

**SECTION 09 64 12****SOUND AND MOISTURE CONTROL SYSTEM FOR WOOD FLOORING**

\*\*\*\*\* This product guide specification section can be used to specify Titebond 571 Urethane Sound and Moisture Control System, a one-part, trowel applied, urethane coating applied to concrete subfloors scheduled to receive wood flooring. Titebond 571 is designed to reduce sound transmission and moisture vapor transmission through subfloor. Titebond 571 is self-leveling, mold and mildew resistant, and has low odor. Titebond 571 should not be used as an adhesive for installing wood flooring.

Titebond 571 can be specified as a stand-alone specification section (SECTION 09 64 12 - SOUND AND MOISTURE CONTROL SYSTEM FOR WOOD FLOORING) covering preparation of the concrete slab to receive wood flooring specified in another section (SECTION 09 64 00 - WOOD FLOORING). As an alternative, this guide can be inserted into a single comprehensive section (SECTION 09 64 00 - WOOD FLOORING) covering substrate preparation, wood flooring materials and accessories, and installation of all components. In this case, the various paragraphs of this guide section will need to be inserted into the appropriate locations in either Part 1, 2, and 3 of that section. This guide can also be combined with other guides to develop SECTION 09 64 10 - INSTALLATION MATERIALS AND ACCESSORIES FOR WOOD FLOORING.

This guide specification has been written for a wood flooring application. Titebond 571 can be used as a sound and moisture control for cork, vinyl composition tile, sheet vinyl, linoleum, ceramic tile, and other sheet and tile flooring applications. Contact Franklin International for specific requirements and instructions for using Titebond 571 with other flooring materials. This guide can easily be modified for applications other than wood flooring.

The specification section is organized by placing information in three standard parts:

**PART 1 - GENERAL** - Describes administrative and procedural requirements.

**PART 2 - PRODUCTS** - Describes materials, products, and accessories to be incorporated into the construction project.

**PART 3 - EXECUTION** - Describes how the products will be installed at the construction site.

Throughout this product guide specification, references are made to other specification sections that might be contained in the project manual. These references are presented as examples and coordination reminders. For each project, these references will need to be revised to reflect actual sections being used.

Within the specification text, Imperial dimensions are presented first in brackets followed by System International Metric (SI) equivalents also in brackets. Depending on project

requirements, either the Imperial or the SI metric equivalents will need to be deleted.

The specifier will need to edit this product specification for a specific project to reflect the options and applications being used. The guide section has been written so that most editing can be accomplished by deleting unnecessary requirements and options. Depending on project requirements, some additional information will need to be added by the specifier. Options are indicated by [ ]. Notes to assist the specifier in selecting options and editing the specification guide are printed in bold and indicated with \*\*\*\*\*. For final editing, all brackets and notes will need to be deleted from the guide.

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## **PART 1 - GENERAL**

### **1.1 SUMMARY**

A. Section includes: Self-leveling, mold and mildew resistant, urethane coating trowel applied to concrete and wood subfloors scheduled to receive wood flooring and to reduce sound transmission through subfloor and to reduce moisture vapor transmission from subfloor.

B. Related sections:

**\*\*\*\*\* List other specification sections dealing with work directly related to this section such as the following. \*\*\*\*\***

1. Section 03 30 00 - Cast-in-Place Concrete: Concrete slab to receive sound and moisture control system and wood flooring.
2. Section 03 31 16 - Lightweight Structural Concrete: Lightweight concrete slab to receive sound and moisture control system and wood flooring.
3. Section 03 54 14 - Gypsum Concrete Underlayment: Gypsum concrete leveler and underlayment to receive sound and moisture control system and wood flooring.
4. Section 06 10 00 - Rough Carpentry: Wood subfloor to receive sound and moisture control system and wood flooring.

**\*\*\*\*\* Titebond 571 can be used with various types of wood flooring and installation methods. Edit the following paragraph to reflect project conditions. \*\*\*\*\***

5. Section 09 64 00 - Wood Flooring: [[Solid] [Engineered]] [[hardwood] [bamboo]] [[strip] [parquet] [\_\_\_\_\_]] flooring installed [with adhesive] [with mechanical fasteners over wood nailing base] [\_\_\_\_\_].

## 1.2 REFERENCES

**\*\*\*\* List by number and full title reference standards referred to in remainder of specification section. \*\*\*\*\***

- A. ASTM E90 - Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements.
- B. ASTM E492 - Standard Test Method for Laboratory Measurement of Impact Sound Transmission Through Floor-Ceiling Assemblies.
- C. ASTM F1869 - Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride.
- D. California Department of Health Services: South Coast Air Quality Management District (SCAQMD) Rule No. 1168.

## 1.3 PERFORMANCE REQUIREMENTS

- A. Sound and moisture control system shall have been sound tested as part of a total floor/ceiling assembly by an independent laboratory to demonstrate sound barrier performance characteristics.
- B. Tested assembly:
  - 1. [6 inches] [152 mm] thick concrete slab.
  - 2. [5/8 inch] [16 mm] thick suspended gypsum board ceiling below concrete slab,
  - 3. [9/16 inch] [14 mm] thick engineered wood flooring adhesive applied to coated concrete substrate.
- C. Minimum performance characteristic of tested assembly:
  - 1. Impact insulation class (IIC): 69 tested in accordance with ASTM E492.
  - 2. Sound transmission class (STC): 66 tested in accordance with ASTM E90.

## 1.4 SUBMITTALS

- A. Provide in accordance with Section 01 33 00 - Submittal Procedures:
  - 1. Product data for sound and moisture control system including material safety data sheets (MSDS).
  - 2. Documentation that sound and moisture control system meets performance

requirements specified in Paragraph [1.3.C] [\_\_\_\_\_].

3. Manufacturer's installation instructions.
4. Copy of warranty required by Paragraph [1.6] [\_\_\_\_\_] for review by Architect.

**\*\*\*\*\* Titebond 571 meets the volatile organic compound (VOC) limits of the California South Coast Air Quality Management District (SCAQMD) Rule No. 1168. Therefore Titebond 531 is eligible for Indoor Environmental Quality (EQ) EQc 4.1 for project certification by the U.S. Green Building Council (USGBC) Leadership in Energy and Environmental Design (LEED) NC Green Building Rating System for New Construction and Major Renovations. Include the following paragraph if project is registered with the USGBC for obtaining LEED certification. \*\*\*\*\***

- B. LEED Submittals: Provide overall cost of materials on worksheet furnished for LEED documentation. Provide separate cost breakout for materials that contribute to materials and resources credits.
  1. Credit EQc4.1 - Low-Emitting Materials: Provide documentation that sound and moisture control coating has VOC content less than current VOC content limits of California's South Coast Air Quality Management District (SCAQMD) Rule No. 1168.

## **1.5 PRODUCT HANDLING**

- A. Packaging: Containers shall be clearly labeled as to contents, manufacturer's name, and date of manufacture. Installation instructions shall be printed on containers.
- B. Store materials in clean, dry area at temperatures above [60 degrees F] [16 degrees C].
- C. Shelf life: Do not use moisture control system components beyond 12 months from manufacturing date.

## **1.6 ENVIRONMENTAL REQUIREMENTS**

- A. Do not install moisture control system when temperature is below [65 degrees F] [18 degrees F] or when temperature exceeds [100 degrees F] [38 degrees C].
- B. Do not install moisture control system on below-grade floor slabs or in areas subject to hydrostatic water pressure.

## **1.7 WARRANTY**

- A. Provide in accordance with Section 01 78 00 - Closeout Submittals: Manufacturer's 1 year materials and workmanship warranty.

**PART 2 - PRODUCTS****2.1 ACCEPTABLE MANUFACTURERS**

- A. Franklin International, 2020 Bruck Street, Columbus, Ohio 43207; 800-347-4583; www.titebond.com.
- B. Request to use equivalent products of other manufacturers shall be submitted in accordance with Section 01 25 13 - Product Substitution Procedures.

**2.2 SOUND AND MOISTURE CONTROL SYSTEM**

- A. Type: Self-leveling, mold and mildew resistant, urethane coating trowel-applied to concrete subfloors scheduled to reduce sound transmission through subfloor and to reduce moisture vapor transmission from subfloor; Titebond 571 Urethane Sound and Moisture Control System as manufactured by Franklin International.
- B. Minimum physical properties:
  - 1. Weight: [11.38 pounds per gallon] [1.36 kilograms per liter].
  - 2. Viscosity: 20,000 cps (centipoise).
  - 3. Calculated VOC content: 34 grams per liter.
  - 4. Solids content: 97 percent.
  - 5. Color: Red.
  - 6. Flash point: [200 degrees F] [93 degrees C] minimum.
  - 7. Storage life in closed container: 1 year.
  - 8. Mold and mildew resistant.
  - 9. Not affected by freezing.

**PART 3 - EXECUTION****3.1 PREPARATION**

**\*\*\*\*\* Titebond 571 should not be applied in areas subject to hydrostatic water pressure or to below-grade floor slabs. \*\*\*\*\***

- A. Prepare substrate and apply sound and moisture control system in accordance with manufacturer's instructions. Do not apply system to areas subject to hydrostatic water pressure or to below-grade floor slabs.

**\*\*\*\*\* Titebond 571 must be used with Titebond 811, Titebond 821 Premium, or Titebond 741 Ultimate Wood Flooring Adhesives in order to meet warranty requirements. \*\*\*\*\***

- B. Coordinate provision of sound and moisture control system with installation of wood flooring specified in Section 09 64 00 - Wood Flooring. Verify that wood flooring adhesive is compatible with sound and moisture control system and meets warranty requirements.

**\*\*\*\*\* Edit and include the following two paragraphs if Titebond 571 is being applied to a concrete substrate. \*\*\*\*\***

- C. Coordinate application of sound and moisture control system with construction of concrete substrates specified in [Section 03 30 00 - Cast-in-Place Concrete] [Section 03 31 16 - Lightweight Structural Concrete] [Section 03 54 14 - Gypsum Concrete Underlayment] [\_\_\_\_\_].
- D. Inspection and correction: Prior to installation, inspect concrete substrates to determine existence of moisture and other deficiencies which might adversely affect installation of sound and moisture control coating. Ensure:
1. Concrete is completely cured 30 days minimum. Verify moisture content does not exceed [12 pounds per 1,000 square feet] [5.86 kilograms per 100 square meters] in 24 hours when tested in accordance with ASTM F1869 using calcium chloride test.
  2. Concrete curing agents or sealers have not been applied.
  3. Concrete slab has neutral alkalinity.
  4. Concrete surfaces are clean, dry, and free of dirt, oil, grease, paint, and other contaminants which inhibit bond. Remove such contaminants by scouring with No. 20 grit or No. 3-1/2 paper.

5. Concrete is structurally sound without major cracks, settlement, and deterioration of concrete. Remove and replace unsound or deteriorating areas. Fill cracks, joints, holes, and other defects with Portland cement based floor filler with high compressive strength. Apply, trowel, and float filler to leave smooth, flat, hard surface. Prohibit traffic until cured.
6. Concrete surfaces are smooth, flat, and free from irregularities. Maximum variation in any direction shall be [3/16 inch in 10 feet] [5 mm in 3 m]. If necessary, grind concrete floors to achieve acceptable surface.

**\*\*\*\*\* Edit and include the following two paragraphs if Titebond 571 is being applied to a plywood or oriented strand board (OSB) substrate. \*\*\*\*\***

- E. Coordinate installation of wood flooring with construction of wood subfloor specified in Section 06 10 00 - Rough Carpentry.
- F. Inspection and correction: Prior to installation, inspect [plywood] [oriented strand board (OSB)] substrates. Verify wood substrates are structurally sound, clean, and free of dust, dirt, oil, grease, moisture, and other deficiencies which might adversely affect installation of sound and moisture control coating. Ensure:
  1. Framing members are rigid and subfloor is level.
  2. [Plywood] [OSB] sheathing is smooth, without gaps or voids, and securely attached with ends over firm bearing.
  3. Substrates are free from irregularities. Maximum variation in any direction shall be [3/16 inch in 10 feet] [5 mm in 3 m].
  4. Fasteners are flush with surface of [plywood] [OSB] sheathing.
- G. Report deficiencies to Architect and do not proceed with sound and moisture control system installation until resolution.
- H. Vacuum or broom clean floor surfaces immediately before installation.

### 3.2 APPLICATION

**\*\*\*\*\* If moisture control system is applied to either lightweight concrete slab or gypsum leveler/topping, a primer is required. Acceptable primer is Titebond Concrete Primer as manufactured by Franklin International. Include the following paragraph if the substrate is either lightweight or gypsum concrete. Delete paragraph if substrate is heavy weight concrete. \*\*\*\*\***

- A. Primer: Apply primer recommended by sound and moisture control system manufacturer to [lightweight concrete slab] [gypsum concrete leveler/topping] substrate.
  - 1. Install in accordance with manufacturer's installation instructions and recommended rates.
  - 2. Allow primer to fully cure prior to application of moisture control coating.
- B. Sound and moisture control coating application: Apply with [3/16 by 5/32 inch deep] [5 by 4 mm] V-notch trowel.
  - 1. Minimum rate and coverage: Apply at rate of [40 square feet per gallon] [1 square meter per liter] to achieve 30 mils wet film thickness.
  - 2. Allow to cure 12 hours at [70 degrees F] [21 degrees C] and 50 percent relative humidity prior to installation of wood flooring. Limit traffic on coating until completely cured.
  - 3. Exercise care not to apply coating to adjacent walls, baseboards, and other surfaces. Immediately clean soiled surfaces.
- C. Cleaning: Clean tools and adjacent surfaces with mineral spirits. Remove excess epoxy coating from adjacent floors, base, and walls.

**\*\*\*\*\* If the wood flooring is to be applied with adhesive, a layer of cementitious Portland cement leveling compound should be applied over the Titebond 571 to create a porous surface for bonding of the wood flooring adhesive. A cementitious leveling coat is not necessary if the wood flooring is to be with installed mechanical fasteners to a plywood nailing base. Include the following paragraph if the wood flooring is to be adhesive applied over Titebond 571. \*\*\*\*\***

- D. Leveling compound: After sound and moisture control system has cured, apply layer of cementitious Portland cement leveling compound to create porous surface for bonding of wood flooring adhesive.
  - 1. Thickness: [1/8 inch] [3 mm] minimum.

2. Compressive strength: [3,500 PSI] [246 kilograms per square cm]. minimum.
3. Allow to cure before applying wood flooring.

**END OF SECTION**