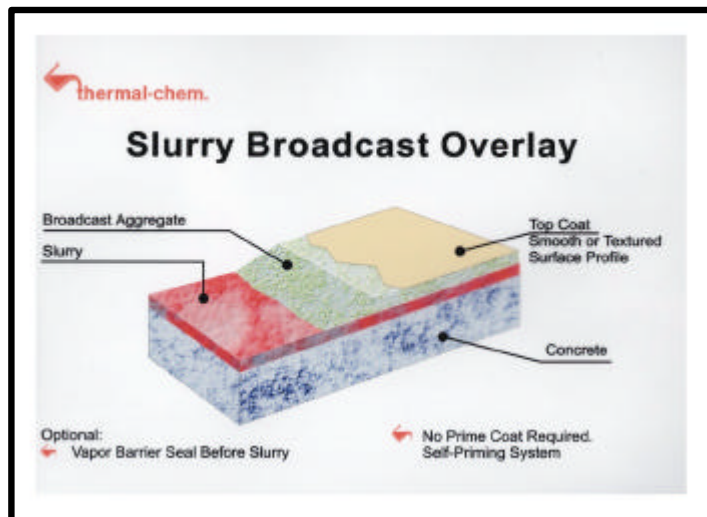


Slurry/Broadcast Systems

Definition of a Slurry/Broadcast System

A slurry/broadcast system includes mixing Thermal-Chem TC #4 Slurry Sand with a Thermal-Chem polymer basecoat resin. These systems are applied using screed rake, the material allowed to self-level, and while still wet, the surface is broadcast to the point of rejection with TC #6 Broadcast Sand.

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 applications and/or recommendations.



Applicable Products

Most of the Thermal-Chem basecoat products can be used to install a slurry/broadcast floor system. Always refer to individual Production Description Sheets and/or chemical resistant chart for the appropriate product selection – or contact Thermal-Chem for additional assistance.

Typical Spread Rates

One (1) gallon of mixed resin (components A and B) blended with approximately 15 to 18 lbs. of Thermal-Chem TC #4 Slurry Sand applied at 1/8" in depth will cover approximately 28 square feet, depending upon the substrate profile and porosity. Broadcasting TC#6 sand at the rate of approximately one pound per square foot and to complete rejection, will produce a $3/16$ " to " finished height, depending upon temperature and the selected base coat.

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, and surface and air temperatures at the time of application.



Application of the Slurry/Broadcast 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.

Slurry/Broadcast System

1. **Typically, a primer is NOT required with this method of application.** However, caution should be exercised when applying a Slurry/Broadcast system over an extremely porous substrate. A porous or uneven substrate may increase the consumption rate of the material. An unprimed surface may also be subject to bubbles due to out-gassing and/or can effect the overall thickness of the finished system.
2. After the surface has been thoroughly prepared and cleaned, prime if appropriate. Next mix the resin (components A and B) together in a clean mixing vessel for approximately 2 minutes. Add 15 to 18 lbs. Of TC #4 Slurry Sand per gallon of mixed resin and blend thoroughly. The flowability of the mix will be affected by the substrate and/or material temperature at the time of application, and the amount of slurry aggregate can be adjusted to suit the specific environmental conditions or temperatures. Mix only the amount of material that can be placed in approximately 25 to 30 minutes.

NOTE:



Sieve sizes and particle shape are absolutely critical in achieving successful self-leveling of the slurry mix. **DO NOT SUBSTITUTE** other slurry sand for TC #4 unless approved by the manufacturer.

CAUTION:



Thermal-Chem rapid cure materials such as ArmorBond Plus 3.0 will have a reduced potlife of less than 30 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.

3. The slurry mix should be applied by means of a screed rake or other appropriate depth gauge device to insure recommended spread rates and thickness. Be sure to check the depth of the gage device periodically to insure an even thickness of the applied material.
4. Once the material has been placed and has had an opportunity to self-level for several minutes, back-roll with a porcupine roller to minimize entrapped air and eliminate any screed or notch marks left over from the application. This procedure will aid in producing a smooth surface.

Always verify applied thickness and periodically check spread rates during the application process, to help insure and maintain the required finished thickness.

5. Immediately after the application of the slurry mix is completed as described in Step #4 above and once the mix has had an opportunity to self-level, ***AND while the material is still wet***, broadcast TC #6 silica onto the surface until rejection or to the point where the surface has the appearance of dry aggregate and no wet spots can be detected. Typically a broadcast to rejection will require one pound per square foot of silica sand.

NOTE:



Broadcasting aggregate into the wet resin will cause the finished system thickness to grow by as much as 75% to 100%, depending on the Thermal-Chem product being utilized. (For example, ArmorBond applied as a 1/8" thick slurry, broadcast with TC #6 aggregate to rejection, will result in a 3/16" to " thick finished floor system.)

SPECIAL

NOTE:



TEXTURE: The use of Thermal-Chem TC #6 Broadcast Silica will provide a heavy slip-resistant texture. A fine or medium texture can be achieved by broadcasting with a slightly smaller aggregate or aggressively sanding with a floor machine, using 60 to 80 grit paper, after the system has cured. A smooth texture can be produced by applying the material as described in Step #4, and allowing the material to cure without broadcasting any aggregate, or broadcasting minimal aggregate. Once the slurry material has cured, a topcoat application can be applied for a smooth finish, or an appropriate slip-resistant aggregate, such as an aluminum oxide, can be incorporated into the neat material and backrolled to achieve a fine or medium slip-resistant texture.

6. As soon as the Slurry/Broadcast basecoat system has reached initial cure and can be walked on, but before the re-coat time for the specific product being used has elapsed, the excess broadcast aggregate can be completely removed by broom or vacuum. The recovered aggregate can be recycled for future use.

CAUTION: The topcoat **MUST** be applied before the re-coat window has elapsed. Failure to complete material applications in specified time frames will require additional surface preparation.



Check individual Product Description Sheets or contact Thermal-Chem Corporation for specific information.

The application of a protective topcoat to the broadcast surface is highly recommended in order to achieve maximum protection, wearability, appearance, and durability for this slurry floor system.

FINISHED TEXTURES

Medium Texture: Allow the slurry/broadcast basecoat to cure sufficiently, aggressively sand the entire surface using a floor machine with 60 to 80 grit paper. Remove any dust and debris by sweeping, blowing, or vacuuming the surface. Apply the topcoat material at approximately 90 to 100 square foot per gallon with a squeegee and backrolled with a " nap mohair roller to remove squeegee marks and achieve a uniform finish.

Heavy Texture: Allow the basecoat system to cure sufficiently and lightly sand the entire surface using a floor machine with 60 to 80 grit paper to remove any high spots. Remove any dust and debris from the surface. And then apply the topcoat material at approximately 80 square foot per gallon with a squeegee and backrolled with a " nap mohair roller to remove squeegee marks and achieve a uniform finish.

NOTE: For additional topcoat recommendations and/or texture options, refer to the **Installation Guide for Thin Mil Coatings & Topcoats.**



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.
- No solvents of any kind should be used to place, mix, or thin any Thermal-Chem polymer 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 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 appropriate eye protection, 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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