

ABCs of Making Adobe Bricks

Cooperative Extension Service
College of Agriculture and
Home Economics



Guide G-521

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Making adobe bricks is an art. As with any art, experience is a great asset to accomplishment. The essential steps that beginners should take in learning the art of adobe construction are presented here.

Soils

Adobe bricks are made of native soil and possibly an organic additive. To make durable bricks, you must know which soil types to use.

In New Mexico, soils commonly called “adobe soils” are not well-suited to brick making. They contain far too much clay. They tend to shrink and crack severely as they dry. Desirable soils for brick-making are those classified as loamy sands, sandy loams or sandy clay loams. These textural names are given to soils that contain sand, clay, and silt within the ranges of percentages shown in table 1.

Table 1. Composition of soils that make good adobe brick.

Soil Textural Name	Percent Sand	Percent Clay	Percent Silt
Loamy sand	70 to 85	0 to 15	0 to 30
Sandy loam	50 to 70	15 to 20	0 to 30
Sandy clay loam	50 to 70	20 to 30	0 to 30

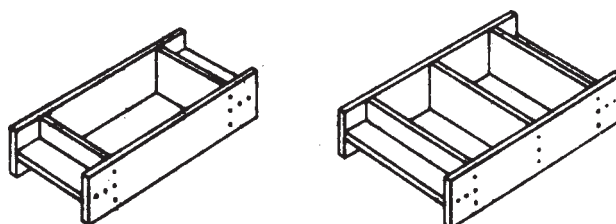
There are three important points to remember about these soil descriptions. 1. In none of the classifications does the clay content of the soil exceed 30 percent, or roughly one-third of the ingredients, and the major portion of each class, never less than 50 percent, is sand. 2. If you cannot classify the soil yourself, ask someone with soil classification experience to guide you (a county extension agent, Soil Conservation Service personnel, or U.S. Geological Survey personnel) or get advice from someone who has had local experience at brick-making. 3. If you cannot classify the soil or get it classified, then make a trial batch of bricks

from your soil at least six months before you begin production for your building project. This can provide your own “trial-and-error” education.

Equipment Needed

For small projects you only need:

- A good rake (for smoothing the drying area)
- A strong hoe (for mixing)
- A mold or form (fig. 1)
- A small hatchet
- A wheelbarrow
- A shovel
- A handy water supply
- A pitchfork if you add straw



Single form

Double form

Figure 1. Common forms for molding adobe brick.

The most common size of poured blocks and their approximate weights:

- 4 by 8 by 16 inches, 28 pounds
- 4 by 10 by 16 inches, 35 pounds
- 4 by 9 by 18 inches, 36 pounds
- 4 by 12 by 18 inches, 48 pounds
- 5 by 12 by 16 inches, 53 pounds
- 5 by 10 by 20 inches, 55 pounds
- 5 by 12 by 18 inches, 59 pounds

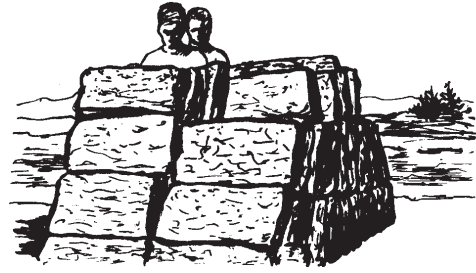
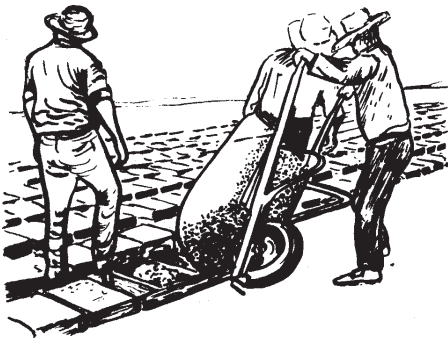
Procedures

Select a site that is near a suitable soil and has a large level area for drying and curing the bricks. Dig a pit about 2 feet deep and of any convenient size for mixing. Before you start mixing, soak the pit thoroughly for at least 12 hours to saturate the retaining perimeter.

When you are ready to start, put some soil in your pit and add just enough water, mixing as you add, to make a stiff mix. You may wish to add straw or dried manure to your mix. Although this may be the local customs, it is not structurally necessary.



Transport the mix to the drying area. The drying area should be sprinkled with dry sand or straw to prevent the wet blocks from binding to the surface of the drying area. Fill the forms with the mix and compact the corners thoroughly. With a straight edge, strike off the form and “gently” remove it, leaving the wet adobe bricks to dry for several days (at least three) before handling. Wash and reuse the forms immediately, but do not disturb the bricks. After several days, the bricks should be strong enough to be turned so that drying can continue. But they will not be strong enough to be handled roughly for three or four weeks, depending on weather conditions dur-



ing the drying time. However, if showers are prevalent during the brick-making season, you should stack the partially cured adobes in loose ricks and protect them as much as possible from moisture.

Adobe bricks gain strength with drying time, provided they are not exposed to rain or other moisture. Protect your work, but remember that the wind and the sun are your drying agents, and use judgment, too.



Some Dos and Don'ts

Do:

- Start small—until you learn the right blend. This may take months of experimenting.
- Use soils with high sand and low clay contents.
- Use a stiff mix.
- Select the time of year when the chances are best for a long drying season. Curing is important.

Don't:

- Build with adobe in areas subject to overflow or excessive rain or snowfall.
- Build with adobe unless labor is cheap or free. Adobe bricks are cheap only when labor is cheap.

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