

NOTE TO SPECIFIER: Be sure to obtain the latest version of this Guide Specification.

This Guide Specification is not a completed document ready for use. It must be edited (i.e., deleting, adding, or modifying text) as required to suit project requirements.

The design professional and the contracting parties of the Contract Documents are responsible for the accuracy of issued project specifications, including use of this Guide Specification.

For information on Spray-Lock products, visit <http://spraylock.com/adhesives>. To find approved distributors, go to <http://spraylock.com/distributors>

SPRAY-LOCK, INC. SHALL NOT BE LIABLE FOR DAMAGES ARISING OUT OF THE USE OF THIS GUIDE SPECIFICATION

CSI 3-PART LONG-FORM GUIDE SPECIFICATION

EDIT TO SUIT PROJECT

SECTION 09 65 80

SPRAY-APPLIED FLOOR ADHESIVE

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes spray-applied flooring adhesive.
- B. Related Requirements: Examine Contract Documents for requirements that directly affect or are affected by Work of this Section. A list of those Documents and Sections include, but is not limited to the following:

NOTE TO SPECIFIER: Coordinate and edit to the correct Section numbers below.

1. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 General Requirements, and Divisions 02 through 49 Specification Sections apply to this Section.

NOTE TO SPECIFIER: Include the following Section if concrete substrates are treated with Spray-Lock Concrete Protection for 10-year delamination warranty.

2. Section 03 05 59 Penetrating Colloidal Silica Concrete Treatments: For concrete substrates treated with penetrating colloidal silica concrete treatments.
3. Section 03 30 00, Cast-in-Place Concrete: For proper concrete design, underslab vapor barrier and finished concrete surface required to accept flooring adhesive and finish flooring system.

4. Section 03 54 16, Hydraulic Cement Underlayment: For leveling of existing concrete slabs.
5. Section 06 10 00, Rough Carpentry: For proper wood-based panel underlayment required for an acceptable finish flooring system installation.
6. Section 06 16 00, Sheathing: For proper wood-based panel underlayment required for an acceptable finish flooring system installation.
7. Section 09 65 00, Resilient Flooring.
 - a. Section 09 65 16, Resilient Sheet Flooring.
 - b. Section 09 65 16.13, Linoleum Flooring.
 - c. Section 09 65 19, Resilient Tile Flooring.
8. Section 09 68 00, Carpeting.
 - a. Section 09 68 13, Tile Carpeting.
 - b. Section 09 68 16, Sheet Carpeting.

1.2 DEFINITIONS

NOTE TO SPECIFIER: Coordinate and edit to the correct Section numbers below.

- A. Abbreviations and Acronyms: Refer to Section 01 10 00, Summary, Section 01 42 00, References, and as follows:
 1. AHJ: Authority Having Jurisdiction from local, state and federal regulatory agencies.
 2. RH: Relative humidity.
- B. Definitions: Refer to Section 01 10 00, Summary, Section 01 42 00, References, and as follows:
 1. Adhesive: A substance that unites or bonds surfaces together.
 2. Aerosol Adhesive: An adhesive packaged as an aerosol product in which the spray mechanism is permanently housed in a nonrefillable can designed for hand-held application without the need for ancillary hoses or spray equipment. Aerosol adhesives include special purpose spray adhesives, mist spray adhesives, and web spray adhesives, as defined by the California Air Resources Board consumer products regulation found in Title 17 of the California Code of Regulations, beginning at Section 94507.
 3. Aerosol Spray Can: A hand held, pressurized, non-refillable container which expels adhesives from the container in a finely divided spray when a valve on the container is depressed.
 4. HAP: Hazardous Air Pollutant.
 5. LEED: Leadership in Energy and Environmental Design, a set of USGBC rating programs applicable to construction projects.
 6. VOC: Volatile Organic Compounds are chemical compounds that have a high vapor pressure and low water solubility. They include a variety of chemicals, some of which may have short- and long-term adverse health effects when concentrated indoors.

1.3 REFERENCE STANDARDS

NOTE TO SPECIFIER: Delete reference standards below that are not required.

- A. Referenced Standards: Refer to Section 01 42 00, References, and as follows:
1. ASTM. ASTM International; www.astm.org
 - a. ASTM D907, Standard Terminology of Adhesives
 - b. ASTM D5116, Standard Guide for Small-Scale Environmental Chamber Determinations of Organic Emissions From Indoor Materials/Products
 - c. ASTM E329, Standard Specification for Agencies Engaged in Construction Inspection and/or Testing
 - d. ASTM E699, Standard Practice for Evaluation of Agencies Involved in Testing, Quality Assurance, and Evaluating of Building Components
 - e. ASTM F710, Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring
 - f. ASTM F1482, Standard Practice for Installation and Preparation of Panel Type Underlayments to Receive Resilient Flooring
 - g. ASTM F1869, Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride
 - h. ASTM F2170, Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using In Situ Probes
 2. BAAQMD: Bay Area Air Quality Management District; www.baaqmd.gov
 3. CARB: California Air Resources Board; www.arb.ca.gov
 4. CRI: Carpet and Rug Institute; www.carpet-rug.org
 5. EPA: U.S. Environmental Protection Agency; www.epa.gov
 6. GS: Green Seal; www.greenseal.org
 7. ISO/IEC: International Organization for Standardization, International Electrotechnical Commission; www.iec.ch/
 8. NFPA: National Fire Protection Association; www.nfpa.org
 - a. NFPA 704, Standard System for the Identification of the Hazards of Materials for Emergency Response
 9. RFCI: Resilient Floor Covering Institute; www.rfci.com
 10. SCS: Scientific Certification Systems; www.scs-certified.com
 11. SCAQMD: South Coast Air Quality Management District; www.aqmd.gov
 12. USGBC: United States Green Building Council; www.usgbc.org

1.4 ADMINISTRATIVE REQUIREMENTS

NOTE TO SPECIFIER: Coordinate and edit to the correct Section numbers below.

- A. Coordination: Comply with Section 01 31 00, Project Management and Coordination, and as follows:
1. Coordinate concrete slab or concrete topping finish according to Section 03 33 00, Cast-in-Place Concrete and Division 09 finish flooring requirements.

NOTE TO SPECIFIER: Specifier to closely coordinate applicable sections between concrete and other subfloor substrate finishes with floor finish covering requirements.

1.5 SUBMITTALS

NOTE TO SPECIFIER: Coordinate and edit to the correct Section numbers below.

- A. Submittals: Comply with Section 01 30 00, Submittal Procedures.
- B. Product Data: Submit manufacturer's printed descriptions of materials, components, and systems; performance criteria; use limitations; preparation instructions and recommendations; storage and handling requirements and recommendations; and installation methods.
- C. Certificates: Submit with manufacturer's signature certifying that each product and/or system meets the requirements of the performance characteristics, physical criteria, and applicable standards specified.
- D. Test and Evaluation Reports: Submit certified test results by a recognized testing laboratory according to specified test methods for each product and/or system indicating physical, chemical and performance characteristics.
- E. Sustainable Design Submittals: Submit the following USGBC LEED submittals online according to Section 01 81 13, Sustainable Design Requirements:

NOTE TO SPECIFIER: Aerosol adhesive products are exempt from requirements of SCAQMD Rule 1168 and BAAQMD Regulation 8, Rule 51.

NOTE TO SPECIFIER: Delete LEED rating system if not required.

- a. LEED v4 ([BD&C] [ID&C]) EQ Credit (1-3 points), Low-Emitting Materials: At least 90 percent, by volume, for emissions; 100 percent for VOC content.

NOTE TO SPECIFIER: If 90 percent of an assembly meets the criteria, the system counts as 100 percent compliant. If less than 50 percent of an assembly meets the criteria, the assembly counts as 0 percent compliant.

- 1). Submit General Emissions Evaluation meeting California Department of Public Health (CDPH) Standard Method v1.1–2010

NOTE TO SPECIFIER: Coordinate and edit to the correct Section numbers below.

- F. Closeout Submittals to be in accordance with Section 01 70 00, Execution and Closeout Requirements, and as follows:
 - 1. Operation and Maintenance Data: Including, but not limited to, methods for maintaining installed products and precautions against cleaning materials with methods detrimental to finishes and performance.
 - 2. Executed Warranty Documentation: Manufacturers' material warranties and installers workmanship warranty.
 - 3. Record Documents: Drawings, Specifications, Product Data.

NOTE TO SPECIFIER: Delete LEED rating system not required.

- 4. Sustainable Design Closeout Documentation: Complete and maintain online USGBC LEED worksheets for the following credits:
 - a. LEED v4 ([BD&C] [ID&C]) EQ Credit

1.6 QUALITY ASSURANCE

NOTE TO SPECIFIER: Retain Applicator qualification requirement to ensure proper substrate preparation for spray-applied floor adhesive.

- A. Qualifications:
 - 1. Applicator: Perform installation with skilled, experienced and trained workmen supervised by trained personnel who shall have minimum three years' successful experience in installations of similar size and scope.
 - 2. Testing Agency: An independent testing agency with the experience and capability to conduct the testing indicated, meeting requirements of ISO/IEC Standard 17025, or ASTM E699 and ASTM E329.
- B. Source Limitations: Obtain spray-applied adhesive through one source from a single manufacturer, or a Spray-Lock approved distributor.
- C. Sustainability Standards and Certifications:

NOTE TO SPECIFIER: Edit sustainability standards and certifications below to suit Project.

- 1. Adhesive and Sealant VOC Limits: According to Green Seal GS-36 for aerosols.
- 2. VOC Limits: As tested using U.S. EPA Reference Test Method 8260B.
- 3. General Emissions Evaluation: Use California Department of Public Health (CDPH) Standard Method v1.1–2010, using the applicable exposure scenario (mg/cu m).

NOTE TO SPECIFIER: Benchmark mockup is recommended to test substrate preparation, workmanship, and compatibility between finish floor material and adhesive.

- D. Benchmark Installations in accordance Section 01 40 00, Quality Requirements and as follows: Provide on-site mockup installations to verify final selections made under sample submittals and prototypes, to demonstrate aesthetic effects and set quality standard benchmarks for materials and execution.
 - 1. Install mockup installations for benchmarking each unit type in the Work as indicated on Drawings or directed by Architect.
 - 2. Approved mockups shall become benchmarked installations and may be incorporated into the Work where accepted without exception by the Architect.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Delivery, Storage, and Handling: Comply with manufacturer's recommendations, Section 01 60 00, Product Requirements, and as follows:
 - 1. Delivery and Acceptance Requirements:
 - a. Deliver materials to Project site in original, unopened, and undamaged packages or containers bearing manufacturer's intact label, names, brand names, types and thicknesses of contents, and proper handling, storing, unpacking, protecting, and installation instructions.
 - b. Inspect shipped materials on delivery to ensure compliance with

- requirements of Contract Documents and to ensure that products are undamaged and properly protected. Reject damaged goods and accept properly ordered, protected and undamaged goods.
2. Storage and Handling Requirements:
 - a. Store adhesive materials in a dry, temperature-controlled interior area at 65 to 80 deg F (18 to 27 deg C). Protect materials from damage from improper handling, exposure to temperature extremes, and the action of other trades.
 3. Packaging Waste Management:
 - a. Request in writing that manufacturers, fabricators, suppliers, and shippers provide least amount of packaging that adequately and properly protects, supports, and contains the items shipped, and is reusable, returnable, or recyclable.

1.8 FIELD CONDITIONS

- A. Conditions and Measurements: Visit jobsite to verify installation conditions and floor measurements.

NOTE TO SPECIFIER: Coordinate and edit to the correct Section numbers below.

- B. Ambient Conditions: Comply with manufacturer's written recommendations, Section 01 70 00, Execution and Closeout Requirements and as follows:
 1. New concrete slabs shall be flat, clean and dry, passing moisture and adhesion tests, and complying with manufacturer's written requirements.
 2. Environmental Limitations: Maintain temperature and RH according to manufacturer's recommendations.
 - a. Maintain space, substrate temperatures, and RH for time prior to, during and after installation as recommended by spray-adhesive manufacturer.
 3. Acclimate floor finish materials into spaces they will be installed a minimum 48 hours in advance of installation.
 - a. Do not install until floor finish materials are same temperature as space where they are to be installed.

1.9 WARRANTY

NOTE TO SPECIFIER: Coordinate and edit to the correct Section numbers below.

- A. Provide executed warranties according to Section 01 70 00, Execution and Closeout Requirements.
- B. Provide Spray-Lock Flooring Adhesive Manufacturer's:
 1. Material and Workmanship Warranty (Shelf life):
 - a. Aerosol flooring adhesive shall be free from defects in material and workmanship for a period of three years from date of manufacture when handled, stored and transported according to adhesive manufacturer's requirements.
 2. Delamination Warranty: Spray adhesive shall not delaminate:

NOTE TO SPECIFIER: Delamination warranty is 10 years when Spray-Lock Flooring

Adhesive is applied to concrete substrates treated with Spray-Lock Concrete Protection.

- a. Due to adhesive failure for a period of [five] [10] years from date of installation when applied to adhere approved flooring materials according to adhesive manufacturer's requirements [on concrete substrates treated with penetrating colloidal silica concrete treatments].
- b. As long as moisture vapor emissions do not exceed 95 percent RH (*for Spray-Lock Standard Adhesives*) or 98 percent RH (*for Spray-Lock Platinum Adhesives*), when tested according to ASTM F2170.
- c. For moisture in concrete slab conditions up to 8 lb (*for Spray-Lock Standard Adhesives*) or 10 lb (*for Spray-Lock Platinum Adhesives*) per 1,000 sq ft per 24 hours, when tested with a prepackaged calcium chloride crystal kit performed according to ASTM F1869.
- d. For concrete slab conditions up to a pH of 11 (*for Spray-Lock Standard Adhesives*) or 12 (*for Spray-Lock Platinum Adhesives*) when tested according to ASTM F710.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide spray adhesive products by the following:
 1. Spray-Lock, Inc., 5959 Shallowford Road, Suite 405, Chattanooga, TN 37421; 423.305.6151; 423.305.6150 (fax); www.spraylock.com

NOTE TO SPECIFIER: Coordinate and edit to the correct Section numbers below.

2. Substitution Limitations: Manufacturers of equivalent products beyond those listed above shall be considered when submitted according to Section 01 31 00, Project Management and Coordination and Section 01 60 00, Product Requirements using CSI Substitution Request Form 1.5C (During the Bidding Phase) or Form 13.1 (After the Bidding Phase).

2.2 DESCRIPTION

- A. Spray-Lock Spray Adhesive is an aerosol water-based aerosol adhesive that: acts similar to pressure sensitive adhesives; contains less than 0.02 g/mL VOC; is non-flammable; and is a non-HAP that emits no dangerous fumes or odors.
- B. Sustainability Characteristics:
 1. USGBC LEED Rating: Comply with project requirements intended to achieve the following rating, as measured and documented according to the USGBC LEED Green Building Rating and Version indicated:

NOTE TO SPECIFIER: Each LEED Version requires a different credit total to achieve the desired LEED rating, Select one of the following ratings:

- a. Rating: Certified

- b. Rating: Silver
- c. Rating: Gold
- d. Rating: Platinum

NOTE TO SPECIFIER: Select one of the following Versions:

- e. Version: LEED v4 - BD&C (*Building Design and Construction*)
- f. Version: LEED v4 - ID&C (*Interior Design and Construction*)

NOTE TO SPECIFIER: LEED v4 - O&M (*Operations and Maintenance*) is not applicable to this section.

- 2. Applicable LEED Credits: Performance requirements of the following LEED Categories and Credits apply to this Section are met as follows:

NOTE TO SPECIFIER: Delete LEED rating system not required.

- a. Indoor Environmental Quality (IEQ): LEED v4 – [BD&C] [ID&C]:
 - 1). IEQ Credit (1-3 points): Low-Emitting Materials; at least 90 percent, by volume, for emissions; 100 percent for VOC content.
 - a). General Emissions Evaluation according to CDPH Standard Method v1.1–2010.
 - b). Spray-Lock Flooring Adhesive tested VOC is 0.02 g/mL according to EPA Method 8260B.

2.3 ACCESSORIES

- A. Spray-applied adhesive application accessories as recommended by the adhesive manufacturer.
 - 1. Aerosol Container Holder/Dispenser.

PART 3 - EXECUTION

3.1 EXAMINATION

NOTE TO SPECIFIER: Coordinate and edit to the correct Section numbers below.

- A. Examination: Comply with Section 01 70 00, Execution and Closeout Requirements, and as follows:
 - 1. Acceptance of Conditions: Carefully examine installation areas with Installer/Applicator present, for compliance with requirements affecting Work performance.
 - a. Verify that field measurements, surfaces, substrates, structural support, tolerances, levelness, plumbness, temperature, humidity, moisture content level, cleanliness and other conditions comply with requirements of spray-adhesive and finish-flooring manufacturers, and ready to receive Work.
 - 1). Verify that concrete substrates meet ASTM F710 and comply with flatness recommended by the finish-flooring manufacturer.

- 2). Verify that wood and panel type underlayment substrates meet ASTM_F1482 and comply with flatness recommended by the finish-flooring manufacturer.
2. Test substrates as required by manufacturer to verify proper conditions.

NOTE TO SPECIFIER: Coordinate and edit requirements to project substrates required.

- a. Portland-Cement Concrete:
 - 1). Perform moisture testing to verify that concrete substrate is sound and dry. Both of the following tests are required:
 - a). Perform RH test using in situ probes in accordance ASTM F2170. Proceed with installation only after each substrate measures a maximum 95 percent RH (*for Spray-Lock Standard Adhesives*) or 98 percent RH (*for Spray-Lock Platinum Adhesives*).
 - b). Perform anhydrous calcium chloride testing in accordance ASTM F1869.
Proceed with installation only after substrates have maximum moisture-vapor- emission rate of 8 lb (*for Spray-Lock Standard Adhesives*) or 10 lb (*for Spray-Lock Platinum Adhesives*) of water/1000 sq ft in 24 hours.
 - 2). Perform alkalinity testing to verify pH level is 11 (*for Spray-Lock Standard Adhesives*) or 12 (*for Spray-Lock Platinum Adhesives*) or below according to ASTM F710.
 - 3). Perform bond testing according to ASTM F710 to determine compatibility of adhesive to concrete substrate.
- b. Wood Underlayment: Verify that wood underlayment is dry, clean, structurally sound, well nailed and/or glued, free of voids and with joints that do not exceed 1/16 inch (1.6mm), according to floor finish manufacturer's installation instructions.
3. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

NOTE TO SPECIFIER: Coordinate and edit to the correct Section numbers below.

- A. Preparation according to flooring manufacturer's written instructions, Section 01 70 00, Execution and Closeout Requirements and as follows:
 1. Provide and prepare substrates to ensure proper adhesion of flooring system in accordance with spray-adhesive manufacturer's instructions.

NOTE TO SPECIFIER: Delete substrates below that are not required for Project.

2. Portland-Cement Concrete Substrates: Prepare substrate according to ASTM F710, and as follows:
 - a. Verify the substrate is smooth, permanently dry and clean being free of dirt, rust, oil, wax, paint, or other contaminants that will interfere with adhesive

bonding. If substrate is not acceptable:

- 1). Mechanically abrade concrete slab with 350 to 400-rpm machine buffer using 16 grit sandpaper.
 - 2). Remove debris by sweeping, brushing or vacuuming and then damp mopping substrate.
 - 3). Inspect substrate and patch, repeat buffing and remove debris as needed.
 - 4). If substrate is contaminated with wet/re-emulsified old adhesive, contact Spray-Lock Technical Services for recommended preparation method.
3. Wood Substrates and Panel Type Underlayment shall be according to ASTM F1482 and floor-finish manufacturer's requirements.

NOTE TO SPECIFIER: Specify exterior adhesive in lieu of interior urea-formaldehyde adhesive to reduce amount of indoor air pollutants.

4. Existing Substrates: Properly prepare manufacturer acceptable substrates to accept finish flooring.
5. Sweep or vacuum, and damp mop clean flooring substrates immediately prior to spray- applied adhesive installation.

3.3 APPLICATION

NOTE TO SPECIFIER: Coordinate and edit to the correct Section numbers below.

- A. Apply spray-applied floor adhesive according to each floor-finish-assembly product manufacturer's written instructions, Section 01 70 00, Execution and Closeout Requirements and as follows:
1. Spray-Applied Adhesive Method:
 - a. Do not place finish-flooring product until adhesive applied to substrate is ready to receive it according to adhesive manufacturer's instructions.
 - b. Mark floor equivalent to manufacturer's recommended area for size of container used. Apply no more or less adhesive than what manufacturer recommends.
 - c. Outline perimeter of the room with a 4- to 5-inch (101- to 127-mm) wide band of adhesive. Apply the adhesive from 8 to 12 inches (508 to 762 mm) above the substrate.
 - d. Lay flooring finish material, adjust and reset until layout placement is certain.
 - e. Following installation of finish flooring (typically within an hour after installing) roll entire floor area with a 75- to 100-lb (34- to 45-kg) roller to ensure proper bonding with instant shear strength.
 2. Upon completion of flooring installation, finish flooring will be immediately available after rolling for all range of use.

3.4 FIELD QUALITY CONTROL

NOTE TO SPECIFIER: Coordinate and edit to the correct Section numbers below.

- A. Site Tests and Inspections: Comply with Section 01 40 00, Quality Requirements,

and as follows:

1. Inspect floor finish system installation for non-conforming work including, but not limited to, the following:
 - a. Lack of adequate adhesion
 - b. Adhesive overspray
 - 1). Clean off water-based adhesive overspray with a damp cloth.
 - c. Improper substrate preparation as indicated by:
 - 1). Telegraphing of joints, dirt, or debris through the finish flooring.
 - 2). Air blisters.
 - 3). Buckling.
 - 4). Cracks

3.5 LEANING

NOTE TO SPECIFIER: Coordinate and edit to the correct Section numbers below.

- A. Construction Waste Management: Comply with Section 01 70 00, Execution and Closeout Requirements, and as follows:
 1. Store and recycle cartons and aluminum adhesive containers.

3.6 CLOSEOUT ACTIVITIES

NOTE TO SPECIFIER: Coordinate and edit to the correct Section numbers below.

- A. Perform closeout procedures according to Section 01 70 00, Execution and Closeout Requirements and as follows:
 1. Substantial completion requirements according to Section 1 70 00.
 2. Perform required Demonstration and Training with Owner's designated staff according to Section 1 70 00.
 3. Sustainable design closeout documentation according to Section 1 70 00.
- B. Correct non-conforming Work according to General Conditions, and to the acceptance of the Architect.

END OF SECTION