DIY IKEA BILLY Cabinet Doors and Thick-Front Shelves

PROJECT CARD | Three-bay Shaker-door and shelving reference

AT A GLANCE

BEST FOR	REFERENCE SCOPE / TIME	CAPABILITY
Updating existing BILLY bookcases with closed storage below and open shelving above	Planning-and-adaptation guide; duration depends on site measurements, build method, finish curing and installation conditions.	Confirm capability with installer or contractor for the unresolved installation interfaces.

Three adjacent BILLY units form the reference arrangement. Custom six-door Shaker fronts conceal the lower compartments, while twelve primed wood shelf-front strips make the original upper shelves appear thicker. Blue-gray satin paint and small brass knobs complete the coordinated look.

REFERENCE DIMENSIONS - NOT FINAL CUT SIZES

REFERENCE ITEM	WORKING VALUE / INTERPRETATION
IKEA BILLY white, 205.220.46	Each bookcase nominally 800 W x 2,019 H x 279 D mm (31.5 x 79.5 x 11 in); 3 units arranged together.
Three-bay reference envelope	Nominal 2,400 W x 2,019 H x 279 D mm; model extends to 304 mm overall depth including door and symbolic knob projection.
Illustrative Shaker door	395.5 W x 500.9 H mm; 19 mm thick poplar frame, 57 mm visible rails/stiles; **measure openings before cutting**.
Shelf-front trim	Selected primed pine 1x2: actual approx. 18.26 x 38.1 mm; 4 visible fronts per bay, 12 reference pieces.

MAIN MATERIALS AND HARDWARE

MATERIAL / ITEM	PROJECT USE / REFERENCE QUANTITY
Poplar + 1/4 in plywood	19 mm door frames; 6.35 mm rear-mounted recessed panels; 6 planned doors, cut sizes provisional.
Primed finger-jointed pine 1x2	Decorative shelf-front face strips; 12 reference lengths, final lengths and purchase stock to verify.
Blum 71B3550 + 173L6100	Concealed hinge / 0 mm mounting plate; 12 provisional pairs; mounting compatibility pending.
Amerock Arden BP37340CZ	Champagne Bronze cabinet knobs; 6 selected.
INSL-X Stix + Benjamin Moore ADVANCE Satin	White bonding primer and Boothbay Gray HC-165 blue-gray topcoat; test adhesion on BILLY paper foil.

TOOLS AND PREPARATION

Tools: tape measure, square, saw, drill and pocket-hole jig, compatible pocket-hole screws, clamps, wood glue, filler, abrasives, cleaning supplies, and paint applicators appropriate to the product instructions.

Before you start: identify the exact BILLY version; measure each real lower opening and shelf position; establish the intended door reveals; test the proposed coating on the factory finish.

Project Sequence and Installation Decisions

A practical path from measurements to a coordinated cabinet appearance

WORK SEQUENCE

STAGE	ACTION / CONTINUATION CHECK
1. Layout	Arrange the 3-bookcase reference. Record actual unit dimensions, lower-opening sizes, original shelf positions and available space.
2. Door sizing	Set the lower transition height and two-door layout per bay. Resolve hinge overlay and plate locations before final door cutting.
3. Wood preparation	Mark/cut matched poplar rails and stiles and 1/4 in plywood panels only from confirmed measurements. Prepare trim lengths from actual shelves.
4. Frame assembly	Join rails between stiles with wood glue and suitable pocket-hole joinery. Clamp flat; check equal diagonals and flush faces.
5. Panel check	Dry-position the rear plywood panel with even overlap (10 mm shown in the reference). Confirm its fixing method before permanent attachment.
6. Finish	Clean and prepare each substrate; trial the bonding-primer / satin-enamel system on paper foil. Follow manufacturer recoat and cure instructions.
7. Installation gate	Only after mounting and wall anchorage are resolved: fit the doors and compatible trim, check door movement and reveals, then use shelves per IKEA loading guidance.

SHOPPING AND SPECIFICATION NOTES

- Selected product references: BILLY 205.220.46; Blum 71B3550 hinges with 173L6100 plates; Amerock Arden BP37340CZ knobs. Verify purchase packs, availability and compatibility.
- Selected finishing system: INSL-X Stix bonding primer with Benjamin Moore ADVANCE Satin, Boothbay Gray HC-165. Confirm product application requirements and finish adhesion before coating all units.
- Installed example counts are not a final purchasing or cut schedule. Confirm rail lengths, plywood sizes, shelf-front lengths, stock waste and fasteners on site.

SAFETY AND SITE-DEPENDENT DECISIONS

- Do not use the schematic hinge locations as drilling coordinates. Confirm actual panel thickness, overlay, plate location, hinge swing and clearances with the hardware instructions.
- The decorative shelf-front fixing method is unresolved. Do not assume adhesive or fastener suitability on the original shelf material.
- IKEA requires anti-tip wall anchoring. Select suitable anchors for the actual wall substrate using the manufacturer guidance and qualified installer review when needed.

PROJECT FILES AVAILABLE SEPARATELY IN THE ARTICLE

2D: editable DXF drawing and dimensioned drawing PDF. **3D:** editable/importable STEP solid model and 3D model review PDF. These are coordinated planning references, not site-tested mounting instructions.

USE THIS CARD AS

A compact measuring, material-selection, fabrication-planning and field-verification reference. Keep the full article and technical drawings beside it; make final cutting and installation decisions from the actual purchased units and confirmed hardware interfaces.