Ready-to-Assemble Cabinets

by Dave Holbrook

Unlike large, assembled cabinets, a "flat-pack" cabinet poses no difficulty negotiating stairs, doorways, or corners. The compact, stackable boxes can be safely stored out of harm's way and assembled when ready, unlike preassembled cabinets, which take up considerable space and are at risk of damage if you're not immediately ready to install them. Lower costs and shorter lead times are further enticements to assemble your own cabinets.

According to *Kitchen & Bath Business* (www.kbbonline.com), consumers spent $453.8 million on flat-pack, or RTA (ready-to-assemble), cabinets last year. It's safe to assume that the majority of those cabinets were sold to DIY homeowners at the national giant home centers. The RTA cabinets sold at those outlets generally represent a barely acceptable, entry-level product, what some choose to call "builder boxes."

But should professional builders and remodelers completely shy away from RTA cabinets for this, or any other, reason? Some frustrated RTA manufacturers complain that their product is unfairly compared to the ubiquitous, U-Do-It computer desk or stereo cabinet. Many of the RTA manufacturers I contacted considered these inexpensive, typically foreign-made kits a black eye to the industry. However, David Sun, speaking for SunCo, a $30 million RTA manufacturer, believes that there's no stigma and that people buy RTA precisely because it's less expensive. "I don't think the DIYer or the consumer really cares how it's put together," says Sun.

But there's no doubt that builders do. The most familiar and accessible examples of the RTA category may have provided an underwhelming introduction to this type of cabinet, but — even though similarities in hardware and concept stand between the junk and the good stuff — there are some important differences in the materials and assembly used in better-quality, domestic products.

Cabinet Materials

Because it's one of the most stable and least expensive panel materials, particleboard (concealed under high-pressure laminate or a wood veneer) is a primary carcase material for cabinets in all price ranges. Particleboard is graded by type: Type 1 is made using a nonwaterproof resin binder, usually urea-formaldehyde, and Type 2 uses a waterproof resin binder, usually phenol-formaldehyde; and by density: H (high), M (medium), and L (low). Better cabinets use Type 2-M particleboard, preferred for its density (40 to 50 pounds per foot), stiffness, and moisture resistance.

In RTA construction, the cabinet side, top, and bottom panels are typically made from 5/8- or 3/4-inch-thick melamine-coated particleboard, forming a rugged box (see Figure 1). A

Figure 1. Melamine-coated particleboard is a staple of flat-pack cabinet construction, as in this base unit from Cab Parts.

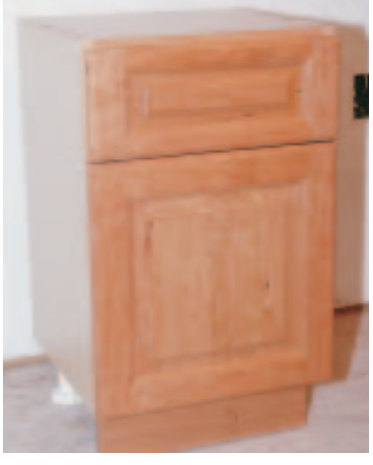

Figure 2. The Scherr's cabinet line features solid-wood frame-and-panel doors, dovetailed drawers, and high-quality wood veneers over the particleboard sides.

sample cabinet from Scherr's used high-quality hardwood veneers over the particleboard core (Figure 2, previous page). Instead of particleboard, Sunco uses 1/2-inch seven-ply birch or ash plywood for the sides and back (Figure 3).

Cabinet backs are typically of the same material as the carcase but thinner.

Melamine comes in two flavors: cold-rolled and thermal-fused. This is an important distinction. In both cases, the melamine is a plastic coating bonded to a paper backing. Cold-rolled melamine is simply glued to the panel, providing a less durable finish, while thermal-fused melamine is heat-bonded to the surface, making delamination unlikely. If you avoid the big box store product, you're unlikely to encounter cold-rolled melamine or Type 1 particleboard.

Door options in RTA lines tend to be a bit restrictive, but typically include flush and raised- and flat-panel styles, plus a choice of solid wood, flush laminate, or thermofoil profiles (Figure 4). Concealed, Euro-style cup hinges are typical of frameless construction, and therefore of RTA cabinets. Hinge swing tends to be standard at 110 degrees, but other swing radiuses can be optioned in.

Drawers are available in several familiar formats, including the Blum MetaBox drawer system with epoxy-coated steel sides functioning as the track runners; melamine or plywood boxes; solid wood dovetail construction; finished or unfinished, and assembled or unassembled boxes.

Figure 3. This unit from Sunco uses 1/2-inch plywood carcases with solid-wood face frames, doors, and drawer fronts.

Epoxy-coated steel drawer slides, both side- and undermounted, are also typical. Full extension slides can be substituted as an option. Pull-out shelves, rotary trays, utensil drawers, and every other typical cabinet option are all commonly available.

Fasteners and Hardware

The unique hardware that holds the RTA system together is developed for virtually unlimited assembly and disassembly, provided that no adhesive is introduced between components. Most of it is designed along the principle of a locking-cam, or eccentric latching, mechanism, which draws separate parts tightly together with a single, 90-degree twist of a screwdriver (Figure 5). Speedy-Cab's assembly relies on conformat screws (designed for use in particleboard) and dowels.

Regardless of the hardware system,

Figure 4. This rugged melamine wall cabinet from Maple Craft uses thermofoil doors.

Figure 5. Most ready-to-assemble cabinets use two-piece hardware — a stem (left) that engages a cam (middle). The parts fit neatly together and lock in place with a twist of a screwdriver (right).

once the cabinets are installed, there's little or no evidence of the connectors, which are accessed at the outside of the side panels. Some hardware may be preinstalled in the panels, while some must be site-installed in a factory-drilled hole or pocket. Some cabinets feature wood dowels in addition to the connecting hardware, which add strength and assist with component alignment.

Although adhesives are unnecessary, there's nothing to prevent you from adding them to the assembly sequence. Melamine is challenging to glue, however. If you can find a multipurpose adhesive with the solvent MEK in the formula, you'll get a good bond to the plastic surface. OSI asserts that its PL-Premium construction adhesive, a polyurethane formula with no MEK, will form a reliable bond between particleboard and melamine. For wood doweling, common white PVA glue, diluted with about 25% water, works best.

Advantages

The cost advantage of assembling your own cabinets varies. In theory, it should take an unskilled laborer no more than 15 minutes to assemble a typical base cabinet, making labor costs easy to estimate. But our brief experience with a few sample cabinets suggests that you'd do better to allot a minimum 30 minutes per assembly, at least until you're familiar with all the parts and the sequence.

The estimated overall cost savings over preassembled units is said to range from 10% to 50%, depending on the quality, or grade, of the cabinet line and the cost of freight. Freight costs limit the striking distance of some RTA manufacturers, effectively restricting sales to a 400- to 500-mile radius from the plant. But the freight limitation also depends on the quality of the cabinet. A manufacturer that targets an upscale clientele with a high-end, custom RTA package can still hold a price advantage, even when shipping a kitchen cross-country.

Customization. The RTA approach is flexible enough to allow considerable customization, another benefit of this system. For example, Scherr's allows you to order cabinets without a toe-kick, for those who prefer to build their sub-base on site. Most direct-sale RTA shops welcome custom requests and substitutions to their advertised options.

Sub-assemblies. A couple of manufacturers offer a twist to the RTA method. Cab Parts offers builders, as well as other cabinet shops, frameless-construction carcases and drawer boxes only, precut and predrilled but unassembled. After doweled assembly, you can apply a custom face treatment, either outsourced or shop fabricated. The advantages to this approach include economy and predictable, uniform accuracy, easy customization, and tighter scheduling. For example, a tall, 24x80x36-inch cabinet box, made from thermo-fused melamine, costs about $107 (plus freight and tax), close to what you'd pay for raw materials. And you don't have to process large panels in your shop or on site.

Cab Parts projects an average 14- to 21-day delivery from the date of order. The cabinet components are based on the 32mm assembly system, which allows full mix-and-match compatibility with door and drawer components from other providers using the same system. With this approach, you can offer clients a high-quality, highly customized cabinet package at a mid-level price.

Although Cab Parts has discontinued advertising its small RTA division, Cabinet Kits, the line remains fully supported and available to existing and new customers.

Scherr's approaches the market face first, offering a generous selection of cabinet doors, drawer fronts and boxes, hardware, cabinet lighting, and decorative hardware, as well as a dedicated line of RTA cabinets. The full line of doors and drawer fronts can be substituted for those offered with the kits.

Before you buy into the RTA concept, it's a good idea to purchase a sample cabinet or two, to get a feel for assembly time and the overall quality of the box. Consider whether the savings is significant enough to justify the risk of switching to an unfamiliar product. And at least keep the RTA approach in reserve for jobs where it isn't practical to haul or store assembled boxes, or for customers who want to take their cabinets with them when they move.

RTA Manufacturers

Cab Parts
Grand Junction, Colo.
970/241-6608
www.cabinetkits.com

IKEA US, Inc.
Plymouth Meeting, Pa.
800/434-4532
www.ikea-usa.com

Maple Craft USA
Albion, Pa.
800/756-8077
www.qualiteckitchens.com

Scherr's Cabinet and Doors
Minot, N.D.
701/839-3384
www.scherrs.com

Speedy-Cab
Paradise, Calif.
877/469-2922
www.kitchencabinetstore.com

Sunco
Easton, Mass.
508/238-5100
www.suncocabinets.com