SECTION 09 65 19

RESILIENT TILE FLOORING

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes

- 1. Resilient Tile Flooring
- 2. Installation Accessories
 - a. T-Moldings and Transition Profilesb. Cleaners

B. Related Requirements

- 1. Section 01 30 00, Administrative Requirements
- 2. Section 01 45 00, Quality Control
- 3. Section 01 71 00, Examination and Preparation
- 4. Section 01 73 00, Execution
- 5. Section 01 74 00, Cleaning and Waste Management
- 6. Section 01 78 00, Closeout Submittals
- 7. Section 07 92 00, Joint Sealants
- 8. Section 07 95 13, Expansion Joint Cover Assemblies

1.02 REFERENCE

A. Organizations

- 1. American Institute of Architects, The (AIA) www.aia.org
- 2. American National Standards Institute (ANSI) www.ansi.org
- 3. APA-The Engineered Wood Association www.apawood.org
- 4. ASTM International www.astm.org
- 5. California Department of Public Health (CDPH) https://www.cdph.ca.gov/
- 6. Connecticut Fund for the Environment and Save the Sound www.ctenvironment.org/
- 7. Electrostatic Discharge Association (ESDA) www.esda.org/
- 8. Flooring Contractors Association (FCICA) www.fcica.com
- 9. Health Product Declaration Collaborative (HPDC) www.hpd-collaborative.org
- 10. International Code Council (ICC) www.iccsafe.org
- 11. International Living Future Institute (ILFI) living-future.org
- 12. International Organization for Standardization (ISO) www.iso.org
- 13. International Standards and Training Alliance (INSTALL) www.installfloors.org
- 14. International WELL Building Institute (IWBI) www.wellcertified.com
- 15. mindful Materials (mM) www.mindfulmaterials.com
- 16. National Fire Protection Association (NFPA) www.nfpa.org
- 17. North American Association of Floor Covering Distributors (NAFCD) www.nafcd.org
- 18. Resilient Floor Covering Institute (RFCI) rfci.com
- 19. SCS Global Services www.scsglobalservices.com
- 20. U.S. Consumer Product Safety Commission (CPSC) www.cpsc.gov
- 21. U.S. Green Building Council (USGBC) new.usgbc.org
- 22. Women in Sustainability Leadership Awards (WSLA) gbdmagazine.com/wsla
- 23. World Floor Covering Association (WFCA) www.wfca.org

B. Standards

- 1. ANSI/ESD STM97.2 Floor Materials And Footwear Voltage Measurement In Combination With A Person
- 2. ASTM C109/C109M Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2-in. or [50-mm] Cube Specimens)
- 3. ASTM D2047 Standard Test Method for Static Coefficient of Friction of Polish-Coated Flooring Surfaces as Measured by the James Machine
- 4. ASTM D7823 Standard Test Method for Determination of Low Level Phthalates in Poly (Vinyl Chloride) Plastics by Thermal Desorption-Gas Chromatography/Mass Spectrometry
- 5. ASTM E90 Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements

- 6. ASTM E413 Classification for Rating Sound Insulation
- 7. ASTM E492 Standard Test Method for Laboratory Measurement of Impact Sound Transmission Through Floor-Ceiling Assemblies Using the Tapping Machine
- 8. ASTM E648/NFPA 253 Standard Test Method for Critical Radiant Flux of Floor-Covering Systems Using a Radiant Heat Energy Source
- 9. ASTM E662/NFPA 258 Standard Test Method for Specific Optical Density of Smoke Generated by Solid Materials
- 10. ASTM E989 Standard Classification for Determination of Single-Number Metrics for Impact Noise
- 11. ASTM E2179 Standard Test Method for Laboratory Measurement of the Effectiveness of Floor Coverings in Reducing Impact Sound Transmission Through Concrete Floors
- 12. ASTM F387 Standard Test Method for Measuring Thickness of Resilient Floor Covering With Foam Layer
- 13. ASTM F410 Standard Test Method for Wear Layer Thickness of Resilient Floor Coverings by Optical Measurement
- 14. ASTM F925 Standard Test Method for Resistance to Chemicals of Resilient Flooring
- 15. ASTM F963 Standard Consumer Safety Specification for Toy Safety (see Table 1 for permissible heavy metal content levels). Note while this standard applies to toys, flooring manufacturers (including Aspecta NA) have adopted similar/same limits for their products
- 16. ASTM F970 Standard Test Method for Measuring Recovery Properties of Floor Coverings after Static Loading
- 17. ASTM F1514 Standard Test Method for Measuring Heat Stability of Resilient Flooring by Color Change
- 18. ASTM F1515 Standard Test Method for Measuring Light Stability of Resilient Flooring by Color Change
- 19. ASTM F1869 Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride
- 20. ASTM F1914 Standard Test Methods for Short-Term Indentation and Residual Indentation of Resilient Floor Covering
- 21. ASTM F2170 Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using in situ Probes
- 22. ASTM F2421 Standard Test Method for Measurement of Resilient Floor Plank by Dial Gage
- 23. ASTM F3261 Standard Specification for Resilient Flooring in Modular Format with Rigid Polymeric Core
- 24. CDPH Standard Method v1.2-2017 Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers
- 25. CPSC-CH-C1001-09.3 Standard Operating Procedure for Determination of Phthalates (Per U.S. Consumer Product Safety Commission)
- 26. CPSIA (Consumer Product Safety Improvement Act) U.S. law passed in August 2008 that, amongst other things, imposed new testing and documentation requirements, and set new acceptable levels for several substances (including phthalates). While such limitations were not set on flooring products, many such manufacturers (including Aspecta NA) have adopted same/similar limits for their products.
- 27. FloorScore[®] an indoor air quality (IAQ) certification standard for hard surface flooring materials, adhesives, and underlayments. Developed by SCS Global Services and the RFCI, it qualifies for many green building schemes including LEED and WELL.
- 28. International Building Code (IBC) the International Building Code (IBC) is a model building code developed by the International Code Council (ICC) that been adopted for use as a base code standard by most jurisdictions in the United States. The code provisions are intended to protect public health and safety while avoiding both unnecessary costs and preferential treatment of specific materials or methods of construction
- 29. ISO 23999 Resilient Floor Coverings, Determination of Dimensional Stability and Curling After Exposure to Heat
- 30. ISO 24337 Laminate Floor Coverings, Determination of Geometrical Characteristics

- 31. LEED (Leadership in Energy & Environmental Design) Green building certification program developed and maintained by the U.S. Green Building Council (USGBC)
- 32. NFPA 101 Life Safety Code The Life Safety Code, which is also known as NFPA 101, is currently used within every U.S. state, with statewide adoption taking place across 43 states. The current version of this standard addresses the minimum building design, construction, operation, and maintenance guidelines necessary for limiting the danger to life brought on by fire, smoke, heat, and toxic fumes.
- 33. WELL Green building certification program developed and maintained by the International WELL Building Institute (IWBI)

1.03 SUBMITTALS

- A. See Section 01 30 00 Administrative Requirements, for submittal procedures.
- B. Product Data
 - 1. Technical Data
 - 2. Installation & Maintenance
 - 3. Warranty
 - 4. Safety Data Sheets (SDS) for cleaners
 - 5. LEED v4.1 Submittals
 - 6. Health Product Declaration (HPD) v2.1.1 (or newer) and/or Declare Label
- C. Selection Samples: Submit manufacturer's complete set of color samples for Architect's initial selection.
- D. Verification Samples: Submit two samples, 4 inches x 4 inches (101 mm x 101 mm) in size, illustrating color and pattern for each resilient flooring product specified.

1.04 QUALITY ASSURANCE

- A. Comply with applicable laws and possess valid licenses, registrations, and/or certificates required by federal law, including but not limited to licenses, registrations, and/or certificates required to:
 - 1. Conduct business in the designated locale.
 - 2. Perform the contract work it seeks to perform.
- B. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section, with not less than ten years of documented experience.
- C. Installer Qualifications: Professional-flooring contractors showing successful LVT installations in similar size and scope. Provide technical certifications, qualifications and resources, including equipment, personnel and financial resources, to perform the referenced contract.

1.05 WARRANTY

- A. See Section 01 78 00, Closeout Submittals, for additional warranty requirements.
- B. Aspecta[™] CONTOURS Warranty 20-Year Limited Non-Prorated Commercial Material Warranty. Coverage includes:
 - 1. 100% Cost of Material for the entire duration of Warranty (20 Years).
 - 2. Pro-Rated Cost of Labor (Fair-Market Value) for the first 10 Years.
 - 3. One-Time Transferability of Warranty.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Upon receipt, immediately remove any shrink-wrap and check material for damage, and that the material is of the correct style, color, quantity, and run number(s).
- B. General Storage
 - 1. Store all materials flat and off of the floor in an acclimatized, weather-tight space between 50°-100°F (10°-38°C).
 - 2. Do not double stack pallets.

1.07 FIELD CONDITIONS

- A. Acclimate material at the jobsite between 50°-100°F (10°-38°C) and 40%-60% RH for a minimum of 48 hours prior to installation. Temperature and relative humidity should also be maintained at the same levels during installation, and after installation.
- B. Spread unopened cartons no more than 6 cartons high and at least 4 inches (101 mm) apart.
- C. Keep away from heating and cooling ducts and direct sunlight.

- D. If permanent HVAC is not operational, temporary means should be used to maintain the recommended temperature and relative humidity levels.
- E. Close areas to traffic during installation of flooring and accessories.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Aspecta North America (Aspecta NA)
 - 1. Address: 15 Oakwood Avenue, Norwalk, CT 06850, United States.
 - 2. Contact: To find the Aspecta Commercial Sales Manager that services your area visit https://www.aspectaflooring.com and click-on the "Find a Rep" link in the upper right-hand corner.
- B. Substitutions: Not permitted

2.02 RESILIENT TILE FLOORING

- A. Aspecta[™] CONTOURS Floating Multilayer Modular Flooring Plank
 - 1. Substitutions: Not permitted
- B. Patterns (Note to Specifier: List by Pattern Number and include the Collection Name, Pattern Name, Size & Emboss associated with each Pattern Number).
 - 1.
 - 2.
 - z. 3.
 - 3. 4.
- C. Physical Properties:
 - 1. Construction: WPC Rigid Core Multilayer Modular Plank Phthalate-Free, Formaldehyde-Free, and made from 100% Virgin Vinyl
 - 2. Wear Layer Thickness: 0.55 mm (22 mil)
 - 3. Total Thickness (Gauge): 8.0 mm (0.315 in)
 - 4. Finish: Duraspect[™] Surface Protectant
- D. Manufacturing, Performance, and Safety Standards
 - 1. ASTM F3261, Rigid Core Floor Specification Passes Requirements
 - 2. ASTM F2421, Size & Squareness Passes Requirements
 - 3. ASTM F387, Thickness Passes Requirements
 - 4. ASTM F410, Wear Layer Thickness Passes Requirements for Commercial Classification
 - 5. ISO 24337, Geometrical Characteristics (Flatness, Openings, Ledging) Passes Requirements
 - 6. ISO 23999, Dimensional Stability Passes Requirements
 - 7. ISO 23999, Curling Passes Requirements
 - 8. ASTM F1914, Residual Indentation Passes Requirements
 - 9. ASTM F1914, Surface Integrity Passes Requirements
 - 10. ASTM F970, Static Load Passes Requirements (≥ 500 psi)
 - 11. ASTM F925, Chemical Resistance Passes Requirements
 - 12. ASTM F1514, Resistance to Heat Passes Requirements
 - 13. ASTM F1515, Resistance to Light Passes Requirements
 - 14. ASTM E90 & ASTM E413, Sound Transmission Class (STC) a. 6 in. Concrete Slab: STC 50
 - b. 6 in. Concrete Slab + Drop-Ceiling: STC 61
 - 15. ASTM E492 & ASTM E989, Impact Insulation Class (IIC)
 - a. 6 in. Concrete Slab: IIC 54
 - b. 6 in. Concrete Slab + Drop-Ceiling: IIC 67
 - 16. ASTM E2179 & ASTM E492, Delta Impact Insulation Class (Δ IIC)
 - a. 6 in. Concrete Slab: AIIC 25
 - b. 6 in. Concrete Slab + Drop-Ceiling: Not Applicable
 - 17. ASTM E648 / NFPA 253, Critical Radiant Flux (Radiant Panel) Class I per International Building Code (IBC) 2018 & NFPA 101 Life Safety Code
 - 18. ASTM E662 / NFPA 258, Smoke Density (Flaming & Non-Flaming) ≤ 450

- 19. ASTM D2047, Coefficient of Friction / Slip Resistance ≥ 0.6 (Dry)
- 20. ANSI/ESD STM97.2, Body Voltage Average (Abs) 1.3kV
- 21. CDPH Standard Method v1.2-2017, VOC/TVOCs & Formaldehyde Passes Requirements
- 22. ASTM D7823/CPSC-CH-C1001-09.3, Phthalates Per CPSIA: ≤ 0.1% per Substance
- 23. ASTM F963 (Table 1), Heavy Metals Passes Requirements
- E. Sustainability and Affiliations:
 - 1. Product Sustainability:
 - a. FloorScore[®]: Aspecta flooring products are FloorScore[®] Certified by SCS Global Services and thus comply with CDPH Standard Method v1.2-2017.
 - b. LEED v4.1 Potential Contributions Towards Certification:
 - MR Credit, Building Product Disclosure and Optimization Environmental Product Declarations (Option 1): Product-specific Environmental Product Declaration (EPD) has been created for Aspecta CONTOURS and published to several online libraries (including SCS's Green Products Guide) and to www.aspectaflooring.com.
 - MR Credit, Building Product Disclosure and Optimization Material Ingredients (Option 1): Material ingredients for Aspecta CONTOURS have been disclosed in the form of a Declare Label and a Health Product Declaration (HPD).
 - EQ Credit, Low-Emitting Materials (Flooring): Aspecta CONTOURS is FloorScore Certified and thus meets the requirements of CDPH Standard Method v1.2-2017.
 - c. The WELL Building Standard v2 Potential Contributions Towards Certification:
 - Materials Concept Feature X01 (Fundamental Material Precautions), Part 1(c) -Restrict Asbestos: Aspecta CONTOURS does not contain asbestos and thus complies with this prerequisite for resilient floor coverings.
 - Materials Concept Feature X01 (Fundamental Material Precautions), Part 3(b) -Restrict Lead: Aspecta CONTOURS includes a finish (coating) that is lead-free and thus complies with this prerequisite for surface coatings.
 - Materials Concept Feature X10 (Volatile Compound Reduction), Part 1(a) -Manage Volatile Organic Compounds: No flame retardants (halogenated or otherwise) are added to Aspecta CONTOURS during the manufacturing process.
 - Materials Concept Feature X10 (Volatile Compound Reduction), Part 2(a) -Manage Semi-Volatile Organic Compounds (SVOCs): Aspecta CONTOURS is made with DOTP (dioctyl terephthalate), a non-phthalate plasticizer.
 - Materials Concept Feature X11 (Long-Term Emissions Control), Part 2(a) -Manage Flooring and Insulation Emissions: Aspecta CONTOURS is FloorScore Certified and thus meets the requirements of CDPH Standard Method v1.2-2017.
 - 6) Materials Concept Feature X14 (Material Transparency), Parts 1(a)(b) Promote Ingredient Disclosure - Material Information: Material ingredients for Aspecta CONTOURS have been disclosed in the form of a Declare Label and a Health Product Declaration (HPD).
 - 2. Affiliations Member Bodies and/or Sponsorships (Direct and/or through HMTX Industries, our parent company):
 - a. American Institute of Architects, The (AIA)
 - b. ASTM International
 - c. Connecticut Fund for the Environment and Save the Sound
 - d. Flooring Contractors Association (FCICA)
 - e. Health Product Declaration Collaborative (HPDC)
 - f. International Living Future Institute (ILFI)
 - g. International Standards and Training Alliance (INSTALL)
 - h. mindful MATERIALS (mM)
 - i. North American Association of Floor Covering Distributors (NAFCD)
 - j. Resilient Floor Covering Institute (RFCI)
 - k. U.S. Green Building Council (USGBC)
 - I. Women in Sustainability Leadership Awards (WSLA)
 - m. World Floor Covering Association (WFCA)

2.03 ACCESSORIES

A. T-Moldings and Transition Profiles

- 1. Contact the manufacturer for more information on the recommended T-Moldings and Transition Profiles.
- 2. Substitutions: Not permitted
- B. Cleaners
 - 1. Refer to the Aspecta CONTOURS Professional Installation Manual for full details on the recommended Prevail[®] cleaners.
 - 2. Substitutions: Not permitted.

PART 3 EXECUTION

3.01 EXAMINATION PER SECTION 01 71 00 AND AS FOLLOWS:

- A. Install flooring and accessories after other operations (including painting) have been completed.
- B. Acceptance of Conditions: Carefully examine all installation areas with Installer/Applicator present, for compliance with requirements affecting Work performance.
 - 1. Verify that field measurements, product, substrates, surfaces, structural support, tolerances, flatness, temperature, humidity, moisture content level, pH, cleanliness and other conditions are as required by the manufacturer, and ready to receive Work.
- C. Verify that substrate is contaminant-free (including old adhesives and abatement chemicals).
- D. Test substrates as required by manufacturer to verify proper conditions exist.
 - Note to Specifier: Coordinate and edit requirements to the project substrates present.
 - 1. Concrete:

Moisture testing: Perform either the In-Situ Relative Humidity (RH) test (ASTM F2170) or Moisture Vapor Emission Rate (MVER) test (ASTM F1869). NOTE: Refer to the Manufacturer's Installation Guide/Manual for the maximum allowable substrate moisture content. Substrates above the maximum allowable moisture content will require a moisture mitigation system.

- 2. Wood:
 - a. Shall be dry, clean, structurally sound and installed per underlayment manufacturer's installation instructions.
 - b. Test wood subfloors and underlayment panels using a suitable wood moisture pinmeter. Readings between the subfloor and underlayment panels should be within 3% prior to installing the underlayment panels.
 - c. The maximum moisture content is 14%.
 - d. Proceed with installation only after satisfactory conditions have been met.
- E. Verify that required floor-mounted utilities are in correct location.

3.02 PREPARATION

- A. Prior to installation, the flooring installer should plan and attend an on-site construction meeting with the General Contractor, Architect and Property Owner to review all requirements and inspect site conditions as outlined in the manufacturer's installation document, as well as to review the requirements of any relevant building codes, or local, state, or national regulations.
- B. Flooring installation should not begin until all site conditions have been assessed, testing has been completed and subfloor conditions have been approved.
- C. Prepare per manufacturer's written instructions, SECTION 01 71 00, and as follows:
 - 1. Prepare substrates in strict accordance to the Aspecta installation instructions.
 - 2. **Concrete Substrates**: Prepare substrate per the manufacturer's professional installation guide.
 - a. Verify that subfloor is clean, flat, smooth, free of dirt or any contaminant that will interfere with application of the flooring.
 - b. Mechanically remove old adhesives from substrate. Do not use solvents or adhesive removers.
 - c. Surface cracks, grooves, depressions, control joints or other non-moving joints, and other irregularities shall be filled or smoothed with high-quality Portland Cement or Calcium Aluminate based patching or underlayment compound for filling or smoothing, or both. Sand smooth per manufacturer's instructions.

- d. Self-leveling underlayments: provide a dry and smoothly-sanded underlayment substrate ready for installation of Luxury Vinyl Plank & Tile. Underlayment compound shall be moisture-resistant, mildew-resistant, and alkali-resistant and must have a minimum of 3,000 psi compressive strength or greater per ASTM C109/C109M.
- e. Lightweight concrete shall have a compressive strength greater than 90 lbs. per cubic foot with compression strength of 2,500 psi or greater.

3. Wood Substrates or Panel Type Underlayment:

- a. Wood subfloors require an underlayment (double layer construction) with a minimum total thickness of 1 inch (25 mm) and minimum of 18 inches (457 mm) of well-ventilated space.
 - 1) Subfloor must be structurally sound and free from vertical deflection.
 - 2) Crawl spaces shall be insulated and protected by a vapor barrier.
- b. Use minimum 0.25 inch (6 mm) thick APA-rated "underlayment grade" plywood with a fully sanded face or other underlayment panel that is appropriate for the intended usage. Install and prepare panels and seams according to the manufacturer's instructions.

4. Existing and other substrates:

a. Refer to manufacturer's professional installation guide and or contact manufacturer, as special conditions may exist.

3.03 INSTALLATION

- A. Installation per manufacturer's written instructions, SECTION 01 73 00, and as follows:
 - 1. Layout shall be specified by Architect, Designer, or End User.
 - 2. Follow layout and ensure installation reference lines are square.
 - Required in rooms greater than 100 feet (30.5 meters) in either direction:
 a. Install T-Moldings per manufacturer's written instructions and SECTION 01 73 00.
 - Install other transition profiles (as needed) per manufacturer's written instructions.
 a. Reducers, End Moldings, and Stair Moldings are also available for Aspecta CONTOURS (in addition to T-Moldings).
 - 5. Check cartons for and do **NOT** mix run numbers.
 - Expansion joints: locate expansion, isolation, and other moving joints prior to installation.
 Ensure there are no height variations from one side of the joint or crack to the other.

3.04 FIELD QUALTITY CONTROL

- A. Site tests and Inspections per SECTION 01 45 00 and as follows:
 - 1. Ensure that the Aspecta COUNTOURS flooring is not glued, nailed, or fastened to the substrate, walls or fixed to any part of the building structure.
 - 2. Inspect flooring installation for non-conforming work, including (but not limited to) the following:
 - a. Improper expansion space around walls, fixtures, cabinets and vertical objects;
 - b. Improper usage and/or placement of T-moldings;
 - c. Improper usage and/or placement of transition profiles;
 - d. Humps, bumps underneath the flooring;
 - e. Improper substrate preparation (as indicated by vertical deflection of installed material);
 - f. Damage to planks/tiles, including: dents/indentations, cuts, cracks, burns or punctures.
- B. Non-conforming work per General Conditions and as follows:
 - 1. Repair or replace damaged material if not acceptable to the Architect.

3.05 CLEANING

- A. Waste Management per SECTION 01 74 00.
- B. Provide Progress Cleaning per manufacturer's written instructions, SECTION 01 74 00, and as follows:
 - 1. Work Areas: clean areas where work is in progress to the level of cleanliness necessary for proper execution of the work.
 - a. Clean and protect completed construction until Substantial Completion.
 - b. During installation, remove debris and contaminants per manufacturer's instructions.
 - 2. Site: Maintain project site free of waste materials and debris.

- C. Provide Final Cleaning immediately prior to Substantial Completion inspection per manufacturer's written instructions and SECTION 01 74 00.
 - 1. Protection: remove manufacturer's and other installed protection immediately prior to Substantial Completion inspection, unless required otherwise.
 - 2. Clean floor with a neutral 6-8 pH cleaner.

3.06 MAINTENANCE

- A. Initial maintenance per flooring manufacturer's written instructions and as follows:
 - 1. Sweep, dust mop or vacuum the floor thoroughly to remove all loose dirt, dust, grit and debris. Do not use vacuums with a beater bar assembly.
 - 2. Remove any contaminant residue from the surface with mineral spirits applied to a clean, lint-free cloth.
 - 3. Damp mop the floor using a Cleaner recommended by the flooring Manufacturer.
 - 4. If necessary, scrub the floor using an auto scrubber or rotary machine (300 rpm or less) with a Cleaner recommended by the flooring Manufacturer... using the proper dilution ratio and the appropriate scrubbing brush or pad.
 - 5. Thoroughly damp mop the entire floor with fresh clean water using a micro-fiber mop. DO NOT flood the floor. Remove the dirty residue with a wet-vacuum or clean mop and allow the floor to dry completely.

3.07 PROTECTION

- A. Protect materials from construction operations until date of Final Completion or Owner occupancy, whichever occurs first.
 - 1. Protect finished floor from abuse and damage by using heavy, non-staining kraft paper, drop cloths, or equivalent. Use additional, non-damaging protective materials, as needed.
 - 2. Protect the floor from rolling loads by covering with protective boards.

END OF SECTION