



HYPERTUFA 101

"I AM ALWAYS DOING THAT WHICH I
CANNOT DO IN ORDER THAT I MAY
LEARN HOW TO DO IT."

—PABLO PICASSO

THE BASICS

THERE ARE MANY WAYS...

...to make hypertufa, so don't be too concerned if you read five articles on how to make hypertufa garden art and each one provides a slightly different recipe and a slightly different procedure. I encourage you to try any of the guidelines you find that look interesting and workable. It's rather like asking five good cooks for advice on how to make a piecrust. You might get five different "this is the only way to do it" recipes. Or, you might get five different "this is one way to do it" recipes.

I offer you some "this is *one* way to do it" recipes. This instruction sheet outlines the steps I usually follow — the steps that have evolved over the past eight years while I've been experimenting with and coming to love hypertufa. I'm always keeping my eyes open for better ways to do things. As new procedures come my way and prove to be good ones, I'll be updating the guidelines I provide to my students and readers. I'd love hearing from you about the discoveries you make as you experiment with and also come to love hypertufa.

Let's get started!

SAFETY FIRST

There's nothing risky or dangerous about making hypertufa as long as you follow some basic safety procedures. In my workshops I require the following from all participants:

1. Wear a **dust mask** when mixing the dry ingredients. Particles from the Portland cement, the peat moss, and the perlite can make you cough and sneeze. You can remove the mask once you add water to your mixture.
2. Work in a **well-ventilated area**.
3. Wear **sturdy rubber gloves**, not the flimsy throw-away kind, when you are touching either the dry or the wet hypertufa mixture.
4. Portland cement is caustic and you want to **keep it from touching *any* of your skin**. Dress in long sleeves and long pants. Ratty old clothes are best!
5. Follow established **general guidelines for lifting heavy objects**.
6. Wear **protective eye goggles** when your creation is dried and cured and you are burning off the protruding synthetic reinforcement fibers.

(See number 15 on page 4.)



HYPERTUFA RECIPES

I've read about and experimented with a number of hypertufa recipes. These are the two I'm currently using for all of my hypertufa projects.

RECIPE

NOTES

#1

1 part Portland cement
1.5 parts peat moss
1.5 parts perlite
1 small handful Fibermesh per pot
"enough" water
Cement colors (if desired)

1 part cement for every 3 parts aggregate
Source: *Creating and Planting Garden Troughs*
(See Recommended Resource on page 4.)

This is the recipe I use for all large projects because the finished product is relatively light weight. This is also the recipe I use in all of my workshops because most people prefer lightweight containers.

#2

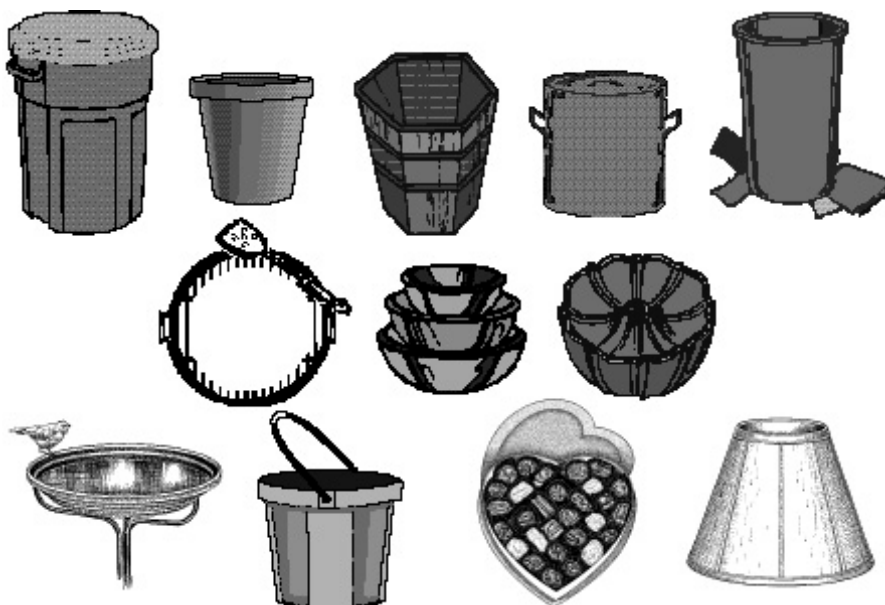
1 part Portland cement
2 parts peat moss
1 part sand
1 small handful Fibermesh per pot
"enough" water
Cement colors (if desired)

1 part cement for every 3 parts aggregate

This is the first hypertufa recipe I found, and I used it exclusively until I started to experiment with perlite. I like the look of this mixture and I like the heavier weight for certain items such as stepping stones and bases for birdbaths and birdfeeders. I also use this recipe for small planters and birdbaths that you might set on a deck.

MOLDS

The possibilities are endless! Before you send any container to the trash, consider its hypertufa potential...and don't hesitate to scrutinize your neighbors' trash either!



SUPPLIES AND EQUIPMENT

HYPERTUFA MIXTURE

- Type 1 Portland cement
Be sure to use Portland cement and NOT any of the “just add water” pre-mixed concrete blends. Such mixtures already contain the aggregates, so you’ll end up with too high a volume of aggregates and not enough cement.
- Peat moss
You’ll normally find peat moss in 1-cubic foot, 2.2-cubic feet, or 4-cubic feet bales. With gardening as popular as it is, even Wal Mart carries bales of peat moss these days. You’ll also find it at gardening centers and at home centers such as Home Depot.
- Sand or perlite
Depending on which recipe you use.
 - Sand is readily available at most home centers.
 - Perlite is available at most gardening centers.
- Fibermesh
Check www.fibermesh.com for technical information about reinforcement fibers. You’ll most likely need to visit a concrete supplier, where you will often find one & one half-pound bags selling for around \$8.00. *Reinforcement fibers, whether Fibermesh or another brand, are **essential** when using the recipe that calls for **perlite**.* I still recommend the fibers if you use the sand recipe, but they aren’t absolutely essential.

SAFETY

- Dust mask
See “Safety First” on page one.
- Sturdy rubber gloves
- Protective clothing to cover arms and legs
- Protective goggles
See No. 15 of “Step-by-Step in a Nutshell,” page four.

MIXING

- Measuring container
It doesn’t matter what you use. Just be consistent so that “1 part Portland cement” is the same volume as “1 part sand.” You could use coffee cans, ice cream buckets, beer mugs, etc.
- Mixing container
I used old dishpans and kitty litter trays before investing in a real mortar-mixing container. (I still like my dishpan best!)
- Water containers
I save liquid laundry detergent containers to fill with water to use when making hypertufa. I also keep a spray water bottle handy for when I need just a small amount of water.
- Plastic trowels
Some people like to mix with their rubber-gloved hands, others prefer using trowels.

STEP BY STEP IN A NUTSHELL

1. Think about and plan for safety:
 - Rubber gloves
 - Dust mask
 - Cover for your arms and legs
 - Good ventilation in your work area
 - Eye protection (when you burn off the reinforcement fibers once your creation is dry)
2. Do not construct hypertufa—or store newly-made hypertufa creations—in temperatures lower than 50 degrees or higher than 85 degrees.
3. Gather together all of your materials and prepare your work area. I work in the garage using a sturdy table covered with plastic. The floor is concrete, so I stand on an old rug with a nice, thick backing. I leave the garage door open and do the actual mixing of the dry ingredients **OUTSIDE** so I don't have dust from perlite and cement floating around inside the garage.
4. I know of three ways to encourage the quick and easy release of your creation from its mold:
 - Spray the inside of your mold with Pam or Mazola No Stick. Use this method, putting the hypertufa directly against the mold, when you want the texture of your mold to show on your hypertufa creation. (Later you will wrap the mold and your hypertufa creation in a garbage bag.)
 - Spray the inside of your mold, as above, then line the inside of the mold with a garbage bag. Use the kind of garbage bag that doesn't have a bunched-up seam at the bottom.
 - Line the inside of the mold with TWO smooth-seamed garbage bags, one inside the other. Even if the bag touching the mold clings, the second bag holding your creation will come right out.
5. Pick out any large pieces from the peat moss or pass the peat moss through a strainer.
6. Mix together the dry ingredients in your mixing pan. (*Did you remember to put your dust mask on first?*) Put aside a little of the dry mixture in case you add too much water in the next step.
7. Slowly add “enough” water. Better to add just a little at a time. (At this stage you can remove your dust mask.) You want a consistency that is not at all sloppy, but that will hold together when you grab a handful and squeeze. If it's still on the dry side, you can add just a little bit of water with your spray water bottle. Handful by handful or trowelful by trowelful, transfer this wet mixture from your mixing bowl to the mold you've prepared.
8. Press and pound the mixture into your mold, making the walls 1.25" to 2" thick. The larger the container, the thicker the walls should be. The thicker the walls, the stronger and longer lasting will be your creation.
9. If making a planter, don't forget to make drainage holes in the bottom. Dowels work well for shaping drainage holes.
10. Close up the garbage bag and let your creation cure for from one to three—or more—days. The initial curing time will depend on the weather, the size of your creation, and on how wet your mixture was to begin with. It'll be ready to remove from the mold and garbage bag for its second curing period when you can scratch it with a tool or your fingernail but you can't make an indentation in it when you press with your finger.
11. Go clean up now and change your clothes!
12. When your creation passes the scratch test described above, remove it from the mold by turning it upside down and lifting off the mold.
13. Rough up the outside if you wish. You can use a wire brush or other tools to give it some texture.
14. Set it in a shady spot to cure for several weeks. Water it frequently. If you cure it inside, such as in your basement, either keep it wrapped in plastic or mist it to keep it moist.
15. When cured and dried (it will sound hollow when you give it a knuckle rap), put on your protective eye goggles and use a blow torch or a grill lighter to burn off the protruding Fibermesh fibers, moving the flame rapidly over the surface.
16. Before planting, mix a solution of 10% vinegar and 90% water. Pour this over your planter and allow it to dry.
17. Before filling with an appropriate soil mixture for your plants, cover the drainage holes with a piece of landscape fabric or a coffee filter to keep the soil in—and the slugs out. After planting, cover the top of the soil with a pea gravel mixture to keep the dirt from washing over the edges.
18. What to plant? I've used sedums, hen and chicks, various herbs such as thyme and lavender, and shade plants such as hostas and ferns.
19. You can encourage moss to grow on hypertufa by painting it with sour cream, yogurt, or buttermilk and using this as the “glue” to hold on the moss you've gathered from elsewhere. Or, gather some moss, rinse it off with water, then mix it with sour cream, yogurt, or buttermilk. Paint this mixture on your hypertufa creation, and place in a shady area.