

Wausau Tile - Single Layer Thin Terrazzo Tile Installation Guidelines

For questions or assistance, please contact:

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A. SUBSTRATE AND SURFACE INSPECTION

1. The surface to receive precast terrazzo tile shall be plumb, level and true with square corners. Maximum variation from the required plane shall be 1/8" in 10 feet. Concrete surface to be steel troweled with a fine broom finish and free of sealers and curing compounds. Mechanical scarifying will be necessary if sealers or curing compounds are present in the substrate. Only after the substrate is carefully inspected and meets all requirements for substrate preparation should the tile layout begin.

B. NON-DIRECTIONAL/SHRINKAGE CRACKS IN CONCRETE SUBSTRATE

1. Careful evaluation of all cracks in the substrate is required to determine how best to control crack transfer from the substrate concrete through the finished terrazzo tile floor. In areas having minor shrinkage cracking, and where very minimal movement in the substrate is expected, the use of anti-fracture membranes is recommended. Install the membrane product following manufacturer's instructions.

C. EXPANSION JOINT CONTROL

1. All soft joints and expansion joints are to be located directly over cold joints or any substrate expansions. The architect is to determine the final location of all control joints. Follow the placement guidelines in the current issue of the Tile Council of America Handbook for Ceramic Tile Installation.
2. Some examples of control joint placement include:
 - A. Column lines
 - B. Cold joints in the substrate concrete
 - C. Intersections of hallways (in all directions)
 - D. Door recesses where structural walls are located
 - E. Over saw-cut concrete control joints

D. TILE LAYOUT PROCEDURES

1. Review architect's drawings for tile pattern, design layout and type of terrazzo tile installation specified. The two installation types are:
 - A. **Tile Set Installation** using our **Chamfered Edge – Polished** tile set with a 1/8" to 3/16" grout joint. The Chamfered Edge – Polished tile do not require any grinding or polishing after installation. Our Factory Polished tiles are not factory sealed
 - B. **Ground & Polished Installation** using our **Square Edge – Honed** tile, which are set with a 1/16" minus grout joint and then field ground and polished to result in a flush, monolithic type floor. The **Square Edge – Honed** tile are not factory sealed and require the grinding and polishing process to bring them to their final finish. After the floor is brought to its final polish the tile need to be thoroughly cleaned with a neutral ph cleaner and a final seal applied with a product recommended for cement terrazzo. Follow sealer manufacturer's instructions for application and care of sealed floor.
2. Care must be taken in setting up the terrazzo tile layout including checking overall dimensions of the area to be tiled.
3. Check and square all areas to determine which walls and perimeters are not correct. Review layout options to compensate for any areas out of square.
4. If possible avoid small cuts of 4" or less at the perimeter.
5. After layout is complete, snap chalk lines on the key lines. Set up your grid pattern based on the tile and joint size.

E. MIXING OF THE THINSET MORTAR

1. Always follow the manufacturer's printed instructions on the bag. It is important to mix the mortar consistently and as directed by the manufacturer of the mortar used.

F. APPLICATION OF THE THINSET MORTAR

1. The concrete substrate should be free of curing compounds, sealers, dust and dirt to prevent delaminating of the mortar from the substrate. Follow the thinset manufacturer's application instructions. The latex mortar is to be flat troweled tight to the substrate using the back edge of a notched trowel. A 1/4" x 1/4" x 3/8" U-notched trowel is recommended for our 1/2" terrazzo tile and a 1/4" x 1/4" x 1/2" U-notched trowel for our 5/8" or 7/8" thick terrazzo tile. To prevent air entrapment, final troweling should be done in a straight line in one direction. Keeping a consistent angle on the trowel will help to maintain a uniform setting bed. A uniform setting bed will save time in adjusting the tile during setting. Troweling should not take place more one or two grids ahead of the setter.

G. SETTING OF THE TERRAZZO TILE

1. The pallets of terrazzo tile are numbered and should be opened two or three at a time numerical order. During material handling of the terrazzo tile always bring the pallets as close as possible to the area where the tile are being set. The tile should be inspected as they are being pulled from the pallets prior to being given to the setters for installation. The manufacturer should be notified of any product concerns prior to installation of the tile. The inspected and blended tile can be stacked on a cart, face-to-face and back-to-back.
2. Set the terrazzo tile by placing one edge of the tile as close as possible to the grid line and drop the tile onto the setting bed. Press the terrazzo tile into the mortar firmly while sliding the tile back and forth in a perpendicular direction to the combed mortar.
3. Carefully feel all adjacent edges of tile, maintaining less than 1/32" lippage. If any low edges are found the tile must be removed and a small amount of mortar added to the back of the tile or the setting bed and the tile reset. The setter should have a small pail of fresh thinset and a margin or pointed trowel to make minor adjustments. These adjustments will prevent lippage and give the terrazzo tile installation a better overall appearance.
4. A minimum of 95% thinset coverage is required on the back of the terrazzo tile. At least once an hour a tile should be pulled to inspect for thinset coverage. The corners of the terrazzo tile must have good coverage to prevent cracking.

H. GROUTING OF CHAMFERED EDGE – POLISHED SINGLE LAYER THIN TERRAZZO TILE TILE SET METHOD OF INSTALLATION

1. Prior to grouting clean tile and check for damaged tile, loose tile or surface irregularities/blemishes. **A grout release compatible with cement terrazzo needs to be applied prior to grouting.**
2. With a low-pressure sprayer apply clean water over tile and grout joints. Dampen but do not flood the grout joints. This procedure should be done 15 to 30 minutes prior to grouting.
3. Mix grout according to manufacturer's instructions. Spray clean water into the open joints once again. Fill the grout joints as full as possible with grout. Keep the floor damp until grout has cured (see manufacturer's guidelines for curing time).

I. FINAL FLOOR FINISH: CHAMFERED EDGE – POLISHED SINGLE LAYER THIN TERRAZZO TILE

1. Our Single Layer Thin Terrazzo Tiles are **not** factory sealed. A grout release product needs to be applied to the tile prior to grouting. After the grout has dried follow manufacturer's instructions for removal of the grout release. Clean the floor thoroughly with a neutral ph cleaner and apply the final floor seal with a product compatible with cement terrazzo following the sealer manufacturer's instructions.
2. Refer to the architect's specification for the specified maintenance program.

J. GROUTING OF SQUARE EDGE – HONED SINGLE LAYER THIN TERRAZZO TILE GROUND AND POLISH METHOD OF INSTALLATION

1. Prior to grouting clean tile and check for damaged tile, loose tile or surface irregularities/blemishes.
2. With a low-pressure sprayer apply clean water over tile and grout joints. Dampen but do not flood the grout joints. This procedure should be done 15 to 30 minutes prior to grouting.
3. Mix the grout following manufacturer's instructions. The first grouting should be a thin viscosity, flood coat slurry. This first flood grouting is the most important step in the grouting for the Ground and Polish installation. Just prior to the first grouting dampen the open joints once again with clean water. Having the open joints damp allows the flood-coat grouting to flow and fill the narrow joints. Pour the flood-coat grout on the floor and with a push squeegee move the grout back and forth filling the open joints. Allow five to ten minutes for the grout to slump and then final squeegee the surface of the tile filling the joints as full as possible.
4. The second grouting is done approximately two hours after the first grouting. This time will vary due to drying conditions on the jobsite (do not rush the second grouting). Just before the second grouting apply a light film of water on the floor. The second grouting is done using a rubber grout float or flat steel trowel. Hold the trowel at an angle of 20 degrees or less forcing the second grouting down into the grout joints. Work the second grouting back and forth leaving a thin layer of grout on the tile but do not leave "ridges" of grout on the tile. It is vital that

the grout joints are overfilled without any gaps or holes. Care should be taken to inspect the grout joints while troweling. Approximately two hours after the second grouting, the grout joints should be inspected to insure that the grout has not slumped and is level with top surface of the tile. If the grouting is done correctly this will eliminate the need to re-grout or refill joints after the grinding and polishing process. Keep the grouted floor damp for a couple of days to help cure the grout joints. The grout film left on the tile helps to ease the grinding process.

**K. GRINDING AND POLISHING OF THE SINGLE LAYER THIN TERRAZZO TILE
SQUARE EDGE – HONED TERRAZZO TILE**

1. The grout joints need to be completely cured prior to the grinding of the floor. Consult the architect's specification to determine the degree of polish required for the floor.
2. The initial grinding should be done with either 40 to 60 grit diamonds or vitrified abrasive stones of 24 to 40 grit. The floor should be ground to remove all lippage and to flush all grout joints with the tile surface. NOTE: If any metal strips, such as expansion joint strips, are higher than the terrazzo tile, you need to grind these strips flush. Use a hand/base grinder flush the strips preventing damage to the strips or tile with the floor grinder. After the initial grinding is complete the floor should be cleaned and inspected to insure that the grout joints are flush and all lippage is removed.
3. Following inspection and cleaning, the polishing process can follow directly behind the grinding process. The perimeter of the floor should be ground and polished with a 80 grit base wheel prior to the polishing of the main floor area. Clean these perimeter areas prior to the polishing of the main floor.
4. The floor must be clean and free of sand or abrasives to prevent scratching of the tile surface. Polish the floor completely with 80 to 120 grit diamonds or vitrified abrasive stones. In installations where a more lustrous finish is desired 100 grit diamond or 120 grit abrasive stones can used for the final polish. If a higher sheen finish is desired, additional polishing with higher grit diamonds or stones may be required.
5. The first step after final polishing is to inspect the surface of the terrazzo tile for scratches or swirl marks. Fine scratches on the terrazzo tile may be removed using a floor buffer and a fine diamond polishing or a nylon pad with a 120-grit screen. Polishing compounds may also be required for higher polished floors. Any scratches or swirl marks must be removed prior to sealing the floor.
6. The final cleaning of the floor is easier when the grinding and polishing are completed in one process. This will prevent residue from the grinding and polishing process drying on the floor, walls, doors etc. Thoroughly rinse and clean the work area. Inspect and repair and pin holes in the grout joints. Fans should be used to help with the drying of the floor.
7. Apply a strippable and water permeable seal to the floor, following the manufacturer's instructions, to protect the floor during completion of construction. The floor should be totally dried and cured prior to stripping, cleaning and application of the final seal.

L. FINAL FLOOR FINISH: SQUARE EDGE – HONED THIN TERRAZZO TILE

1. Final cleaning, sealing and finishing take place after the floor is totally stripped of the protective floor finish. Strip the floor according to the seal manufacturer's recommendations and procedures. Then inspect the terrazzo tile ensuring that it is free of all floor finish, film and dirt. You should be able to rub the palm of the hand over the floor with no dust, film or dirt showing on your hand. Any film, moisture or dirt left on the floor will be sealed in and the appearance of the finished floor will look cloudy and uneven.
2. Sealing/finishing is done only when the floor is totally dry and clean. Our thin terrazzo tiles require a neutral pH for all cleaners, soaps, seals and floor finishes. The manufacturer of the sealer and floor finish should provide technical assistance and guidelines for the application and maintenance of their products on the installed terrazzo tile floor.
3. The architect's specification is to define which seal/finish type is to be used on the terrazzo tile floor.