

Concrete Repair: Making Mortar

The following informative bulletin provides an easy-to-use technique with simple calculations to determine the correct number of pails needed for a given size repair.

LARGE SCALE PATCH JOBS WITH NEW GENERATION 100:

A rock-hard patching mix can be made from New Generation 100 and sand. It can be used to fill large holes or trenches, or to level off damaged slabs.

ITEMS NEEDED:

- Play or Construction Sand
- ½" Drill (or more powerful)
- Large-Paddle Mortar Mixer
- Ten gallon container, wash tub or wheel barrel can be used as a mixing vessel.

NOTE: Use 100 lbs. of sand for each 4 gal. pail of New Generation 100 Clear, Grey or Off White.

4 gal. pail of New Generation 100 and 100 lbs. sand = 7 gallons of mortar.

Since there are 7.48 gallon in a cubic ft,

$$\frac{\text{cu ft.}}{7.48 \text{ gal.}} \times 7 \text{ gal.} = 0.93 \text{ cubic feet}$$

That is, each pail (+ 100 lbs. sand) will yield 0.93 cu. ft. of mortar.

Step 1:

Determine the average depth (usually in inches) of the hole or trench, then convert this average depth, in inches, to feet.

Example 1

Average depth
2 inches

Divide by 12 ... 2 divided by 12 = 0.166 ft.

Example 2

Average depth
6 inches

Divide by 12 ... 6 divided by 12 = 0.5 ft.

Step 2:

Multiply the surface area of the hole (in square feet) by the average depth in feet as determined in Step 1, to get the volume in cubic feet.

Example 1

Trench is 2' Wide	$2 \times 11 \times 0.166^* = 3.65 \text{ cu. ft.}$
11' Long	(*2" converted to feet)
2" Deep	

Example 2

Same trench	$2 \times 11 \times 0.5^{**} = 11 \text{ cu. ft.}$
6" deep	(**6" converted to feet)

Step 3:

How many pails will you need?

Divide the volume of the trench or hole, as determined in Step 2, by 0.93 cu. ft./ pail.

Example 1
$$\frac{3.65 \text{ cu. ft.}}{0.93} = 3.92 \text{ or } 4 \text{ pails and } 400 \text{ lbs. of sand}$$
Example 2
$$\frac{11 \text{ cu. ft.}}{0.93} = 11.8 \text{ or } 12 \text{ pails and } 1200 \text{ lbs. of sand}$$

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- Mix the New Generation 100 before adding to the sand. Keep materials cool and work fast. Spread mortar with the ¼" squeegee, available from Spartan.
 - The volume of deeper holes and trenches can be reduced with well-compacted sand / gravel brought to within 2" of the surface.
 - Patched areas can be top coated immediately, if desired with any Spartan Concrete Evidence product. Since this is a 100% solids material, no solvent or water needs to escape out of the patch, and therefore the patch can be top coated immediately. This also means that the patch will not shrink or pull away from the bonding surfaces, resulting in much greater adhesion and much longer patch life than patching compounds containing water or solvents.
 - Because of heat-of-reaction build-up, holes more than 12" deep should be repaired in stages, no more than 12 vertical inches per stage.