

SECTION 09 00 52

SPRAY APPLIED WALL TILE ADHESIVE

CSI 3-PART **LONG-FORM** GUIDE SPECIFICATION
USE FOR CONTRACT DOCUMENT (CD) SPECIFICATION ISSUES
EDIT TO SUIT PROJECT

PART 1 - GENERAL

1.1 SUMMARY

- A. Work of this Section consists of spray applied wall tile adhesive, and includes but is not limited to the following:
1. Spray-Lock® WTA
 2. Substrate preparation
 3. Substrate testing
- B. Related Documents and Sections: 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:
1. Drawings and general provisions of the Contract, including General and Supplementary Conditions and DIVISION 01 General Requirements, and DIVISION 02 through 49 Specification Sections, apply to this Section.
 2. SECTION 09 21 13, PLASTER ASSEMBLIES
 3. SECTION 09 21 00, PLASTER AND GYPSUM BOARD ASSEMBLIES
 - a. SECTION 09 21 16, GYPSUM BOARD ASSEMBLIES
 - b. SECTION 09 26 13, GYPSUM VENEER PLASTERING
 4. SECTION 09 28 00, BACKING BOARDS AND UNDERLAYMENTS
 - a. SECTION 09 28 16, GLASS-MAT FACED GYPSUM BACKING BOARDS
 - b. SECTION 09 28 19, FIBERED GYPSUM BACKING BOARDS
 5. SECTION 09 30 00, TILING
 - a. SECTION 09 30 13, CERAMIC TILING
 - b. SECTION 09 30 23, GLASS MOSAIC TILING
 - c. SECTION 09 30 26, PLASTIC TILING
 - d. SECTION 09 30 29, METAL TILING
 - e. SECTION 09 30 33, STONE TILING
 6. SECTION 09 31 00, THIN-SET TILING
 - a. SECTION 09 31 13, THIN-SET CERAMIC TILING
 - b. SECTION 09 31 23, THIN-SET GLASS MOSAIC TILING
 - c. SECTION 09 31 26, THIN-SET PLASTIC TILING
 - d. SECTION 09 31 29, THIN-SET METAL TILING
 - e. SECTION 09 31 33, THIN-SET STONE TILING

1.2 REFERENCES

NOTE: Coordinate and edit to the correct Section number below. The numbers shown indicate relevant broad-scope, medium-scope and narrow-scope numbers of the CSI MasterFormat® system.

- A. Abbreviations and Acronyms in accordance with SECTION 01 10 00 [**01 11 00**], SECTION 01 40 00, and as follows:
1. AHJ. Authority Having Jurisdiction from local, state and federal regulatory agencies.
 2. RH. Relative humidity.
- B. Definitions in accordance with SECTION 01 10 00 [**01 11 00**], SECTION 01 40 00, and as follows:
1. Adhesive: A substance that unites or bonds surfaces together.
 2. Aerosol Adhesive: Any 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 CARB (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. Gypsum Wallboard or Gypsum Board. Also known as Drywall or Sheetrock™ or GWB, it is made from calcium sulfate dihydrate (gypsum) pressed into sheets with facings of paper or a fiberglass mat with and without an embedded fiberglass mesh.
 5. [HAP](#). Hazardous Air Pollutant
 6. [LEED®](#). Leadership in Energy and Environmental Design, a set of USGBC rating programs applicable to construction projects.
 7. 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.
- C. Referenced Standards in accordance with SECTION 01 40 00 and as follows:
1. ACI. American Concrete Institute; www.concrete.org
 2. ANSI. American National Standards Institute; www.ansi.org
 - a. ANSI A108 / A118 / A136, Material and Installation Standards
 - b. ANSI A118.9, Test Methods and Specifications for Cementitious Backer Units
 - c. ANSI A137.1, Standard for Mosaic, Quarry, Pressed Floor, Glazed Wall, Porcelain, and Specialty Tiles Including Trim Shapes
 3. [ASTM](#). ASTM International; www.astm.org
 - a. ASTM C1288, Standard Specification for Discrete Non-Asbestos Fiber-Cement Interior Substrate Sheets
 - b. ASTM D907, Standard Terminology of Adhesives
 - c. ASTM D1144, Standard Practice for Determining Strength Development of Adhesive Bonds
 - d. ASTM D1151, Standard Practice for Effect of Moisture and Temperature on Adhesive Bonds
 - e. ASTM D3167, Standard Test Method for Floating Roller Peel Resistance of Adhesives
 - f. ASTM D3983, Standard Test Method for Measuring Strength and Shear Modulus of Nonrigid Adhesives by the Thick-Adherend Tensile-Lap Specimen
 - g. ASTM D5116, Standard Guide for Small-Scale Environmental Chamber Determinations of Organic Emissions From Indoor Materials/Products
 - h. ASTM E329, Standard Specification for Agencies Engaged in Construction Inspection and/or Testing

- i. ASTM E699, Standard Practice for Evaluation of Agencies Involved in Testing, Quality Assurance, and Evaluating of Building Components
4. CARB. California Air Resources Board; www.arb.ca.gov
5. EPA. U.S. Environmental Protection Agency; www.epa.gov
6. FDA. US Food and Drug Agency; www.fda.gov
7. GS. Green Seal; www.greenseal.org
8. ICC. International Code Council; www.iccsafe.org
9. ISO/IEC. International Organization for Standardization, International Electrotechnical Commission; www.iec.ch/
10. NFPA. National Fire Protection Association; www.nfpa.org
11. TCNA. The Tile Council of North America; www.tileusa.com
 - a. 2009 [TCA Handbook](#) for Ceramic Tile Installation
12. UL. Underwriters Laboratories Inc.; www.ul.org
13. USGBC. United States Green Building Council; www.usgbc.org

1.3 SUBMITTALS

NOTE: Coordinate and edit to the correct Section number below.

- A. Submittals to be in accordance with SECTION 01 30 00 [**01 33 00**] and SECTION 01 40 00.
- 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 in accordance with specified test methods for each product and/or system indicating physical, chemical and performance characteristics.

NOTE: Edit LEED Requirements below to suit project.

- E. Sustainable Design Submittals: Submit the following USGBC [LEED](#)® submittals in accordance with the requirements of SECTION 01 81 13, LEED REQUIREMENTS:
 1. LEED Credit IEQ, Indoor Environmental Quality. Complete online LEED forms and other required materials as follows:
 - a. **LEED 2009** IEQ 4.1 (1 point): Low Emitting Materials, **Adhesives** & Sealants, VOC Data

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

- 1). Submit manufacturers' product data for construction **adhesives** and sealants, including printed statement of VOC content and MSDS Sheets.

NOTE: **LEED v4** (below) may be used projects after November 20, 2013 or **LEED 2009** (above) may be used on projects until October 31, 2016.

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

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

- 1). Submit General Emissions Evaluation meeting California Department of Public

Health (CDPH) Standard Method v1.1–2010

NOTE: Coordinate and edit to the correct Section number below.

- F. Closeout Submittals to be in accordance with SECTION 01 70 00 [**01 77 00**] 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: Edit LEED requirements below to suit project.

4. Sustainable Design Closeout Documentation: Complete and maintain online USGBC LEED® worksheets for the following credits:
 - a. LEED 2009 credit IEQ 4.1
 - b. LEED v4 (BD&C [**ID&C**]) EQ Credit

1.4 QUALITY ASSURANCE

- A. Qualifications:
1. Installer / Applicator: Perform installation with skilled, experienced and trained workmen supervised by trained personnel who shall have a minimum three (3) years successful experience in installations of similar size and scope.

NOTE: Installer / Applicator qualification requirement recommended for proper substrate preparation for wall tile material to be adhered.

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 Spray-Lock® approved distributor.

NOTE: To find an approved distributor, go to: <http://spraylock.com/distributors>

- C. Sustainability Standards and Certifications:

NOTE: 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/m³).

NOTE: Benchmark mockup requirement recommended to test substrate preparation, workmanship, and compatibility between finish wall tile material and adhesive.

- D. Benchmark Installations in accordance with SECTION 01 40 00, 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 by the Drawings or directed by the Architect.
 2. Approved mockups will become benchmarked installations and may be incorporated into the Work where accepted without exception by the Architect.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Delivery, Storage and Handling in accordance with manufacturer's recommendations, SECTION 01 60 00, and as follows:
1. Delivery and Acceptance Requirements
 - a. Deliver materials to Project site in an undamaged condition, 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, as warranted.
 - 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 68-80 deg F (20-27 deg C). Avoid exposure to temperature extremes. 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.

1.6 FIELD CONDITIONS

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

NOTE: Coordinate and edit to the correct Section number below.

- B. Ambient Conditions in accordance with manufacturer's written recommendations, SECTION 01 70 00 [**01 71 00**] [**01 71 16**] and as follows:
1. Walls shall be flat, clean and dry meeting all moisture and adhesion tests, passing manufacturer's written requirements.
 2. Environmental Limitations: Maintain temperature and RH in accordance manufacturer's recommendations.
 - a. Maintain space, substrate temperatures, and RH for time prior to, during and after installation as recommended.
 3. Acclimate wall finish materials into spaces they will be installed a minimum 48 hours in advance of installation.
 - a. Do not install until all wall finish materials are same temperature as space where they are to be installed.

1.7 WARRANTY

- A. Provide executed warranties in accordance with SECTION 01 70 00 [**01 78 00**] [**01 78 36**].
- B. Provide Spray-Lock® WTA Manufacturer's Material and Workmanship Warranty:
1. Aerosol (22oz) Wall Tile Adhesive to be free from defects in material and workmanship for a period of three (3) years from date of manufacture when handled, stored, and transported in accordance with adhesive manufacturer's requirements.

PART 2 - PRODUCTS

2.1 MANUFACTURERS / FABRICATORS

- A. Manufacturers List: Subject to compliance with requirements, provide spray adhesive products by one of the following:
1. Spray-Lock® WTA by Spray-Lock, Inc., 5959 Shallowford Road, Suite 405, Chattanooga, TN 37421; 423-305-6151; 423-305-6150 (fax); www.spraylock.com

NOTE: 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 in accordance with SECTION 01 30 00 [01 33 00] and SECTION 01 60 00, using CSI Substitution Request Form 1.5C (During the Bidding/Negotiating Stage) or Form 13.1 (After the Bidding/Negotiating Stage).
- B. Product Options: For information on Spray-Lock® products visit: <http://spraylock.com/adhesives>
1. Spray-Lock® WTA for adhering wall tiles
 - a. For adhering stone, granite, marble, porcelain, ceramic tile, and glass tile to walls
 2. Spray-Lock® FRP for adhering FRP wall panels
 - a. For adhering to plywood, drywall, water-resistant drywall, concrete backer board, and metal

NOTE: Tiles must be structurally sound with a non-grooved backing.

2.2 DESCRIPTION

- A. Spray-Lock WTA 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: 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: Select one of the following Versions:

- e. Version: LEED 2009-NC (New Construction)
- f. Version: LEED 2009-EB (Existing Building)
- g. Version: LEED 2009-CI (Commercial Interiors)
- h. Version: LEED 2009 for Schools
- i. Version: LEED 2009 for Retail (Commercial Interiors)
- j. Version: LEED 2009 for Healthcare

NOTE: LEED v4 may be used projects after November 20, 2013 or LEED 2009 may be used on projects until October 31, 2016.
Select BD&C or ID&C, deleting the one not used.

- a. Version: LEED v4 - BD&C (Building Design and Construction)

- b. Version: LEED v4 - ID&C (Interior Design and Construction)
- 2. Applicable LEED Credits: Performance requirements of the following LEED Categories and Credits apply to this Section and are met as follows:
 - a. Indoor Environmental Quality (IEQ):
 - 1). LEED 2009 IEQ Credit 4.1, Low-Emitting Materials: **Adhesives** and Sealants: as applied to Spray-Lock adhesives.
 - a). Green Seal GS-36 requires a VOC limit of 70 g/L for Aerosol Adhesives, 65 g/L for Mist Spray Adhesives and 55 g/L for Web Spray Adhesives.
 - b). Spray-Lock® WTA tested VOC is **0.02 g/ml** using EPA Method 8260B.

NOTE. Select either a. LEED 2009 or b. LEED v4, deleting the one not used.

- b. Indoor Environmental Quality (EQ): LEED v4 - BD&C [**ID&C**]
 - 1). LEED v4 EQ Credit (1-3 points): Low-Emitting Materials; at least 90%, by volume, for emissions; 100% for VOC content
 - a). General Emissions Evaluation in accordance with CDPH Standard Method v1.1–2010.
 - b). Spray-Lock® WTA tested VOC is **0.02 g/ml** in accordance with EPA Method 8260B.

2.3 ACCESSORIES

- A. Spray-Applied Adhesive to be in accordance with referenced ASTM Standards and each application accessory as recommended by the adhesive manufacturer.
 - 1. Aerosol Container Holder/Dispenser

PART 3 - EXECUTION

3.1 EXAMINATION

NOTE: Coordinate and edit to the correct Section number below.

- A. Examination in accordance with SECTION 01 70 00 [**01 71 00**] [**01 71 16**] 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 are as required by the manufacturer, and ready to receive Work.
 - 2. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION - WALLS

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

- A. Preparation in accordance with adhesive and wall tile manufacturer's written instructions, ANSI A108 / A118 / A136, the 2009 TCA Handbook, SECTION 01 70 00 [**01 71 00**] [**01 71 23**] and as follows:
 - 1. Prepare finished substrates to ensure proper adhesion of wall tile material.
 - a. Ensure substrate, wall tile product and surrounding areas are clean and dust free.
 - 1). Damp-wipe substrate if dust is present.

NOTE: Edit item below based on wall tile manufacturer's recommendations, coordinating vapor barrier type, location and installation with engineered design of exterior wall system.

RED NOTE: Do not use this system in wet areas or areas consistently exposed to RH over 75 percent.

- b. Apply a contiguous edge-sealed vapor barrier to exterior wall system, as recommended by wall tile manufacturer.
- c. Protect adjacent surfaces from overspray using spray-shields, drop cloths, paper or other non-staining masking materials.
- d. Wall substrates shall be thoroughly dry before starting installation.

NOTE: Select correct substrate(s), edit to suit project, and delete items that do not suit project.

- B. Acceptable Substrate Types: Dry, clean, structurally sound, well nailed, screwed and/or glued, free of voids and with joints that do not exceed 1/16 inch (1.6 mm), and additionally prepared as follows:
1. Gypsum Wallboard (GWB): Tape and finish joints, priming exposed joint compound with latex based primer.
 2. Fiber Cement Backer Board: Only non-dusting types manufactured in accordance with ANSI A118.9 and ASTM C1288, Grade I or II, using the Hatschek process and cured by high-pressure steam autoclaving.
 3. Wood or Plywood
 4. Metal: Securely fastened with concealed or flush fasteners and/or glued.

3.3 INSTALLATION / APPLICATION - WALLS

NOTE: Coordinate and edit to the correct Section number below.

- A. Installation in accordance with manufacturer's written instructions, ANSI A108 / A118 / A136, the 2009 TCA Handbook, SECTION 01 70 00 [**01 73 00**] [**01 73 16**] and as follows:
1. Spray-Applied Adhesive Method:
 - a. Layout and mark wall substrates equivalent to manufacturer's recommended area for size of aerosol can container used. Apply no more or less adhesive than what manufacturer recommends.
 - 1). Hold aerosol can upright, approximately 18 to 24 inches (45 to 60 cm) horizontally from the substrate, aim and pull trigger.
 - 2). Move aerosol can back and forth spraying smoothly and evenly. Coverage per aerosol can container is 40-50 sf (3.7 - 4.6 m²) and as follows:
 - a). 40 sf (3.7 m²) for 4x4 Ceramic/Porcelain Wall Tile
 - b). 40 sf (3.7 m²) for 6x6 Ceramic/Porcelain Wall Tile
 - c). 40 sf (3.7 m²) for 6x6 Smooth Backed Stone
 - d). 40 sf (3.7 m²) for 4x4 Textured Backed Stone
 - e). 45 sf (4.2 m²) for 4x4 Smooth Backed Stone
 - 3). Remove adhesive build up on the aerosol can nozzle.
 - 4). Remove overspray with a damp cloth while adhesive is still wet.
 - b. Do not place wall tile product until adhesive is ready to receive it in accordance with adhesive manufacturer's instructions.
 - 1). Dry Time: Adhesive is typically dry to the touch when there is no adhesive transfer when lightly touched.
 - 2). Open Time After Application: 1 hour
 - c. Place wall tile, adjust and reset until layout placement is certain.

NOTE: To make it easier to keep your tiles straight and square find your center point and chalk your lines before spraying.

Spray-Lock adhered tiles won't sag, so one does not need to start at the bottom as with mastics.

- d. Apply firm pressure to wall tile to ensure proper bonding with instant shear strength. Wall tile may be grouted within one hour after applying the tile.

3.4 FIELD QUALITY CONTROL

NOTE: Coordinate and edit to the correct Section number below.

- A. Site Tests and Inspections: In accordance with ANSI A108 / A118 / A136, the 2009 TCA Handbook, SECTION 01 40 00 [**01 45 00**] [**01 45 23**] and as follows:
 1. Inspect wall tile 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). Buckling
 - 2). Cracks

3.5 CLEANING

NOTE: Coordinate and edit to the correct Section number below.

- A. Waste Management in accordance with SECTION 01 70 00 [**01 74 00**] [**01 74 19**] and as follows:
 1. Store and recycle cartons and empty aluminum aerosol cans.

3.6 CLOSEOUT ACTIVITIES

NOTE: Coordinate and edit to the correct Section number below.

- A. Substantial Completion Requirements in accordance with SECTION 01 70 00 [**01 77 00**] and as follows:
 1. Perform Closeout Procedures in accordance with SECTION 01 70 00 [**01 77 00**].
 2. Perform Demonstration and Training with Owner's designated staff in accordance with SECTION 01 70 00 [**01 79 00**].
 3. Sustainable Design Closeout Documentation in accordance with SECTION 01 70 00 [**01 78 00**] [**01 78 53**]: Online LEED credit worksheets.
- B. Correct Non-Conforming Work in accordance General Conditions, and to the acceptance of the Architect.

END OF SECTION

RED NOTE: 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, deleting, adding, or modifying text, as required to suit project requirements.

The professional stamping and the contracting parties of the Contract Documents are responsible for the accuracy of issued project specifications, including any use of this SPRAY-LOCK Guide Specification.

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