AtFAB

Vertical Chest of Drawers *Beta**

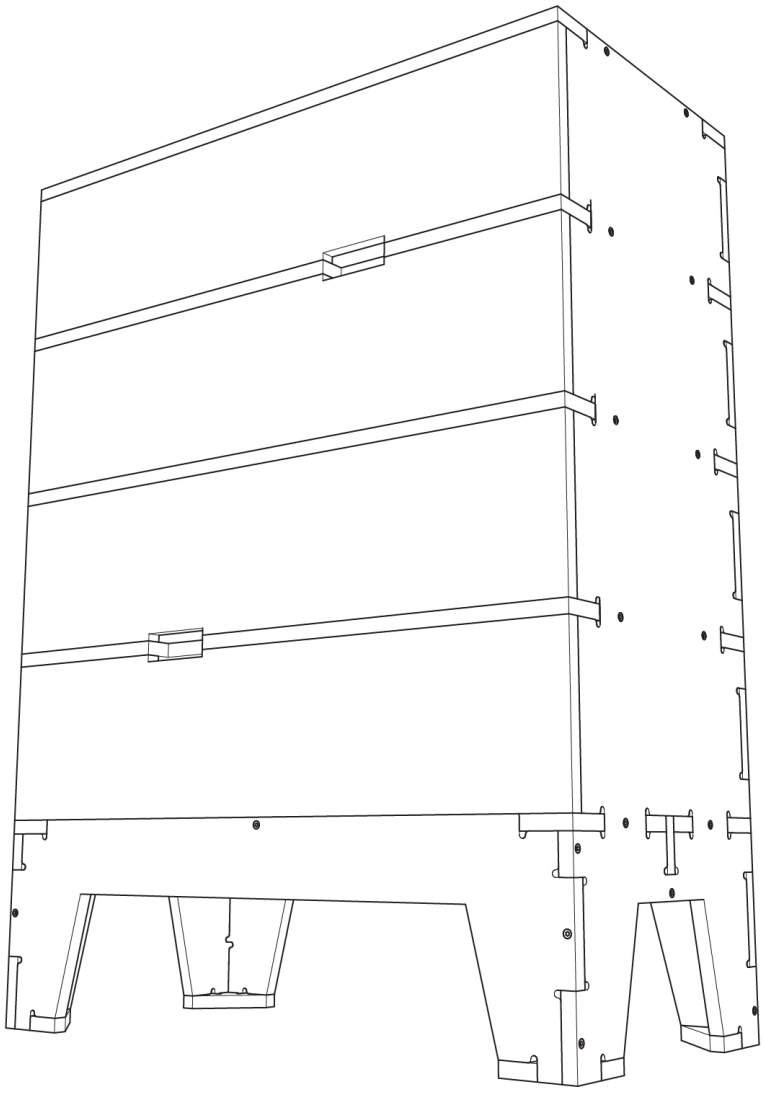
The Vertical Chest is in its second iteration. The latest beta file (AtFAB_CODv_161104_beta.zip) relies exclusively on the CNC router, rather than hardware, to mill integrated drawer slides. We successfully produced two full size versions, and found fabrication, assembly, and function to work smoothly in both instances. We sincerely welcome your insights, feedback, and questions as you make your own version.

The Chest of Drawers is an evolution of AtFAB's Open Storage. This tall chest is suited for storing clothing or collections. Alongside its cousin the Walking Chest, the Vertical Chest is the first in AtFAB's next generation of case goods that employ the CNC tool and advanced digital technique to produce fully functioning doors and drawers. No hardware required!

MATERIALS & FINISHES

You can make AtFAB pieces with any sheet material, which your CNC machine is capable of cutting. We recommend pre-finished materials, so finished parts come directly off the CNC machine bed, ready for assembly.

It is of course possible to finish parts after cutting, or wait until the entire furniture object is assembled before finishing. Or go unfinished, altogether. Need more ideas? Visit the atfab.co blog and search #atfab on Instagram for other examples shard by makers around the world.



VERTICAL CHEST DIMENSIONS		
total width	920	36”
total height	1235	48”
total depth	470	18.5”
drawer width	870	34”
drawer depth	380	15”

PREPARATION

AtFAB's design using slots, tabs and notches makes objects easy to assemble. Though, the Vertical Chest is quite heavy. We recommend working with someone to lift and rotate parts into place is essential.

Moving quilts to protect the pieces and your worksurface are handy, as is blue painters tape to hold parts together as you assemble.

If you've chosen a tighter fit between joints, a rubber mallet/persuader is useful in putting tight fitting parts together.

For increased durability, we recommend securing joints with fasteners or pegs. The cut files provide holes for the CNC to pre-drill into the face of the furniture pieces.

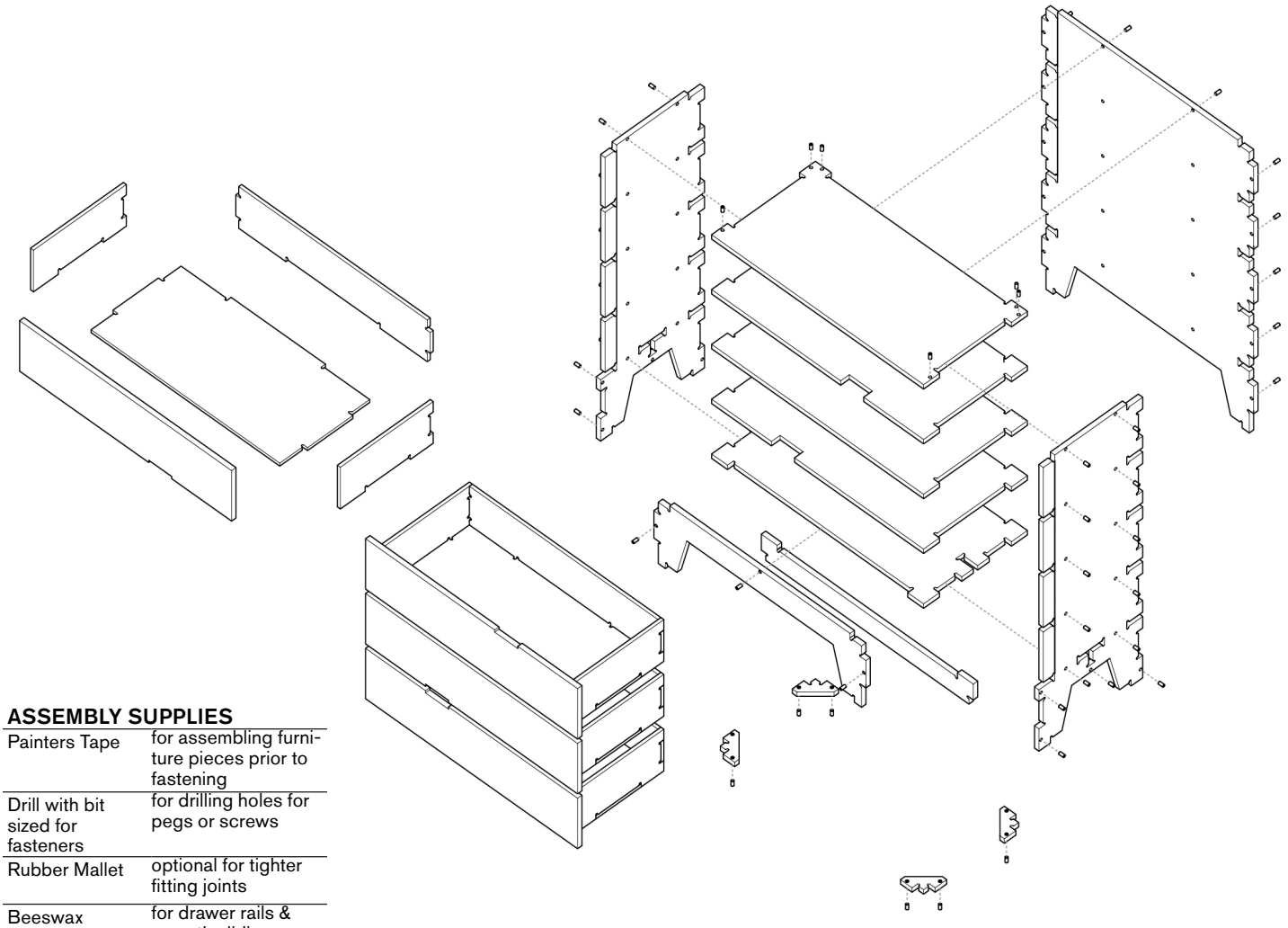
If securing joints with dowels, you'll need a power drill with a bit sized to match your pre-drilled holes and fasteners. If using dowels to peg the parts together, pre cut dowels into into 1.5" lengths.

ACCESSORIZE

The Chest of drawers requires 36 fasteners. Select fasteners to complement your material.

In your CAD file, you can edit the holes to suit any kind of fastener, or even omit, if you plan on gluing.

3D print optional feet and pegs with a MakerBot. Find these files and files for other printable AtFAB accessories at www.thingiverse.com/atfab



ASSEMBLY SUPPLIES

Painters Tape	for assembling furniture pieces prior to fastening
Drill with bit sized for fasteners	for drilling holes for pegs or screws
Rubber Mallet	optional for tighter fitting joints
Beeswax	for drawer rails & smooth sliding
Blanket	for protecting pieces & worksurface during furniture assembly

ASSEMBLE DRAWERS

Setting the drawer fronts aside, assemble the back, bottom, and side of each drawer, individually.

Remove excess material from pockets on the backs of the drawer faces, so that drawer backs are square to the fronts.

Assemble each drawer. Place drawer front face down, apply adhesive to the pocket, and set the drawer back into it. Clamp or use weight to ensure that drawer back is set into the pocket. Follow manufacturer instructions for wait time.

ASSEMBLE OUTER CABINET

Assemble the Chest's outer cabinet. Fit drawer rails into the interior dividers and sides. Begin placing parts together. Secure parts temporarily together with painters tape. Add you keep "right sides" facing outward and upward.

FASTEN

Once you have the entire outer cabinet assembled and secured with tape, you can begin fastening.

If using adheasive instead of fastners, apply a minimal amount of adhesive to interior face of tabs and slots, which require reinforcement. Joints that hold together on their own don't need adhesive. Follow adhesive instrutions for gluing, clamping and drying time.

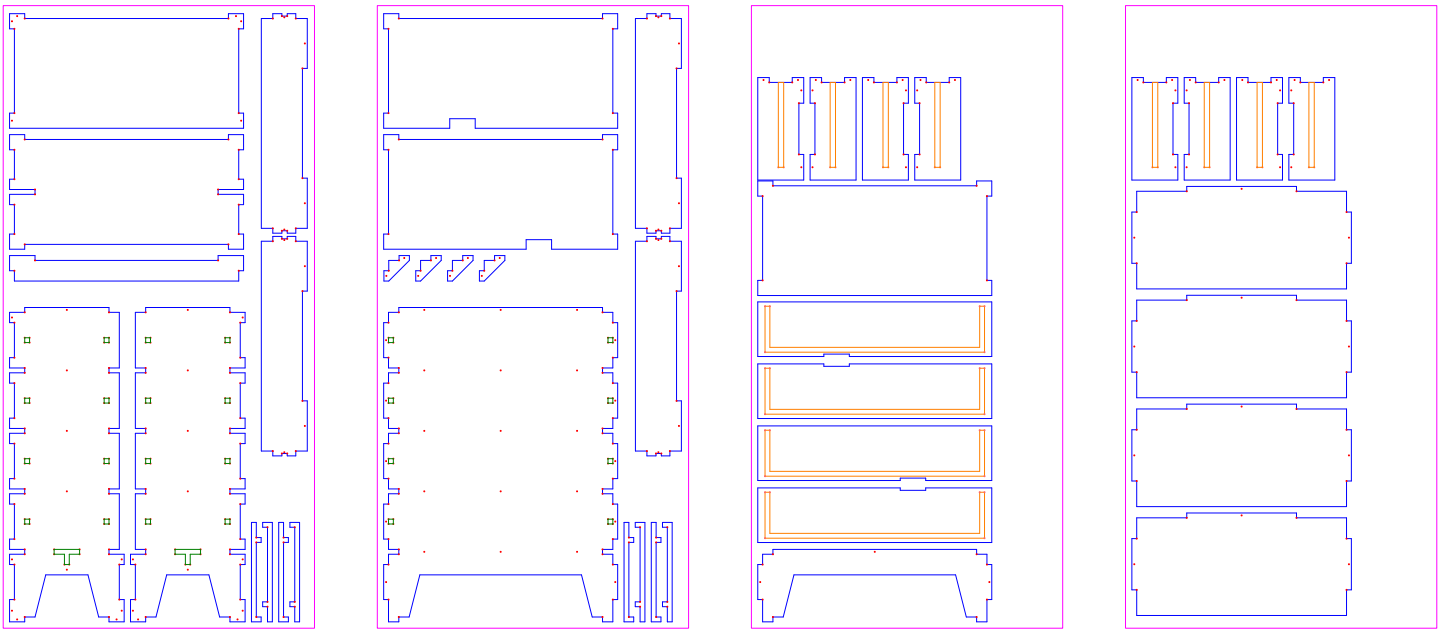
Start fastening from the center of the chest and work outward. Carefully rotate outer cabinet to access all sides.

If using pegs, drill through pre-drilled holes and 1½" into edge of opposing part; insert pegs.

Screw fastener through pre-drilled pilot hole and into opposing part. Don't overtighten.

For smooth sliding of the drawers, sand and apply a coat of beeswax, at the side pockets and on the top of the rails.

KEY	
Blue	Outside Profile Cuts
Green	Inside Profile Cuts
Orange	3/8” Pocket Cuts
Magenta	Plywood Edge
Cyan	Fastener Holes
Red	Dogbone Holes
Orange	Pocket Dogbone Holes



CUT FILES

One cut file is provided to cut all required Walking Chest parts.

The Walking Chest file has through cuts, pocket cuts, and holes for fasteners and corners. You will find these separated by layers in the DXF file, and noted above. CNC cutting on the appropriate side of the line is critical to ensuring that tabs and slots fit together.

MATERIALS

Cut files provided are scaled for 19 mm (¾”) Hardwood Veneer Plywood.

Consult sheet material supplier and manufacturer instructions for finishing material faces and edges. If sealing, oiling and waxing, or painting your Walking Chest, also consult manufacturer instructions.

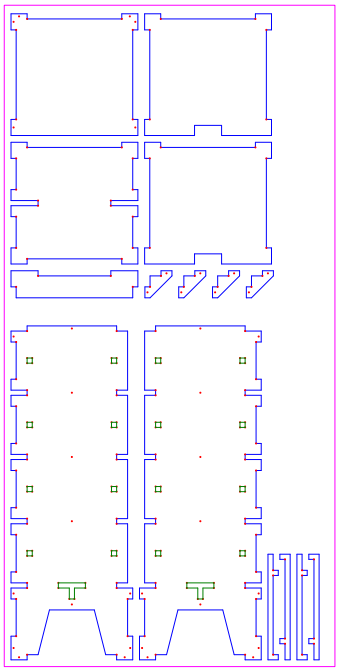
CNC machines require their own supplies, consult your fabricator to find out recommended endmill types and sizes for CNC routers, masking to protect your materials, other machine requirements.

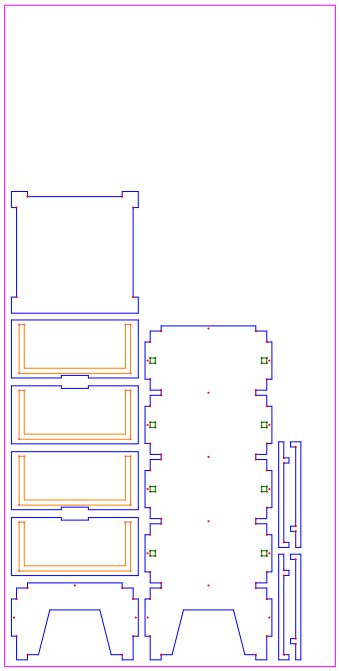
VERTICAL CHEST SUPPLIES	
3/4” (19) Sheets	4
Fasteners	36

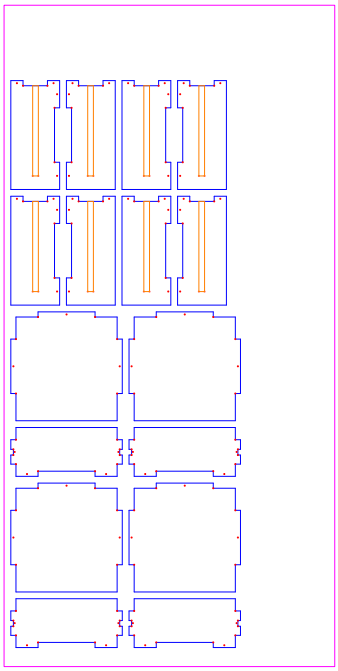
SLIM CHEST SUPPLIES	
3/4” (19) Sheets	3
Fasteners	36

The Slim Chest is a narrower version of the standard Vertical Chest of Drawers. This skinny version offers the same height, depth, and number of drawers in a slim package that uses 3 sheets of material.

SLIM CHEST DIMENSIONS		
total width	470	18.5"
total height	1235	48"
total depth	470	18.5"
drawer width	420	16"
drawer depth	380	15"







THE TEST PIECE

A good fit between furniture parts is essential for a sturdy, functioning Chest of Drawers. Since nominal material thicknesses can vary from product to product, some advanced preparation is necessary.

The small Test Piece provided in the cut file enables you to calibrate your machine settings exactly to your material thickness, prior to cutting out an entire furniture object.

The Test Piece provides a a critical joint conditions that you'll encounter.

Cut as many iterations of the Test Piece, until all of its parts can be put together easily but still fit snugly enough to stay together.

Multiple settings can be evaluated by "bracketing" toolpath offsets, cutting speeds, bit sizes, and any other settings that have an impact on how much material is removed along the toolpath.

It is possible to make very minor adjustments within the CAD file, by scaling the entire file by 1-3%, so that slots are closer to the material thickness.

If you're planning to finish your Chest after cutting, add finishes to the Test Piece as you would your Chair to ensure the joints fit after sanding and coating.

Once you're pleased with the fit, save your CNC settings and start cutting all of the parts of your Walking Chest!

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AtFAB BETA

IMPORTANT INFORMATION FOR BETA TESTING

ABOUT BETA TESTING

We are offering beta files that have had limited full scale testing, and/or limited instructions for assembly. We have made 1:6 scale prototypes from the cut files, and have built full scale versions of them. We have yet to fully refine our instructions and have also yet to prototype large quantities of these designs, which is why we are leaning on our community to test it out and provide feedback.

In general, we feel confident in the quality of these cut files, and the performance of the designs. Several pieces have been successfully fabricated and are happily in use. While we've done all we can to ensure successful fabrication, assembly, and use, there remains a chance for defects somewhere in the process. We kindly request that you only proceed with making these files if you understand these limits of our research, review these terms & conditions, and acknowledge that use of these files is entirely at your own risk.

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