

## Broadcast Colored Quartz Flooring System

### Definition of Broadcast Colored Quartz Flooring System

A decorative, seamless floor system that combines a blend of colored quartz granules with a clear polymer matrix. The floor is applied in successive lifts of epoxy and colored granules until the desired thickness is achieved. Finished thickness of a double broadcast system is approximately 3/32" to 1/8".

The following is intended as a general-purpose guide **only** and may not be an appropriate installation method for every specific project. Please contact Thermal-Chem Corporation with specific questions regarding product application and recommendations.

### Applicable Products

DecoQuartz base coats are available in normal and rapid cure formulations: DecoQuartz – Normal; DecoQuartz Plus – Rapid. Quartz floors may be top coated with one of Thermal-Chem's clear coat products: DecoTop Clear, DecoTop P92, or one of three urethanes. Always refer to individual Product Description Sheets and/or chemical resistant chart for the appropriate product selection or contact Thermal-Chem for additional assistance.

### Typical Spread Rates

**NOTE:** All coverage rates are theoretical. No guarantee of results is possible due to the specific nature and numerous variables present in individual projects. Variables include, but are not limited to: substrate conditions, installation techniques, material temperature, surface temperature and air temperature at the time of application.



### Application of a Broadcast Colored Quartz Flooring System

#### Surface Preparation

Refer to *Installation Guide # 2001-IG* for recommended substrate preparation and cleaning procedures for concrete, or contact Thermal-Chem directly.

#### Temperature - Ambient, Substrate and Material

Temperature is critical for a successful application when using 100% solids epoxies. Material, ambient and substrate temperatures directly impact the spread rate and workability of the material as well as cure time. A 20°F decrease in temperature can result in a doubling, or tripling in some cases, of material viscosity, entirely changing spread rates and coverage. More importantly, cure times will almost double. One additional factor, material thickness (mass), also directly impacts cure time. As a general rule, the warmer the temperatures and the thicker the material, the faster the cure.

Concrete is a cold sync material and will assume the lowest temperature to which it is exposed. Always determine the substrate temperature, particularly for slab-on-grade installations, and do not assume that an ambient temperature of 70°F will produce a substrate temperature of 70°F. In most cases, substrate temperatures are cooler than ambient air temperatures.

For installations where the substrate and ambient temperatures are below 65°F to 70°F, it is best to pre-condition the epoxy material to approximately 80°-85°F. Aggregate should be preconditioned to the same temperature as the epoxy.

## **NEVER GUESS AT TEMPERATURE! RECORD IT WITH A THERMOMETER!**



Refer to individual Product Description Sheets for basecoat and topcoat recoat and viscosity information.

### **Broadcast Colored Quartz Floor**

1. Typically several quartz colors are blended together to produce a finished floor color palette. If blends are produced at the job site, mix thoroughly to insure a uniform distribution of each color throughout the floor. Try and avoid blending more than four colors or small percentages of colors. Factory blending is available for a small up-charge.
2. After the surface has been thoroughly cleaned/prepared and the quartz blend completed, mix component A, then pour A and B components of either DecoQuartz or DecoQuartz Plus together in a clean mixing vessel and mix for approximately 2 minutes. Mix only the material that can be placed in approximately 30 minutes. Resin for the first broadcast is typically a straw or clear material, however, if the substrate is heavily stained or shows extreme variations in color, a pigmented basecoat material such as ArmorBond or ArmorBond Plus may be more suitable for the first broadcast. This will help to provide a more uniform color to the finished floor surface, and will help to prevent an irregular cast or shadow across the surface.

**CAUTION:** Thermal-Chem rapid cure materials such as DecoQuartz Plus or ArmorBond Plus will have a reduced potlife of less than 20 minutes and must be mixed and placed more quickly than normal cure materials. For more specific information, refer to individual Product Description Sheets for product being installed or contact Thermal-Chem Corporation prior to mixing and application.



**NOTE:** When cutting-in or applying resin in restricted areas, mix smaller quantities and utilize smaller containers. Mixed material in larger masses will generate heat and gel or cure prematurely. In some instances material in larger masses may smoke and exotherm.



3. Once the material has been thoroughly mixed, pour the entire contents of mixed resin on the substrate in a ribbon pattern and spread with a flat squeegee using overlapping two direction squeegee passes. This will help to prevent bubbles. Backroll with a lint-free " nap mohair roller to eliminate any squeegee marks. Apply at the rate of approximately 100 to 150 square feet per gallon. Once the material has been spread, and while the material is

still wet, broadcast the entire surface to the point of rejection with the selected quartz blend. Broadcasting to rejection typically will require 1 lb. of quartz per square foot.

4. Allow the first broadcast coat to cure, and then remove any excess aggregate by broom or vacuum. The excess colored quartz aggregate may be recycled for future use if properly cleaned by removing dirt and debris. Make any necessary cosmetic repairs or touch-ups to the surface of the first broadcast before continuing to the next step.
5. Once cosmetic repair are complete, mix either DecoQuartz or DecoQuartz Plus resin in the same manner as in Step #2 above, and apply a second application over the first at the rate of approximately 80 to 90 square feet per gallon. Spread with a squeegee applying minimum pressure and backroll using a 1/2" nap mohair roller to eliminate any squeegee marks. Mix only the amount of material that can be placed in approximately 30 minutes.
6. While the material is still wet, broadcast the surface to the point of rejection with the selected quartz blend. The second broadcast will also require approximately 1 lb. of broadcast material per square foot of surface. Apply the quartz blend evenly so the entire surface appears dry and no wet spots of resin can be detected.
7. Allow the second broadcast to cure then remove the excess aggregate by broom or vacuum as in Step #4 above. The excess colored quartz aggregate can be retained and recycled for future use on another project or for another area of the same project. Be sure to remove any dirt and/or debris from the reclaimed aggregate prior to re-use.
8. When all excess aggregate has been removed, the surface should be sanded, as necessary, with a floor-sanding machine, using an approximately 100-grit screen to remove any imperfections and/or surface irregularities. The surface should then be thoroughly cleaned and vacuumed to remove any dust or debris left from the sanding. Imperfections, dust and debris will be magnified with a clear topcoat.
9. Mix the clear topcoat material in the same manner as previously indicated. Pour the entire contents of mixed material onto the substrate in a ribbon and spread by means of a clean flat squeegee at the rates indicated below for the appropriate topcoat material. Allow the material to flow-out for several minutes and then backroll with a 1/2" short nap mohair roller. Use masking tape to remove lint from the roller.
10. When the clear topcoat has cured, an optional, and highly recommended, second thin mil topcoat should be applied for additional protection. If urethane is selected as the topcoat, always apply a minimum of 2 topcoats with a 3<sup>rd</sup> topcoat optional. Lightly sand the surface between topcoats to remove imperfections, tack wipe and apply the next topcoat.
11. Clear topcoats for colored quartz floors may be selected from the following. Always refer to individual products description sheets for specific advantages and limitations:
  - **DecoTop Clear** - 748 (Epoxy - Interior use only)
    - 1<sup>st</sup> coat @ approx. 90 sq. ft./gal.
    - Optional 2<sup>nd</sup> coat @ approx. 160 sq. ft./gal.
  - **DecoThane E-56** - 1056, DecoThane E54 - 1054 (Urethane - Interior or exterior)
    - 1<sup>st</sup> coat @ approx. 280 sq. ft./gal.
    - 2<sup>nd</sup> coat @ approx. 300 sq. ft./gal.
  - **DecoTop P** - 1060 (Polyurea - Interior or exterior)
    - 1<sup>st</sup> coat @ approx. 100 sq. ft./gal. (Do not apply thicker than 20 mils - 80 sq. ft./gal.)
    - Optional 2<sup>nd</sup> coat @ approx. 160 sq. ft./gal.

**NOTE:**

It is important to select a clear cycloaliphatic type resin for the topcoat(s), with excellent non-yellowing and UV resistant characteristics. DO NOT USE DecoQuartz - 746 or DecoQuartz Plus - 743 as a topcoat, or any resin other than those listed above – without contacting Thermal-Chem.

**CAUTION:**

Thermal-Chem recoat time is approximately 24 hours for normal cure material. Rapid or fast cure materials such as DecoTop P (Polyurea) have a faster recoat time that may be short as 4 to 6 hours. For more specific information, refer to individual Product Description Sheets for product being installed or contact Thermal-Chem Corporation prior to mixing and application.

### Finished Textures

Texture is typically produced through a combination of quartz granule sizes, how aggressively the cured floor is sanded prior to applying a topcoat and the thickness and/or number of topcoats.

Thermal-Chem makes available 2 sizes of broadcast color quartz: broadcast medium and broadcast fine. A larger, more angular colored quartz is also available that is normally used in a troweled application but may be used if a very rough and aggressive texture is desired. Broadcast medium is, by far, the most widely used for broadcast colored quartz floors.

- **Smooth:** Use broadcast fine quartz or sand aggressively the cured floor or apply thicker or multiple topcoats.
- **Medium:** Very lightly sand the cured floor and apply thinner topcoats.
- **Coarse:** Do not sand the cured floor or mix larger quartz granules into the selected quartz blend used in the broadcast step. Avoid applying a thin topcoat, as the larger granules need to be completely locked in with the topcoat to prevent dislodging.

### Precautions, Limitations, and Notes

- To achieve optimum installation results, refer to individual Product Description Sheets for specific product limitations such as: application temperature, suitability for the application, chemical resistance, cure times, substrate requirements and available colors – or contact Thermal-Chem directly.
- No solvents of any kind should be used to place, mix, or thin any Thermal-Chem base coat materials. Solvents can adversely affect the overall integrity and/or performance of the finished product.
- Always refer to individual Product Description Sheets and/or the chemical resistant chart for product recommendations and for specific performance characteristics of each product.
- Caution should always be taken when applying this or any Thermal-Chem product over a substrate that may be subject to hydrostatic or moisture vapor transmissions. When in doubt, a quantitative moisture test should be taken to determine suitability.
- Always wear eye protection devices, non-absorbent gloves, and protective clothing when handling any of the products and/or chemicals referred to in this *Installation Guide*. Always read and refer to package labels, warning labels, and MSDS sheets carefully prior to use.

- In case of contact with skin by any Thermal-Chem products, immediately remove the material with soap and water; and follow all written instructions on the appropriate MSDS sheets for exposure to the material and with regard to any “Medical Emergency Procedures”.
- Work areas should always be adequately ventilated, especially in low and confined spaces.
- It is the responsibility of the user to be aware of and comply with all the appropriate regulations for discarding of material waste and/or chemical waste; and further, it is the user’s responsibility to handle and dispose of this waste within appropriate local, state, or federal guidelines.

## Manufacturer

Any questions or comments regarding the contents of this *Installation Guide*, for technical questions or assistance, and/or questions with regard to specific installation procedures, contact the manufacturer:

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