



Technical Service Bulletin 04T06 CEMENT TOP INSTALLATION

1. General.

- a. The recommended tabletop cutting surface for diamond-bladed stone saws is a mixture of portland cement and play sand. Your saw blade will cut slightly into this surface so do not use contractors' washed sand or gravel as these are highly abrasive and will damage your blade. Play sand is readily available in 50 lb bags at building or farm centers.
- b. The best mix ratio will depend on the type of blade and particularly the hardness of the diamond segment bond material. Harder bonds are for harder stone. A hard bond requires a more abrasive cutting surface to intentionally wear the bond and expose fresh diamonds to keep the segment from dulling or glazing. Soft bonds need less abrasion to prevent accelerated wear. It is better to err toward overly abrasive and a sharp blade. A dull blade may push the stone so hard as to distort the blade and move the stone. This will result in an unsatisfactory cut.
- c. The supply list is calculated for a 4" thick cement top on a standard or tilting 6 ft x 10 ft turntable requiring a total of 20 ft³ of cement. If your installation is for a different table, adjust the volume quantities as required. The principles of installation are similar.
- d. To save cost and mixing effort, the top can be poured in two layers with only the top layer composed of the play sand mix. The bottom layer can be composed of a standard concrete mix. The top layer should be poured a minimum 1" thick while the bottom layer must never be poured higher than a new saw blade can reach with the blade in its lowest position. (See TSB 04T05 Turntable Cement Form Installation for guidance in determining proper pour elevations.) A third option is to substitute marble chips (available at home centers) and play sand for the gravel and washed sand. This mix will also be compatible with the saw blade.

2. Tools

- a. Tools for mixing cement: Power mortar mixer. (Play sand mix without gravel or marble chips will be sticky like mortar and a power cement mixer will not work.)
- b. Cement handling and finishing tools: Shovel, hoe, screed board, float.

3. Supplies. These supplies are calculated for 110% of the amount for a 6'x10' standard or tilting turntable requiring a nominal 14 ft³ of concrete mix and 6 ft³ of play sand cement mix to pour the bottom layer 2.75" thick and the top layer 1.25" thick. You will also need about 50 gallons of clear water.

- a. Bottom Layer, 2.75" thick, $120'' \times 72'' \times 2.75'' / 1728 \text{ in}^3 / \text{ft}^3 \times 110\% = 15 \text{ ft}^3$. (One 94 lb bag of cement makes about 3.75 ft³ of concrete mix.)
 - i. Portland cement, 94 lb bag 4 each
 - ii. Washed sand 700 lbs or 7 ft³ or 1/4 yard
 - iii. Large aggregate (use regular concrete type or marble chips)
 1. Gravel, 3/4" or smaller (or) 900 lbs or 9 ft³ or 1/3 yard
 2. Marble chips 800 lbs or 9 ft³ or 1/3 yard
- b. Top Layer, 1.25" thick, $120'' \times 72'' \times 1.25'' / 1728 \text{ in}^3 / \text{ft}^3 \times 110\% = 7 \text{ ft}^3$ (One 94 lb bag of cement makes about 2 ft³ of sand mix.)
 - i. Abrasive mix

1. Portland cement, 94 lb bag 3 each
 2. Play sand, 50 lb bag 15 each
 - ii. Soft mix
 1. Portland cement, 94 lb bag 5 each
 2. Play sand, 50 lb bag 10 each
4. **Install form boards** on the tabletop per TSB 04T05 Turntable Cement Form Installation.
5. Mix the bottom concrete layer in the volume ratio 1:2:2 (cement:sand:gravel) or weight ratio 1:1.9:2.3. Batch mix, pour and level the concrete to the desired elevation.
6. Mix the top cement layer
 - a. Abrasive mix: Volume ratio 1:3 (cement:playsand) or weight ratio 1:3.3.
 - b. Soft mix: Volume ratio 1:1 (cement:playsand) or weight ratio 1:1.1.
7. Batch mix, pour and screed the cement top to the desired elevation. There is no need to wait for the bottom layer to set.