**Altro Quartz Tile**

**Innovative Slip Resistant Flooring**

**SECTION 09 65 19.23**

**RESILIENT TILE FLOORING**

**(Heavy Duty Vinyl Tile Flooring)**

PART 1 GENERAL

1.01 SUMMARY

A. This Section includes: Heavy duty resilient tile flooring.

B. Conform with requirements of all Sections of Division 1, General Requirements, as it applies to the work of this Section.

1.02 RELATED SECTIONS

A. Section(s) related to this Section include:

1. Concrete: Division 3.

2. Wood & Plastics: Division 6.

3. Thermal & Moisture Protection: Division 7.

4. Mechanical: Division 15.

**Specifier Note: Article below may be omitted when specifying manufacturer’s proprietary products and recommended installation. Retain Reference Article when specifying products and installation by an industry reference standard. If retained, list standard(s) referenced in this section. Indicate issuing authority name, acronym, standard designation and title. Establish policy for indicating edition date of standard referenced. Conditions of the Contract or Division 1 References Section may establish the edition date of standards. This Article does not require compliance with standard, but is merely a listing of references used. Article below should list only those industry standards referenced in this section.**

1.03 REFERENCES

A. General: Standards listed by reference, including revisions by issuing authority, form a part of this specification section to extent indicated. Standards listed are identified by issuing authority, authority abbreviation, designation number, title or other designation established by issuing authority. Standards subsequently referenced herein are referred to by issuing authority abbreviation and standard designation.

B. American Society for Testing & Materials (ASTM):

1. ASTM D2047 Standard Test Method for Static Coefficient of Friction of Polish-Coated Floor Surfaces as Measured by the James Machine.

2. ASTM E648 Standard Test Method for Critical Radiant Flux of Floor-Covering Systems Using a Radiant Heat Energy Source.

3. ASTM E662 Standard Test Method for Specific Optical Density of Smoke Generated by Solid Materials.

4. ASTM F710 Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring.

5. ASTM F970 Standard Test Method for Static Load Limit.

6. ASTM F1482 Standard Guide to Wood Underlayment Products Available for Use Under Resilient Flooring.

7. ASTM F1066 Standard Specification for Vinyl Composition Floor Tile.

8. ASTM F2170 Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using in situ Probes.

C. Resilient Floor Covering Institute (RFCI)

1. RFCI

D. American Concrete Institute

1. ACI 302.1R

2. ACI 302.2R

1.04 SYSTEM DESCRIPTION

A. Performance Requirements: Provide heavy duty Altro Quartz Tile flooring which has been manufactured and installed to maintain performance criteria stated by manufacturer without defects, damage or failure.

1.05 SUBMITTALS

A. General: Submit listed submittals in accordance with Conditions of the Contract and Division 1 Submittal Procedures Section.

B. Product Data: Submit product data, including manufacturer’s information, for specified products.

C. Shop Drawings: Submit shop drawings showing layout, profiles and product components, including drain details, accessories, finish colors, patterns and textures.

D. Samples: Submit selection and verification samples for finishes, colors and textures.

E. Quality Assurance Submittals: Submit the following:

1. Test Reports: Certified test reports showing compliance with specified performance characteristics and physical properties.

2. Manufacturer’s Instructions: Current published manufacturer’s installation and maintenance instructions.

**Specifier Note: Coordinate paragraph below with Part 3 Field Quality Requirements Article herein. Retain or delete as applicable.**

1. Manufacturer’s Field Reports: Manufacturer’s field reports specified herein.

F. Closeout Submittals: Submit the following:

1. Operation and Maintenance Data: Operation and maintenance data for installed products in accordance with Division 1. Include methods for maintaining installed products and precautions against cleaning materials and methods detrimental to finishes and performance.

2. Warranty: Warranty documents specified herein.

1.06 QUALITY ASSURANCE

1. Installer Qualifications: Experienced in performing work of this section and who is specialized in the installation of work similar to that required for this project. Installation of Altro Quartz Tile should follow the instructions detailed in the Altro Quartz Tile Installation Guide.

1. Training: Installer who has attended an Altro installation training clinic.

**Specifier Note: Retain paragraph below for erected assemblies required for review of construction, coordination of work of several sections, testing or observation of operation.**

B. Mock-ups: Install at 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: Edit paragraph below to specifying mock-up size.**

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 final construction upon Owner’s approval.

C. Pre-installation Meeting: Conduct pre-installation meeting to verify project requirements, substrate conditions, manufacturer’s installation instructions and manufacturer’s warranty requirements.

1.07 DELIVERY, STORAGE & HANDLING

A. Ordering: Comply with manufacturer’s ordering instructions and lead time requirements to avoid construction delays.

B. Deliver materials in manufacturer’s original, unopened, undamaged containers with identification labels intact.

C. Store materials protected from exposure to harmful weather conditions, at temperature and humidity conditions recommended by manufacturer.

1.08 PROJECT CONDITIONS

A. Temperature Requirements: If storage temperature is below 68F (20C), move the Altro Quartz Tile to a warmer place and allow to reach this temperature before installation. Maintain temperature of installation area between 68F (20C) and 80F (26C) for a period of at least 72 hours prior to, during, and after completion of the installation for acrylic adhesive.

**Specifier Note: Coordinate Article below with Conditions of the Contract and with Division 1 Closeout Submittals (Warranty) Section.**

1.09 WARRANTY

A. Project Warranty: Refer to Conditions of the Contract for project warranty provisions.

B. Manufacturer’s Warranty: Submit, for Owner’s acceptance, manufacturer’s standard warranty document executed by authorized company official. Manufacturer’s warranty is in addition to, and not a limitation of, other rights Owner may have under Contract Documents.

1. Warranty Period: Fifteen (15) years commencing on Date of Substantial Completion.

**PART 2 PRODUCTS**

**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.**

**Specifier Note: All imperial dimensions are approximate; products are manufactured to exact metric standards.**

**Specifier Note: Altro Quartz Tile is a homogeneous combination of high quality vinyl, calcium carbonate, and fine and naturally weathered quartz. Altro Quartz Tile meets the requirements of ASTM F1066, Class l, Type A.**

2.01 QUARTZ TILE

1. Manufacturer: Altro

1. EASTERN USA: 80 Industrial Way, Wilmington, MA 01887

 Toll-free: 800.377.5597 Fax: 610 746 4325

2. WESTERN USA: 12648 Clark Street, Santa Fe Springs, CA 90670

Toll-free: 800.543.6033 Fax: 562.944.8720

3. 1731 Technology Drive, Ste #550 San Jose, CA 95110 USA

 Toll Free: 800.356.7464 Fax: 408.441.1705

4. CANADA: 6221 Kennedy Road Unit 1, Mississauga, ON, L5T 2S8
Toll-free: 800.565.4658 Tel: 905.564.1330 Fax: 905.564.0750

5. E-mail: support@altrofloors.com Web Site: [www.altrofloors.com](http://www.altrofloors.com).

**Specifier Note: Select material to suit project requirements.**

B. Proprietary Product(s)/System(s): Altro Quartz Tile:

1. Chalk CD 9301: Thickness: 0.08" (2 mm); Width: 24" (61 cm) x 24” (61 cm) Weight: 53 lbs (24 kg) per carton

2. Chalk 9701: Thickness: 0.08" (2 mm); Width: 24" (61 cm) x 24” (61 cm) Weight: 53 lbs (24 kg) per carton

3. Rock Salt CD 9302: Thickness: 0.08" (2 mm); Width: 24" (61 cm) x 24” (61 cm) Weight: 53 lbs (24 kg) per carton

4. Rock Salt 9702: Thickness: 0.08" (2 mm); Width: 24" (61 cm) x 24” (61 cm) Weight: 53 lbs (24 kg) per carton

5. Ash CD 9303: Thickness: 0.08" (2 mm); Width: 24" (61 cm) x 24” (61 cm) Weight: 53 lbs (24 kg) per carton

6. Ash 9703: Thickness: 0.08" (2 mm); Width: 24" (61 cm) x 24” (61 cm) Weight: 53 lbs (24 kg) per carton

7. Shale 9724: Thickness: 0.08" (2 mm); Width: 24" (61 cm) x 24” (61 cm) Weight: 53 lbs (24 kg) per carton

8. Shale CD 9324: Thickness: 0.08" (2 mm); Width: 24" (61 cm) x 24” (61 cm) Weight: 53 lbs (24 kg) per carton

9. Platinum CD 9317: Thickness: 0.08" (2 mm); Width: 24" (61 cm) x 24” (61 cm) Weight: 53 lbs (24 kg) per carton

10. Steel CD 9304: Thickness: 0.08" (2 mm); Width: 24" (61 cm) x 24” (61 cm) Weight: 53 lbs (24 kg) per carton

11. Cream CD 9321: Thickness: 0.08" (2 mm); Width: 24" (61 cm) x 24” (61 cm) Weight: 53 lbs (24 kg) per carton

12. Cream 9721: Thickness: 0.08" (2 mm); Width: 24" (61 cm) x 24” (61 cm) Weight: 53 lbs (24 kg) per carton

13. Latte CD 9323: Thickness: 0.08" (2 mm); Width: 24" (61 cm) x 24” (61 cm) Weight: 53 lbs (24 kg) per carton

14. Latte 9723: Thickness: 0.08" (2 mm); Width: 24" (61 cm) x 24” (61 cm) Weight: 53 lbs (24 kg) per carton

15. Espresso CD 9328: Thickness: 0.08" (2 mm); Width: 24" (61 cm) x 24” (61 cm) Weight: 53 lbs (24 kg) per carton

16. Charcoal CD 9306: Thickness: 0.08" (2 mm); Width: 24" (61 cm) x 24” (61 cm) Weight: 53 lbs (24 kg) per carton

17. Onyx 9719: Thickness: 0.08" (2 mm); Width: 24" (61 cm) x 24” (61 cm) Weight: 53 lbs (24 kg) per carton

18. Onyx CD 9319: Thickness: 0.08" (2 mm); Width: 24" (61 cm) x 24” (61 cm) Weight: 53 lbs (24 kg) per carton

19. Citrine 9773: Thickness: 0.08" (2 mm); Width: 24" (61 cm) x 24” (61 cm) Weight: 53 lbs (24 kg) per carton

20. Coral 9774: Thickness: 0.08" (2 mm); Width: 24" (61 cm) x 24” (61 cm) Weight: 53 lbs (24 kg) per carton

21. Amethyst 9771: Thickness: 0.08" (2 mm); Width: 24" (61 cm) x 24” (61 cm) Weight: 53 lbs (24 kg) per carton

22. Emerald 9772: Thickness: 0.08" (2 mm); Width: 24" (61 cm) x 24” (61 cm) Weight: 53 lbs (24 kg) per carton

23. Lapis 9775: Thickness: 0.08" (2 mm); Width: 24" (61 cm) x 24” (61 cm) Weight: 53 lbs (24 kg) per carton

24. Garnet 9770: Thickness: 0.08" (2 mm); Width: 24" (61 cm) x 24” (61 cm) Weight: 53 lbs (24 kg) per carton

25. Celery CD 9361: Thickness: 0.08" (2 mm); Width: 24" (61 cm) x 24” (61 cm) Weight: 53 lbs (24 kg) per carton

26. Sand 9722: Thickness: 0.08" (2 mm); Width: 24" (61 cm) x 24” (61 cm) Weight: 53 lbs (24 kg) per carton

27. Sand CD 9322: Thickness: 0.08" (2 mm); Width: 24" (61 cm) x 24” (61 cm) Weight: 53 lbs (24 kg) per carton

28. Thunder CD 9318: Thickness: 0.08" (2 mm); Width: 24" (61 cm) x 24” (61 cm) Weight: 53 lbs (24 kg) per carton

29. Slate 9753: Thickness: 0.08" (2 mm); Width: 24" (61 cm) x 24” (61 cm) Weight: 53 lbs (24 kg) per carton

30. Slate CD 9353: Thickness: 0.08" (2 mm); Width: 24" (61 cm) x 24” (61 cm) Weight: 53 lbs (24 kg) per carton

31. Fern 9767: Thickness: 0.08" (2 mm); Width: 24" (61 cm) x 24” (61 cm) Weight: 53 lbs (24 kg) per carton

32. Fern CD 9367: Thickness: 0.08" (2 mm); Width: 24" (61 cm) x 24” (61 cm) Weight: 53 lbs (24 kg) per carton

33. Ice CD 9351: Thickness: 0.08" (2 mm); Width: 24" (61 cm) x 24” (61 cm) Weight: 53 lbs (24 kg) per carton

34. Ocean CD 9359: Thickness: 0.08" (2 mm); Width: 24" (61 cm) x 24” (61 cm) Weight: 53 lbs (24 kg) per carton

35. Firecracker CD 9349: Thickness: 0.08" (2 mm); Width: 24" (61 cm) x 24” (61 cm) Weight: 53 lbs (24 kg) per carton

**Specifier Note: All weights and measures are approximate. Altro Quartz Tile is also available by special order in the following size:**

**Thickness: 0.08" (2.0 mm); Width: 24" (610 mm) x 24” (610 mm)**

**Contact Altro or your local Altro representative for more information.**

C. Proprietary Accessory Products: Provide Altro accessories for use with Altro Quartz Tile:

1. Acrylic Adhesive: Ecofix 25 for adhering flooring to substrate.

D. Proprietary Product(s) Standard and Testing:

1. Product Standard: Tested in accordance with ASTM F1066 for minimum product standards.

2. Fire Resistance: Flammability exceed minimum for Class 1 rating per ASTM E648.

3. Smoke Density: Less than 450 when tested in accordance with ASTM E662.

4. Chemical Resistance: Altro Quartz Tile is virtually unaffected by surface water and most chemicals which do not have a solvent action on vinyl. Certain chemicals can cause staining, and acids and dyes can affect the color, which should be selected accordingly.

5. Flexibility: Altro Quartz Tile meet flexibility requirements of ASTM F1066.

6. Indentation Resistance: Altro Quartz Tile meets indentation resistance requirements of ASTM F1066.

7. Slip Resistance: Altro Quartz Tile meets and exceeds current published slip resistance requirements of OSHA. Tests were performed in accordance with ASTM D2047 for dry conditions.

8. Static Load Limit: Altro Quartz Tile has been tested to 3000 psi (12410 Kpa) in accordance with ASTM F970.

9. Light Resistance: Altro Quartz Tile meets light resistance requirements of ASTM F1066.

10. Color Selection: Select color with expected traffic conditions and usage in mind.

**Specifier Note: Edit Article below to suit project requirements. If substitutions are permitted, edit text below. Add text to refer to Division 1 Project Requirements (Product Substitutions Procedures) Section.**

2.02 PRODUCT SUBSTITUTIONS

A. Substitutions: No substitutions permitted.

2.03 SOURCE QUALITY

* 1. Source Quality: Obtain flooring products from a single manufacturer.

2.04 ADHESIVES

 1. Ecofix 20- Hard set for heavy rolling loads

**PART 3 EXECUTION**

**Specifier Note: Article below is an addition to the CSI Section Format. Revise Article below to suit project requirements and specifier’s practice.**

3.01 MANUFACTURER’S INSTRUCTIONS

A. Compliance: Comply with manufacturer’s product data, including product technical bulletins, product catalog, installation instructions and product label instructions for installation.

3.02 EXAMINATION

* + 1. 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.

3.03 PREPARATION

A. Concrete slabs must conform to ACI 302.1R and ACI 302.2R.

B. A vapor retarder of a minimum of 0.050 Perms or less must be placed directly under any on or below grade concrete slabs, consult ACI 302.2R and ASTM E-1745. This barrier must be fully intact and retain its integrity. The water to cement ratio of the concrete should not exceed 0.45.

C. Perform moisture tests on concrete floors regardless of the age or grade level. Verify concrete substrate is dry in accordance with ASTM F 2170, in strict accordance with instructions.

D. Perform moisture tests using three tests for the first 1,000 square feet and then a minimum of 1 test per each additional 1,000 sq ft. Moisture readings from concrete subfloors must not exceed 90% relative humidity per testing to ASTM F 2170. Test equipment must be properly calibrated per ASTM F 2170. If subfloor moisture exceeds the allowable maximum please call your local Altro distributor for advice.

E. Perform alkali tests to ensure pH levels of concrete subfloor surface do not exceed pH 9.9.

F. Do not proceed with work until results of moisture condition and/or pH tests are acceptable.

G. Meet and prepare concrete per ASTM F710 Standard for Concrete or other monolithic floors / ASTM F1482 Standard for Wood Subfloors.

H. Remove dust, old adhesive, paint, dirt, wax, sealer, crayon and all construction marking pen and paint markings, and all foreign matter from existing surfaces, remove ridges and bumps.

I. Underlayment and Patching Compounds: Use only grey colored Portland cement based underlayments, moisture tolerant patching compounds must be used in potential wet areas; patching compounds are used for filling cracks, holes and leveling. White gypsum materials are not acceptable.

J. Apply subfloor filler to low spots and cracks to achieve flatness to a tolerance of 3/16” over 10 feet (and/or per architect’s specifications for slope and pitch), allow to cure. Never install Altro flooring over gypsum-based toppings, underlayments, leveling or patching compounds, use only moisture tolerant patches in potential wet areas.

K. Maintain air temperature of installation area between 68F and 80F and the structural base (floor) temperature at 65F flooring for 72 hours before, during and 24 hours after installation.

L. Wood subfloors shall not exceed 10% moisture content when measured with a Delmhorst Wood Moisture Tester.

**Specifier Note: Coordinate Article below with manufacturer’s recommended installation details and requirements.**

3.04 INSTALLATION

A. Quartz Tile Installation: Install Altro Quartz Tile in accordance with the current published Altro Installation Guide. Failure to install Altro Quartz Tile in accordance with recommended procedures will void the Altro Limited Product Warranty.

**Specifier Note: Coordinate Article below with Division 1 Quality Assurance and Quality Control Sections.**

3.05 FIELD QUALITY REQUIREMENTS

**Specifier Note: Edit paragraph below. Establish number and duration of periodic site visits with Owner and manufacturer, and specify below. Consult with manufacturer for services required. Coordinate paragraph below with Division 1 Quality Assurance Section and Part 1 Quality Assurance Submittals herein. Delete if manufacturer’s field service not required.**

A. Manufacturer’s Field Services: Upon Owner’s request, provide manufacturer’s field service consisting of product use recommendations and periodic site visits for inspection of product installation in accordance with manufacturer’s instructions.

1. Site Visits: [Specify number and duration of periodic site visits.].

3.06 CLEANING

**Specifier Note: Altro Quartz Tile is virtually unaffected by surface water and most chemicals which do not have a solvent action on vinyl. Certain organic solvents and chemicals can cause staining, and acids and dyes can affect the color, which should be selected accordingly. Contact manufacturer for a detailed list of the effect of chemicals on Altro safety flooring.**

A. Cleaning: Remove temporary coverings and protection of adjacent work areas. Repair or replace damaged installed products. Clean installed products in accordance with manufacturer’s instructions prior to Owner’s acceptance. Remove construction debris from project site and legally dispose of debris.

3.07 PROTECTION

A. Protection:

Protect the newly installed flooring from foot traffic for 24 hours and heavy rolling traffic for 72 hours.

2. Protect installed product and finish surfaces from damage during construction.

1. Cover and protect finished installation from damage that may be caused by other trades using a plywood or non-staining temporary floor protection system, such as textured plastic sheeting.

Special Note: Do not use tapes on the surface of flooring as the adhesives in some tapes may cause permanent staining.

----------------------------------------------------------- END OF SECTION -----------------------------------------------------------