

abinet manufacturers from all over the country rolled out their best stuff last spring for the kitchen and bath industry's annual trade show, staged at the cavernous Las Vegas Convention Center. Sprinkled among booths showcasing bathtubs and appliances were kitchen cabinets of every style, from Arts and Crafts in quartersawn oak to modern in Macassar ebony. Wellborn Cabinet Inc. alone offered nearly 1500 different combinations of finish and door styles.

Yet for all this diversity, every cabinet is made from the same basic components. Where they differ, and why prices vary so widely, can be traced to what's under the hood: materials, hardware, and construction techniques. Although manufacturers offer such a wide price range that they can cater to budgets of any size, spending more money usually means greater durability, better hardware, a nicer fit and finish, and more flexible designs.

A competitive scramble among stock and semicustom cabinet manufacturers gives buyers more choices than ever. Stock cabinets, the most economical, are still essentially an off-the-shelf commodity with the fewest options in finish and materials. Semicustom cabinets allow buyers to specify most but not all features. Prices vary accordingly.

While cabinet sizes in both categories tend to be standardized (available for the most part in 3-in. increments), manufacturers have tried to make it easier for buyers to order the options they want even on a modest budget.

Custom cabinets can be whatever a buyer is willing to pay for, usually with the longest lead time and the highest prices.

In the end, how a cabinet is made is a lot more important than what it's called. The essential elements to consider are box construction, drawers, doors, hardware, and finish.

Go for plywood boxes, even if you'll never see them

A box, or carcase, is the foundation of any kitchen cabinet. Hidden behind face frames and end panels, the box is often unseen, but everything depends on its structural integrity.

Where you'll find significant differences is in the materials that go into the sides and back of the box. Economy cabinets usually are made of particleboard covered with a thin layer of vinyl printed with a wood-grain pattern. Particleboard is inexpensive, which helps to keep the cost of the cabinets down, but it doesn't hold screws as well as plywood,

Kitchen office. A desktop flanked by a full-height rollout by KraftMaid provides storage for office supplies and space for paying bills.

Design with you in mind

The same kitchen design doesn't work for every homeowner, so a new generation of designers have sharpened their pencils to match their products with the lifestyles of potential buyers. Whether you're a first-time homeowner or a retiree, someone has been thinking about you.

In fact, Heather Argo, a designer for the cabinet manufacturer KraftMaid, invented "Edward" to help design a kitchen for Gen-Y buyers. A 20-something lawyer in Philadelphia, Edward likes games and electronics, doesn't cook much, and needs lots of storage for bottled water and ready-to-eat food. The result? A modern kitchen with a clean, white finish, contemporary hardware, a big TV cabinet, and a raised circular counter for eating or playing cards.

KraftMaid's layout for "active seniors" includes a built-in desk with an adjacent full-height pullout for office and cleaning supplies (left). Armstrong, another

manufacturer, has taken a similar "lifestyle solutions" approach. Among its offerings are a cabinet doubling as a children's play area (below) and a chef's zone that keeps cooking tools and other accessories within a couple of feet of the cooktop.

To Wellborn Cabinet's Kimberly Dunn, it's a question of providing "more customization on every level." Buyers are less likely to follow broad trends these days than they are to buy cabinets that suit their needs and tastes exactly. "Everybody wants what they want,"

she says, "not just what their neighbor just bought."

and it is susceptible to water damage. If the vinyl surface tears or becomes delaminated, there's no way to repair it.

Melamine is a type of pressed wood-fiber panel that's often used for cabinet boxes because the plastic layer on top is easy to keep clean. It's heartier than the vinyl-covered particleboard in economy cabinets, but the surface can chip if it's abused.

Plywood costs more, but it's inherently more robust. Screws that attach hinges, drawer



Playtime. With toys and a writing surface close at hand, Armstrong's play center can be a part of kitchen activity, but not underfoot.

FROM \$120 TO \$1200: YOU GET WHAT YOU PAY FOR



IKEA READY-TO-ASSEMBLE

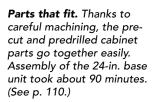
Box: ¾-in. frameless melamine

Drawers: Metal sides, melamine front and bottom

Doors: Melamine

Hardware: Adjustable cup hinges, integral drawer slide

Finish: Plastic Price: \$127





Integral slides. Ikea supplies snap-together drawers that combine adjustable metal sides with integral drawer slides. A melamine drawer front matches the rest of the cabinet.



Euro hinges rule. Many manufacturers supply cabinets with cup hinges, borrowing an idea that started with European cabinets. Although cup hinges are a little bulky, they are easy to adjust to keep cabinet doors aligned.



WELLBORN STOCK

Box: ½-in. particleboard sides, ¾-in. hardwood face

Drawers: Stapled ¾-in.

particle board

Doors: Hardwood frame-

and-panel

Hardware: Euro cup hinges, epoxy-coated drawer slides

Finish: Stain with clear coat

Price: \$245



Basic drawers. Particleboard drawers that have been stapled together are a potential weak spot. These epoxy-coated drawer slides are three-quarter extension and make access to the back of the drawer difficult.

slides, and other hardware are less likely to be pulled out over time, and the surface can be repainted or refinished if it's damaged.

Cabinet sides range in thickness from ½in. to ¾in. Thin walls can make a cabinet feel cheap, and they offer less meat for shelf pins and hardware screws to grab. Plywood a full ¾in. thick makes a solid, long-lasting box that can support heavy counters without complaint.

Cabinet backs aren't that important. Even good-quality cabinets might have backs made of ¼-in. material. There is a structural

purpose—the back prevents the cabinet from racking—but unless the countertop is unusually heavy or drawer hardware is to be mounted directly to the back, a panel that's ¼ in. thick shouldn't be a drawback. Still, plywood is a better choice than hardboard.

Face frames also help to make the box sturdy. They are usually made from the same hardwood as the drawer faces and doors. Look for gap-free joints between the pieces that make up the frame. When inside edges around door and drawer openings are sanded

smooth and joints are tight, it's an indication the frame was made with care. In frameless cabinets (also known as European cabinets), doors and drawers hide the front of the box completely. Without a frame to help keep the box rigid, it's more important than ever to buy a cabinet made of high-quality 3/4-in. material.

Dovetails are stronger, so the drawers last longer

Hardwood drawer sides that are \% in. or 3\% in. thick are a good idea on all but the lightest

FINE HOMEBUILDING
Photos this spread: Krysta S. Doerfler



ARMSTRONG SEMICUSTOM

Box: ½-in. plywood, ¾-in. hardwood face frame

Drawers: Stapled ½-in. hardwood sides, plywood bottom

Doors: Hardwood frameand-panel

Hardware: Adjustable cup hinges, epoxy-coated slides

Finish: Stain with catalyzed

clear top coat

Price: \$300



Plywood upgrade. Plywood is stronger and more durable than particleboard. It's usually available as an upgrade.

Rollouts for convenience. The cup hinges are standard, but the two rollouts on the inside of this cabinet offer more convenient storage than shelves.



PLAIN & FANCY CUSTOM

Box: ½-in. plywood, ¾-in. face frame

Drawers:

Dovetailed %-in. hardwood

Doors: Frame-and-

panel

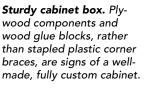
Hardware:

Pin hinges, fullextension undermount drawer slides

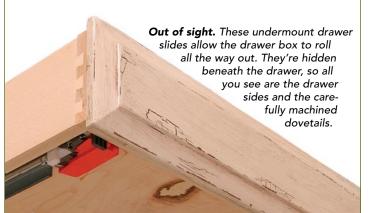
Finish: Antiqued

paint

Price: \$1200







and smallest drawers. Material that's only ½ in. thick, especially if it's particleboard, is not as dependable.

Drawer bottoms are often ¼ in. thick, and again, plywood is a better choice than particleboard or hardboard. On cabinet pullouts that carry a lot of weight, a ¾-in. or even a ½-in. plywood bottom is less likely to sag over time.

Well-made dovetail joints make the mostdurable drawers. A poorly made dovetail, on the other hand, is no better than a poorly made anything else. There should be no gaps in the interlocking parts, and the joint should be sanded and finished carefully. Particleboard drawers are typically glued and stapled at the corners and don't stand up well to heavy use.

Wood drawers are by far the most common, but metal-sided drawer boxes like Blum's Tandembox or Ikea's ready-to-assemble cabinets have a sleeker, more contemporary look. They're well adapted to frameless cabinets, and some come with integrated full-

Going green

So far, some 42 cabinet manufacturers have won "green" certification from the Kitchen Cabinet Manufacturers Association's environmental stewardship program. If you're interested in sustainable options for your kitchen, go to www.kcma.org.

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INNOVATIONS IN KITCHEN STORAGE

Ingenious storage solutions are not limited to corners. Designers have been busy conjuring up all kinds of pull-out bins, shelves, and mini-closets that get the most out of every inch of cabinet space.



Fold-out storage. This storage unit in an Armstrong base cabinet eliminates wasted space in the corner. Racks fold open and roll out from the cabinet on ball-bearing slides.



Recycling center. DeWils Custom Cabinetry offers a revolving recycling center in this corner base cabinet, making good use of an often awkward space. The rack holds three plastic bins.

Up and away. These upper cabinet doors from Wellborn (right) pop up to provide full access without conventional hinges.



extension drawer slides and a soft-close feature. They can be paired with a variety of dividers and organizers.

Solid wood doesn't always make the best door

Cabinet doors come in two basic types: frame-and-panel or slab. Frame-and-panel doors are the traditional choice with face-frame cabinets and are available in dozens of styles. The frames are typically made of solid wood, while the panels might be solid wood or veneered MDF (medium-density fiberboard).

Veneered panels are flat and stable, and furniture history proves there is nothing structurally inferior about them. However, they might age differently than a solid-wood frame, resulting in a contrast between the two. This is an issue only with woods that change dramatically with age, such as cherry, but the concern is worth considering.

Solid-wood panels are more likely to shrink and expand with changes in humidity, but won't show color differences and won't delaminate. Solid-wood panels are probably worth their slightly higher cost.

Slab doors are either glued-up solid wood or veneered MDF and are typically used with frameless cabinets. A substrate of MDF should help to keep the door flat and free of warp. A solid-wood door that's 18 in. or 20 in. wide might cup or twist over time.

No matter what the style, look at the doors carefully. On frame-and-panel doors, the joints should be tight and free of gaps when the cabinets are new. If the panels are glued up from solid wood, look for a good match in grain and color between adjacent boards. No cross-grain sanding marks should be visible on either the inside or outside of the door, and the finish should feel soft and silky.

If the door has a glass panel, the fit between glass and wood should be neat, and you

should not find globs of glue or caulk oozing out of the seam.

Hardware should stand up to wear and tear

Hardware manufacturers have pulled out all the stops to make cabinet interiors more functional and user-friendly. Most cabinet companies buy hardware from the same manufacturers, so no matter what brand of cabinet you buy, you should have a good menu of hardware to choose from.

Most drawers and pullouts ride on sidemounted ball-bearing metal slides. A variety of types are available as full extension or three-quarter extension, meaning the drawer either comes all the way out or stops with about a quarter of its depth still buried inside the cabinet. Full-extension slides are well worth the extra cost.

Slides are rated by the weight they are designed to carry, typically 75 lb. or 100 lb. Slides



Pantry in a drawer. A wire organizer in an Armstrong base cabinet makes it possible to stow a great deal of supplies in a small space without losing track of anything.

SOURCES

Armstrong, www.armstrong.com
Blum, www.blum.com
DeWils Custom Cabinetry,
www.dewils.com
Ikea, www.ikea.com
KraftMaid, www.kraftmaid.com
Plain & Fancy Custom Cabinetry,
www.plainfancycabinetry.com
Wellborn Cabinet Inc.,
www.wellborn.com

Flexible storage. A full-height rollout from KraftMaid provides storage for office supplies on one side and cleaning supplies on the other, making the most of a narrow cabinet. (See the other side on p. 41.)



Roundabout. A wire lazy Susan in this DeWils cabinet provides plenty of storage and better visibility than an organizer with solid shelves.



rated at 75 lb. should be fine for all but the largest and heaviest drawers, but roll-out pantry shelves or drawers for heavy pots and pans or appliances do better with beefier slides.

Undermount slides are becoming increasingly common. They are attached to the bottom of the drawer and are hidden by the drawer sides, making the cabinets look more like furniture.

Many cabinet companies now equip their drawers with a soft-close mechanism made by Blum called "Blumotion." It grabs the drawer near the end of its travel, slows it down, and then gently brings it to a stop—a great idea if you live in a house where people tend to slam drawers closed.

Good luck finding cabinets with traditional butt hinges. European-style door hinges, or cup hinges, have taken over. They are available for both frameless and face-frame cabinets, and because they allow a variety of adjustments, these hinges make it easy to hang even finicky inset doors. The Blumotion soft-close feature is also available for hinges.

Fancy finishes are durable, too

Manufacturers devote a lot of energy to cabinet finishes, what might be the most fickle part of the business as designers try to gauge shifting buyer preferences. The tremendous diversity of painted, glazed, stained, and distressed finishes is a testament to the industry's effort to appeal to any taste.

In general, the least-expensive finishes are simple clear coats. The most expensive are multilayered glazes and paints, crackle finishes, and rub-through painted surfaces that take more time to execute at the factory. Painted surfaces are somewhat less durable than clear finishes and might show slight gaps in joinery more readily. Glazed-paint finishes can help to disguise these minor flaws.

For clear finishes, most manufacturers use a conversion varnish, a tough two-part

catalyzed coating. Old-schoolers might prefer lacquer because it's more repairable, but catalyzed finishes are extremely durable and are now the norm.

Where you're likely to find differences is in the quality of application. The best finishes start with thorough surface prep, meaning you should see no sanding marks of any kind on the finished surface. Whether the surface is matte or glossy, it should be smooth and blemish free. Look along edges and inside doors, using your fingers as well as your eyes.

In the end, finishes are largely a matter of personal taste. Basic, no-frills finishes should provide a long service life, but if you want something more elaborate and are willing to pay for it, you have plenty of options.

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