

3M™ Colorquartz™ Aggregate for Seamless Floors

PRODUCT DESCRIPTION

Basic Use: Colorquartz Aggregate is intended for use in liquid applied resin flooring systems as a decorative, wear resistant aggregate. The aggregate may be used with thin systems or high build systems for interior and exterior applications, both vertical and horizontal.

Colorquartz Aggregate is especially recommended for seamless floors in:

Light Industrial

Factories
Electronic clean rooms
Laboratories

Commercial

Grocery stores
Food packing rooms
Meat and poultry handling areas (see Applicable Standards)
Commercial kitchens
Department stores

Institutional

Hospitals, nursing homes, clinics
School rooms and hallways
Medical and dental offices
Veterinary centers, animal husbandry buildings
Church buildings
Banks, office buildings
Government buildings
Community centers
Motels and hotels
Museums and public buildings

Recreational

Health clubs, locker rooms
Pool and spa areas

Residential

Foyers, apartment laundry rooms
Restrooms and shower rooms

Colorquartz Aggregate Grade S is designed for broadcast applications in seamless flooring; grade T is ideal for trowel applications. A variety of colors are available which can be blended to provide unlimited options. Grade S and grade T are also used in other architectural applications, including cementitious swimming pool finishes, vertical wall finishes, and cast design elements.

Composition and Materials:

Colorquartz Aggregate is comprised of ceramic coated, colored, inorganic quartz granules. Each translucent quartz granule is colored with permanent pigments which are ceramically bonded to

the surface. The translucence of the quartz allows its fade resistant color to be reflected through the granule. This color performance has been proven in both long term field performance and accelerated wear tests.

Limitations: Do not apply over expansion joints. Seamless floors containing Color quartz Aggregate are not recommended to be applied over asphalt which may stain the resin as well as show a tendency to crack and spall the final flooring. For more information, consult the resin manufacturer. Each resin system may have unique limitations which must be considered.

Applicable Standards: In accordance with United States Department of Agriculture regulations, **Colorquartz** granules are chemically acceptable as ingredients in coatings used on floors in federally inspected meat and poultry plants.

WARRANTY

All statements, technical information and recommendations contained in this literature are based on tests conducted with 3M-approved equipment and are believed to be reliable. However, the accuracy or completeness of the tests are not guaranteed. THE FOLLOWING IS MADE IN LIEU OF ALL WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. The seller's and manufacturer's only obligation will be to replace the quantity of the product proved to be defective. Neither the seller nor 3M will be liable for any injury, loss or damage, direct or consequential, arising out of the use or the inability to use the product. Before using, the user must determine the suitability of the product for his or her intended use. This agreement may not be changed except by an agreement signed by an officer of the seller.

Guide Specification

SECTION 09725

SEAMLESS QUARTZ FLOORING

*The following guide specification includes reference standard, performance and descriptive specification language. For use in actual project specifications, be sure to edit carefully to avoid conflicting language. Also, be sure language specifying resin systems does not conflict with manufacturer's instructions for specific resins. This specification is a guide to preparing a final specification including **Colorquartz** Aggregate. All statements, technical information, and recommendations are based on sources believed to be reliable, but the accuracy or completeness thereof is not guaranteed. A qualified, licensed professional must determine the appropriate specification to meet actual project requirements.*

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Fluid applied [single] [two] component [epoxy] [urethane] [acrylic] base coat with [single] [two] component [epoxy] [urethane] [acrylic] seal coat.
- B. Quartz aggregate.

1.02 RELATED SECTIONS

- A. Section 03300: Cast-In-Place Concrete - Finishes for concrete substrates.
- B. Section 06125: Wood Decking.
- C. Section 07572: Pedestrian Traffic Coatings.
- D. Section 07900: Joints between base and wall surface.

1.03 REFERENCES

- A. American Standard for Testing Materials (ASTM)
 - 1. ASTM D 638 - Tensile Strength
 - 2. ASTM D 695 - Compressive Strength
 - 3. ASTM D 570 - Water Absorption
 - 4. ASTM E 96 - Moisture Vapor Permeability
 - 5. ASTM D 1360 (Underwriters Laboratory UL [____]) - Fire Resistance
 - 6. ASTM D 905 - Bond Strength
 - 7. ASTM D 1044 (C 501) - Abrasion Resistance
 - 8. ASTM D 822 - Ambering
 - 9. Gardner Impact Test - Impact Resistance

1.04 REGULATORY REQUIREMENTS

- A. Conform to [applicable] [_____] code for flooring flame/fuel/smoke ratings in accordance with [UL] [_____].

1.05 SUBMITTALS

- A. Submit two samples of each type and color or pattern of seamless floor that will represent the finished floor.
- B. Submit two copies of manufacturer's literature for all products furnished, including appropriate Material Safety Data Sheets (MSDS).
- C. Submit manufacturer's certified test data under provisions of section [01300] [03140].
- D. Submit manufacturer's certified test data under provisions of section [01400] [01450] that products meet or exceed specified requirements.
- E. Submit one maintenance manual including procedures for stain removal, surface repair and cleaning.

1.06 PERFORMANCE REQUIREMENTS

- A. Install flooring to conform to the following:
 - 1. Tensile Strength (D 638) [_____] psi ([_____] MPa)
 - 2. Compressive Strength (D 695) [_____] psi ([_____] MPa)
 - 3. Water Absorption (D 570) (24 hr.) [_____] percent
 - 4. Moisture Vapor Permeability (E 96) [_____] perms ([_____] mg/(Pa/s/sq m))
 - 5. Fire Resistance (D 1360) (UL____) Weight loss not to exceed limit for noncombustibility
 - 6. Bond Strength (D 905) [_____] psi ([_____] KPa) minimum
 - 7. Abrasion Resistance (D 1044) (C 501) Maximum weight loss of [_____] gm/1000 cycles
 - 8. Ambering (D 822) [_____]
 - 9. Impact Resistance: Gardner Impact Test [_____; no cracking, chipping, or delamination.]

1.07 QUALITY ASSURANCE

- A. Installer: Company specializing in applying the work of this section with a minimum of five (5) years experience.
- B. Field Sample: Install a test sample of the floor system at the project site. The sample shall be representative of the installed system. The sample is to be approved by the [Architect/Engineer] [owners representative]. The approved sample may remain as part of the finished job.

1.08 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to job site in sealed, undamaged containers with labels intact and legible, indicating the material name, date of manufacture and lot number.

- B. Store materials in a dry, secure area, where temperatures and other requirements are in accordance with manufacturer's recommendations.
- C. Keep products away from open flame.

1.09 PROJECT CONDITIONS

- A. Install materials in accordance with all safety procedures required by manufacturer and applicable rules and regulations of local, state, and federal authorities having jurisdiction.
- B. Environmental requirements
 - 1. Do not install flooring when temperature is below [55oF (13oC)] [____oF (____oC)].
 - 2. Maintain temperature at or above the minimum allowed in accordance with resin manufacturers' recommendations.
 - 3. Ventilate area where flooring is being installed. [Post and enforce "NO SMOKING" or "NO OPEN FLAME" signs until flooring has cured.]
- C. Provide uniform lighting at area of installation.
- D. Prevent traffic from entering area where flooring is being installed or is curing.

PART 2 PRODUCTS

2.01 MATERIALS

Select the resin type based on anticipated service, longevity and performance required.

- A. Base Coat: [single] [two] component [epoxy,] [urethane,] [acrylic,] [colored,] [clear].
- B. Top Coat: [single] [two] component [epoxy,] [urethane,] [acrylic,] [colored,] [clear].
- C. Aggregate: **3M Colorquartz** Aggregate [Grade S (28)] [Grade T] [____] color [.] [as selected.] by 3M Industrial Mineral Products Division, St. Paul, MN 55144-1000.

2.02 ACCESSORIES

- A. Primers: as recommended by resin manufacturer.
- B. Filler: Latex filler as recommended by resin manufacturer.
- C. Joint Sealer: Caulk as recommended by resin manufacturer.
- D. Cleaning agents as recommended by resin manufacturer.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that [surfaces] [substrate] are ready to receive work, and that subfloor surface is clean, dry, and free of substances which would affect bond.
- B. Do not begin work until [concrete substrate has cured 28 days minimum, and measured moisture content is not greater than [16] [____] percent.] [wood substrate has dried to a maximum moisture content of [12] [____] percent.] On grade or below grade concrete floor must have suitable vapor barrier recommended by resin manufacturer.
- C. Verify that work is done in accordance with Article 1.09 Project Conditions.
- D. Verify that curing agents used for concrete are compatible with base coat.
- E. Verify flatness tolerances. Irregular flatness will telegraph through finish specified in this Section. A successful installation is highly dependent on substrate and surface condition before beginning work of this Section.
- F. Beginning of installation means acceptance of existing [surfaces] [substrate].

3.02 PREPARATION

- A. Repair substrate and surface to specified tolerances in accordance with resin manufacturer's

surface requirements.

B. Prepare surface in accordance with resin manufacturer's requirements.

3.03 TOLERANCES

A. Maximum variation from flat surface [1/8] [] inch in 10 feet ([3] [] mm in 3 m).

B. Maximum variation from level (except surfaces sloping to drain): [1/8] [] inch in 10 feet ([3] [] mm in 3 m).

3.04 APPLICATION

Select the method of application to meet project requirements. Delete the method not chosen. Generally broadcast methods are chosen for thin systems and trowel or combination trowel/broadcast methods are used for thicker systems.

A. Apply in accordance with resin manufacturer's instructions and to meet specified performance requirements.

B. Broadcast Method

1. Apply base coat in accordance with resin manufacturer's instructions. Spread uniformly over surface.
2. Broadcast aggregate uniformly at [] lbs./100 sq. ft. ([] kg/10 sq. m). Use suitable mechanical equipment so granules fall vertically onto surface in a uniform manner which will not disturb the resin layer. Take care that "folds" do not develop in the resin.
3. Allow to cure.
4. Sweep or vacuum excess aggregate.

Use subparagraphs 5 and 6 if double broadcast is needed to achieve a greater thickness. Delete subparagraphs 5 and 6 if greater thickness is not needed.

5. Apply second coat in accordance with resin manufacturer's instructions in the same manner as subparagraph 1 of this article.
6. Broadcast aggregate [] lbs./100 sq. ft. ([] kg/10 sq. m) and allow resin to cure.
7. Sweep or vacuum excess aggregate.
8. Apply seal coat in accordance with manufacturer's instructions:
 - a. First coat: [] mils]
 - b. Second coat: [] mils]
 - c. Third coat: [] mils]

***** OR *****

A. Trowel Method

1. Blend dry aggregate in large batches to ensure uniform color. Avoid overmixing.
2. Determine resin to aggregate ratio. Ratio used will depend on aggregate blend and resin characteristics.
3. Mix and apply prime coat in accordance with resin manufacturer's instructions. Make sure primer is applied uniformly. Do not allow puddles or ridges to occur.
4. Immediately after an area has been primed, broadcast a very light application of aggregate on wet primer. This will give a rough surface to trowel against.
5. Add properly compounded resin to blended aggregate and completely mix. Apply resin mixture to primed area.
6. Dump the resin mixture in ribbons and trowel immediately. Trowel the floor to a ([] inch) [] mils thickness and maintain specified tolerances. Use a floor-level light, such as a

- floodlamp, to see and correct imperfections. Do not trowel when gelation of the resin begins. Keep trowel clean. Power trowel blades should be plastic coated.
7. Join adjacent areas of work by cutting the edges of the first troweled area at a 90° angle to the floor so that the following areas can be troweled against an edge.
 8. Allow floor to cure tack free.
 9. Apply seal coat in accordance with resin manufacturer's instructions. Do not allow resin to collect in puddles or build up in low spots. Allow resin to cure according to resin manufacturer's instructions before permitting regular traffic.
- B. Finish floor to smooth level surface to specified tolerances[.] [sloped to drains.] Provide [cove] [fillet and cove] at vertical surfaces.

3.05 SCHEDULE

Provide a schedule when different types, colors, thicknesses, and locations suggest clarification by scheduling.

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