the Percent Relative Humidity and the Moisture Vapor Emission Rate tests are conducted, results for both tests shall comply with

the allowable limits listed above. Do not proceed with flooring installation until results of moisture tests are acceptable. All test results shall be documented and retained].

- F. Moisture Testing: [For Spray Adhesive Installation using Armstrong Flooring Flip™ Spray Adhesive, perform subfloor moisture testing in accordance with ASTM F 2170, "Standard Test Method for Determining Relative Humidity in Concrete Slabs Using *in-situ* Probes" and Bond Tests as described in publication F-5061, "Armstrong Flooring Guaranteed Installation System," manual to determine if surfaces are dry; free of curing and hardening compounds, old adhesive, and other coatings; and ready to receive flooring. Internal relative humidity of the concrete shall not exceed 95%. Do not proceed with flooring installation until results of moisture tests are acceptable. All test results shall be documented and retained].
- G. Concrete pH Testing: Perform pH tests on concrete floors regardless of their age or grade level. All test results shall be documented and retained.
- H. Wood subfloors: Armstrong resilient floors are recommended on suspended wood subfloors with a 1/4" underlayment (see product installation systems for exceptions) and a minimum of 18" of well-ventilated air space below. Armstrong Flooring does not recommend installing resilient flooring on wood subfloors applied directly over concrete or on sleeper-construction subfloors. Loading requirements for subfloors are normally set by various building codes on both local and national levels. Trade associations such as APA—The Engineered Wood Association provide structural guidelines for meeting various code requirements. Subfloor panels are commonly marked with span ratings showing the maximum center-to-center spacing in inches of supports over which the panels should be placed.
 - 1. Refer to the Armstrong Flooring Guaranteed Installation Systems manual, F-5061 and ASTM F 1482, Standard Guide to Wood Underlayment Products Available for Use under Resilient Flooring for additional information.
- I. Wood subfloors - Surface Cleaning: Make subfloor free from dust, dirt, grease, and all foreign materials.
 - 1. Check panels for sources of discoloration such as contamination from paint, varnish, stain overspray or spills, plumbing sealers, asphalt, heater fuel, markers or potential staining agents such as wood or bark not visible on the surface, edge sealers, logo markings, printed nail patterns and synthetic patches.
 - 2. Remove old adhesive.
 - 3. Cover adhesive, oil or wax residue with an appropriate underlayment. If the residue is tacky, place a layer of felt or polyethylene sheeting over it to prevent a cracking sound when walking on the floor.
 - 4. Remove all paint, varnish, oil and wax from all subfloors. Many buildings constructed before 1978 contain lead-based paint, which can pose a health hazard if not handled properly. State and federal regulations govern activities that disturb lead-based painted surfaces and may also require notice to building occupants. **Do not remove or sand lead-based paint without consulting a qualified lead professional for guidance on lead-based paint testing and safety precautions.** Armstrong Flooring does not recommend the use of solvents to remove paint, varnish, oil, wax or old adhesive residues because the solvents can remain in the subfloor and negatively affect the new installation. Whenever sanding, be certain the work site is well ventilated and avoid breathing dust. If high dust levels are anticipated, use appropriate National Institute for Occupational Safety and Health (NIOSH) designated dust respirator. All power sanding tools must be equipped with dust collectors. Avoid contact with skin or eyes. Wear gloves, eye protection and long-sleeve, loose fitting clothes
 - 5. For additional information on the installation and preparation of wood and board-type underlayments see the current edition of ASTM F1482, "Standard Practice for

Installation and Preparation of Panel Type Underlayments to Receive Resilient Flooring.”

6. Vacuum or broom-clean surfaces to be covered immediately before the application of flooring.

3.04 INSTALLATION OF FLOORING

- A. Install flooring in strict accordance with the latest edition of Armstrong Flooring Guaranteed Installation Systems manual, F-5061. Failure to comply may result in voiding the manufacturer's warranty listed in Section 1.08.
- B. Install flooring wall to wall before the installation of floor-set cabinets, casework, furniture, equipment, movable partitions, etc. Extend flooring into toe spaces, door recesses, closets, and similar openings as shown on the drawings.
- C. If required, install flooring on pan-type floor access covers. Maintain continuity of color and pattern within pieces of flooring installed on these covers. Adhere flooring to the subfloor around covers and to covers.
- D. Scribe, cut, and fit or flash cove to permanent fixtures, columns, walls, partitions, pipes, outlets, and built-in furniture and cabinets.
- E. Adhere flooring to the subfloor without cracks, voids, raising and puckering at the seams. Roll with a 100-pound (45.36 kilogram) roller in the field areas. Hand-roll flooring at the perimeter and the seams to assure adhesion. Refer to specific rolling instructions of the flooring manufacturer.
- F. Lay flooring to provide a minimum number of seams. Avoid cross seams, filler pieces, and strips. Match edges for color shading and pattern at the seams in compliance with the manufacturer's recommendations.
- G. Install flooring with adhesives, tools, and procedures in strict accordance with the manufacturer's written instructions. Observe the recommended adhesive trowel notching, open times, and working times.
- H. [Prepare heat-welded seams with special routing tool supplied for this purpose and heat weld with vinyl welding rod in seams.] [Prepare sealed seams with special seam adhesive supplied for this purpose.] Use methods and sequence of work in conformance with written instructions of the flooring manufacturer. Finish all seams flush and free from voids, recesses, and raised areas.
- I. [Provide integral flash cove wall base where shown on the drawings, including cove fillet support strip and top edge cap trim. Construct flash cove base in accordance with the flooring manufacturer's instructions. [Heat-weld seams][seam adhesive] as specified for those on the floor].

3.05 INSTALLATION OF ACCESSORIES

- A. Apply top set wall base to walls, columns, casework, and other permanent fixtures in areas where top-set base is required. Install base in lengths as long as practical, with inside corners fabricated from base materials that are mitered or coped. Tightly bond base to vertical substrate with continuous contact at horizontal and vertical surfaces.
- B. Fill voids with plastic filler along the top edge of the resilient wall base or integral cove cap on masonry surfaces or other similar irregular substrates.
- C. Place resilient edge strips tightly butted to flooring, and secure with adhesive recommended by the edge strip manufacturer. Install edge strips at edges of flooring that would otherwise be exposed.

- D. Apply [butt-type] [overlap] metal edge strips where shown on the drawings, [before] [after] flooring installation. Secure units to the substrate, complying with the edge strip manufacturer's recommendations.

3.06 CLEANING

Specifier Note: Provide the ongoing maintenance instructions listed in Armstrong Flooring Maintenance Recommendations and Procedures manual, F-8663. Information can also be obtained by visiting www.armstrongflooring.com/commercial .

- A. Perform initial and on-going maintenance according to the latest edition of Armstrong Flooring Maintenance Recommendations and Procedures manual, F-8663.

3.07 PROTECTION

- A. Protect installed flooring as recommended by the flooring manufacturer against damage from rolling loads, other trades, or the placement of fixtures and furnishings. (See Finishing The Job in the latest edition of Armstrong Flooring Guaranteed Installation Systems manual, F-5061.)

END OF SECTION
