

BUILD EARTH BAG WALLS BETTER (QUICKER/ STRAIGHTER):



B4: EARTH BAG INFO PART 4

Patti Stouter/ BuildSimple.org December 2020
and Natural Building Blog friends

Stake carefully



**Main string lines
outside of walls**

**Both diagonals
measure the same in
a 90° rectangle**

Tools can speed work



Line level with string
Chisel on steel to cut wire
Many kinds of tampers



Guides keep corners plumb



Compass for curves

The string or pole rises up center post



Pile soil close to the walls



Fill buckets quickly



Lift soil easily



**Use an auger
or elevator if no
loader is
available**

1 or more workers...



Bags can be built solo



Half-fill bags on soil pile

Fill to 50 lb (25 kg) Carry to wall and finish filling



Earth in tubes



**Easiest with team of 3-4
Custom lengths are
easy**



Tubes save time building and plastering

May work better for earthquakes



Mesh tubes are fastest*

Easy to load chute
Goes solid between
courses if soil damp, so
needs little or no barbed
wire



***Non-hazardous areas**

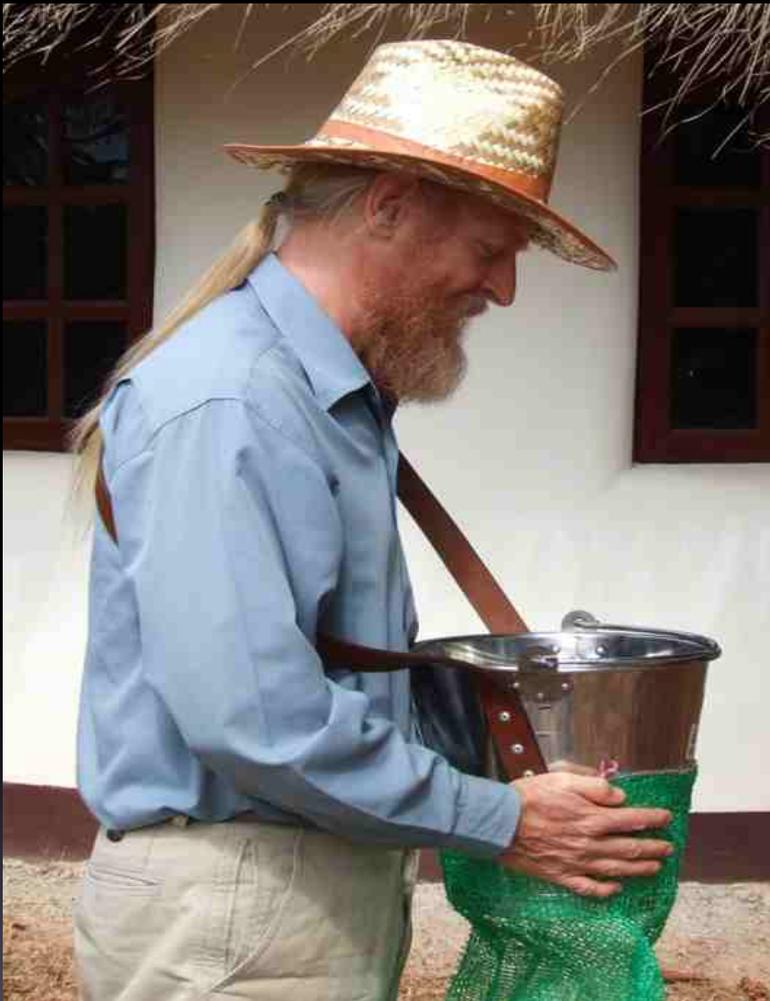
Use a metal slider



Place bag or tube, lay down, then pull slider out



Hold open with a chute



Bag or tube stands reduce fatigue



Or with no chute roll the bag edge



Firm up ends while filling



Pin ends with wire

**Tuck 2 sides in,
roll down, then
pin**



Design for full and 3/4 bags



**Shorter bags
wreck running
bond**



Neat ends speed plaster

Seam sticking out >

Corners stick out >

Corners tucked in >

Corners tacked in >



Pull in place with string



Side tamp clay while damp



**Flatter
bumps
reduce
plastering-
but leave
shallow
nooks**

Start level, finish level



Thin courses waste time, supplies and are too wide



Check with line or water level

From one central spot to far ends



Cut wire to length marks



Mark the length on a wall, Stretch wire alongside, cut, place immediately

Adjustable door bucks

Keep the strong buck at the tamping level



Cement or brick door frames



Termite proof but should attach to barbed wire



Simple scaffolds



**Stand on buttresses,
re-use door bucks**



More scaffolds

Poles through walls, pallets



Cast bond beams in bendable forms



Let tropical roofs breathe



**Openings near
the roof let hot air
out**

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B4: EARTHBAG INFO PART 4

This file covers some techniques for better accuracy and speed building with earthbag in non-hazardous or low risk areas. See the other parts of the Earthbag Info series available online to learn more.

Projects built around the world are featured at both the Earthbag Building and Calearth websites.

Strong buildings of natural materials require care and advice. Before building, purchase a book or video, take a course, and seek advice from experienced builders and architects or engineers.

Before building in areas with seismic risk, check www.BuildSimple.org/Resources for the latest structural information and latest versions of documents D100- 103 about building resilient CE earthbag to resist seismic risk.

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Thanks for hard work and sharing photos:

Slides:

- 1, 30 (upper right)- Small World School, Phuleli, Nepal
- 2, 8, 26, 32- M. Long, Haiti Christian Dev. Project, Bois Marchand, Haiti
- 4 (l.)- N. Decker, Residence, Thames, New Zealand
- 4 (r.), 9, 10 (r.), 29 (l.), 40- R. Barber/ EMI, Free Burma Rangers Clinic, Thailand
- 5- Guiding Star Creations, Tepoztlan, Mexico
- 6, 7, 15 (l.), 16 (l.), 25 (r.), 30 (l.)- O. Geiger, Natural Building Blog
- 10 (l.)- K. Watanabe, Community Center, South Shounah, Jordan
- 10 (r.), 30 (center)- Konbit Shelter, Barriere Jeudi, Haiti
- 13- Residence by architect Vallejo, Bogota, Columbia
- 14 (r.)- F. Pacheco, Ecooca, Brazil
- 15 (r.), 16 (r.), 22, 27, 29 (r.)- Cato, Chiapas Clinic, Mexico
- 17 (bottom l.)- Athens Zen Center, Ohio, US
- 18 (r.)- T. Hall, Residence, Hawaii
- 20 (l.), Rasin Foundation Clinic, Leogane, Haiti
- 20 (r.), 30 (r.)- E. Bellamy, University of Cincinnati prototype, Kentucky, US
- 24 (l.)- Shine on Sierra Leone School, Sierra Leone
- 28 (r.) K. Hart, Puerto Vallarto, Mexico
- 28 (l.), 37 (r.)- J. Anderton, Eternally Solar, South Africa
- 30 (l.)- Aman Setu School, Pune, India
- 31 (l.)- Christina & Reid, Addition, sw US
- 32 (r.)- J. Balmer, Phangan Earthworks, Koh Phangan, Thailand

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