OUTDOOR

Bench Building 101

The Concrete Couch Way

Including:
- Ready made forms
- Steel armature
- Wood armature
- Cast in place

"A quick guide for the adventurous..."

For more info, free downloads of other build-it-yourself projects, including cold frame plans, visit: www.ConcreteCouch.org
Have an old couch, chair or bench? You can turn it into your ready-made armature.

1. Add 1 or 2 drain pipes (PVC)
2. Add a plywood base, aligning drain pipes. This keeps critters out.
3. If the legs are less than awesome, remove them + screw on cedar 4x4s
4. Cover entire bench with mesh like Extruded Metal Lath ("EML") or similar. This is tricky! Attach w/ wire loops through fabric.
5. Cover mesh w/ ½" - 1" of mortar mix / thinset / etc. Mix w/ a paddle mixer or by hand.

PROS: - you have a workable shape at the start
- you can see the aesthetics / proportions
- relatively light weight right away

CONS: - it is tricky to make it work. Each bench presents new + funny challenges due to the original construction style.
STEEL ARMATURE

This is a professional approach. The metal fabrication is relatively simple, + if you cannot do it a local welder will be able to help. (Make a 1" = 1’ to-scale model for them, using coat hanger wire).

1. Foot Detail

2. Cut out pieces of 100% cement board w/ jigsaw (like "Du-rock")

3. The cement board is your base to build from (you can also eliminate the board & just use EML.)
   A. Epoxy between steel
   B. Wire plywood into spaces + screw cement board to ply
   C. Drill & wire board to bar

4. Cover with tiles. You can also cover w/ thinset + on the last coat add powdered mineral pigments. (This is the "stucco" approach).

5. Detail:

   **PROS:** light, strong
   - metal allows for fantastic shapes!

   **CONS:** need
   - need welder + metal fab skills
   - metal can rust (or you can powder coat)
WOOD ARMATURE

This is a good approach if you love woodworking.

1. Start building using house construction "stick frame" approach, with 2x4s skinned w/ 5/8" plywood block well, w/ 8"-12" Q.C. Legs can be cedar 4x4 blocks or build an angle iron + rebar base:

   X" " X" " X" + 1" (gives you an ergonomic angle)

2. Nail or screw as per usual

3. A million ways to make it!

   plywood arm gives lots of strength to the back

4. Skin with cement board or EML. Note alternative + decorative drains. (For EML-paint the wood prior to skimming, w/ house paint—this keeps the wood from stealing water from the mortar)

5. Cover w/ tiles or stucco

   PROS: - easy skills + tools
   - scrap wood use is high
   - relatively light weight
   - good range of possible forms

   CONS: - can rot in extreme weather environments
   - not good in termite areas
CAST IN PLACE

1. Concrete forms use house construction techniques (2" x skinned with plywood). The forms need to be strong enough to hold wet concrete (while it's being vibrated), and built cleverly enough so you can take them apart afterwards. There is the steel structure—an internal skeleton of rebar—which lives inside the concrete. And you need to think of the inverse for any form building: WOW!

2. Start by building a 3/4" plywood base, w/ 2" x 4" s on the bottom.

3. Simple design.

4. Put the biggest, flat side on the base + build the side panels.

5. Build 4 side panels, screws for construction so all can be taken apart easily.


7. Assemble, oiling forms as you go. Pour concrete + let cure.

8. Bust forms + tile.

**Pros:** Solid!  **Cons:** Heavy!
CAST IN PLACE CONTINUED

Okay, so we just touched on casting, there is a lot to know! Maybe start w/ a box

...pretty soon you will be making this

...then this

LAST WORDS

THANKS for reading,
We hope it was enough to whet your appetite (not just frustrate you!)

Experiment, check out some books + internet, pick the brains of your neighbors/builders/artists. We hope you enjoy your bench building journey! - The Couch Crew