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HEG89-244 Selection of Case Goods -- Metal and Natural Materials

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Selection of Case Goods -- Metal and Natural Materials

Construction, safety, finishes and styles for furniture made from metal and natural materials are discussed here.

Adapted by Shirley M. Niemeyer, Extension Specialist, Interior Design/Home Furnishings

Case goods is a term used to describe various types of cabinetry, chests, desks, bedsteads, tables and chairs. Case goods are made from a variety of materials: wood, metal, plastic and natural materials. A few are made from glass, mirror and stone.

Metal

Metals were used as inlays, overlays and as construction material for furniture for thousands of years before the birth of Christ. Bronze was used extensively in making ancient furniture, which was copied during the 18th and 19th centuries for garden and outdoor furniture.

As the Industrial Age grew, more metal was used in furniture construction. Today steel and aluminium are the most widely used metals. Brass, bronze, magnesium, special casting alloys and cast iron are used to some extent.

At times, metal furniture can be stronger and more durable than some other furniture. It virtually is fireproof and can be worked very efficiently. Furniture metal usually comes in the form of sheets, bars and tubes in standard sections. Frames, bases, springs, hardware, ornamentation, seats, legs and entire structures may be of metal. Metals are formed in many ways: bent, stamped, rolled, extruded and cast, for example.

Tubes are sometimes filled with sand or spring-like inserts to prevent crushing. Metal joints can be welded or mechanical. Resistance welding passes an electrical current through the metal, fusing the parts at the contact point. Spot-welding produces a small, round joining at a particular location. Mechanical joints require rivets, screws, bolts and nuts and a variety of special fasteners.

With the exception of stainless steel, metals need to be finished to eliminate rusting or oxidizing.

Natural Materials

A variety of natural materials have been used in furniture construction over the years. Materials often are determined by the locality of the builder. Common are rattan, bamboo, wicker and buri. The structures of these pieces are quite similar. Fastenings are much the same if not identical, to ancient ones. Similar structures are made of willow, roots, twigs and branches.

Many of these pieces, often categorized "rustic," are beautifully designed, comfortable pieces. There are a number of uncomfortable pieces, also.

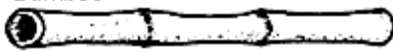
More than 150 species of parasitic vines are referred to in furnishings as rattan. These primarily grow in the Philippines, Indonesia, Malaysia and other tropical areas of Asia. Rattan has many grades. It can be made of solid, fibrous or flexible materials that can be shaped into different forms.

Rattan



Rattan is strong and durable. The pole, peel, cane and reed all are used in furniture construction. Rattan poles should be smooth and consistent in size. Growth rings or nodes should be 12 inches to 18 inches apart. High-grade rattan is light in color and free of dark blemishes.

Bamboo



Bamboo resembles rattan but is hollow, not solid. Joints in bamboo tend to bulge and are dark. Bamboo is less flexible, so it has limited bending capability.



Buri



Wicker

Buri furniture is from the mid-rib or spine of the Buri palm leaf. It is woven into such pieces as the princess or fan chair. Buri usually costs less than rattan or wicker and tends to be flat and square.

Wicker is a construction technique rather than a material. Wicker furniture might be made of rattan reed, dwarf rattan, willow, split bamboo, splint or other flexible twig or branch. Wicker-type furniture also is made of Kraft paper and plastic.

Several different joints and finishing processes are used for rattan furniture. Joints may be screwed together for strength (except when working with bamboo or other hollow material). Screwed joints do not need to be wrapped with cane, leather or plastic, but nailed joints must be wrapped. The bent or folded joint is not wrapped.

Wrapping can be done several ways; nailing the wrap at each end; gluing and knotting each end; knotting each end; knotting and nailing each end; and pegging each end. The nailed wrap and the pegged wrap methods produce smooth surfaces; other methods may be lumpy.

Nailing the ends and knotting each end are not advised because both are easily loosened. Most other methods produce secure, long-lasting wraps.

Several ornamental wrapping processes are also used. Pole ends may be left as they are or wrapped.

Seats, backs, decks and sometimes other parts of rattan furniture often are woven of strand cane, cane webbing, skinned rattan, reed, splint, sea grass or fiber rush. Cane webbing may be done by hand or machine-manufactured and applied to the furniture piece. Both wear well. Plastic webbing occasionally is used. A few designs have leather seats, backs or decks.

Glass and Stone

Glass is a desirable, interesting furniture construction material for some applications. Although more fragile than most plastics, glass is stronger than you might think. It must be thick enough to provide necessary support. Usually 1/2-inch thickness is sufficient. For wide spans, supports should be added so glass doesn't sag.

Tempered glass is stronger, but is rarely used in furniture because it must be cast rather than cut to size. All glass edges should be polished and rounded to eliminate sharp, hazardous edges. Glass can be carefully drilled, cut and hinged, usually by stabilizing it in a frame or retaining device. Mirrors should be selected and treated the same as glass.

Marble is the most common stone for furniture. It tends to shatter less than glass but also tends to break along veining lines. Travertine marble is extremely porous. It generally is filled and polished before it is used for furniture. Some granite and slate also are used in furniture and are stronger than marble.

Construction

All case goods should be constructed to hold up to their intended use. Joints should be smooth and tight.

Either center or side drawer glides can be used. The drawer should fit to the back of the cabinet and have drawer stops so it won't pull out of the frame. Dust panels between drawers protect drawer contents.

Test the drawers by opening and closing them. They should move effortlessly when you push or pull them from one side or the other. They also should be smooth, firm and finished inside and out, not rough and wobbly.

The frame should be constructed with joints fitted tightly and glued where appropriate. The corner blocks and back panel should be finished for protection but need not be the same finish as the main piece.

Doors should be attached with hinges strong enough to support their weight. Hinges may be exposed or hidden. For large or heavy doors, full-length piano hinges are advised. All should work smoothly and effortlessly. Be sure doors open and close easily, fit well and don't sag.

Safety

Furniture should be safe to use. Test pieces for stability. Be especially alert to cantilevered shapes; tall, thin items; three-legged or pedestal-base tables and chairs; wall system pieces; drawer units in which top drawers might overturn the unit when opened; and furniture on casters.

Cribs and bunkbeds especially should be purchased with an eye to safety. Check for side rails where a child's head might be caught; mattresses that are too small for the frame; poorly designed ladders; and hardware that doesn't work or comes off.

Sharp edges and corners can be treacherous for anyone but are especially dangerous for children, people with poor eyesight and those who use walking aids or a wheelchair.

Furniture is generally not fireproof. Consider where you will use the items you buy, and choose materials that are as firesafe as possible.

Finishes

Furniture finishes vary with construction materials and styles. Depending on the environment and conditions of use, these are typical finishes used in residential settings. There are many others. Except for stainless steel, all furniture metals must be finished to protect against rust and oxidation. Painted metal surfaces may chip and peel. Baked-on enamels and synthetic coatings are durable but can scratch or chip.

Fluid bed coatings are tough and durable and can be textured slightly. A leather texture is popular. Heated metal is dipped into a container of plastic powder or dust. The dry material melts when it comes in contact with the heated metal and fuses to the surface.

Plated metals -- silverplate, chromium (chrome) and brass plate -- are common. A thin deposit of hard noncorrosive metal is deposited by electrolysis on a base metal. The plate can be bright and shiny, brushed or stain. Plated metals are fairly durable but tend to peel if not done well. Plating wears off at points of constant use after a period of time.

Aluminum also can be coated with a transparent plating to protect it. This finishing process, called anodizing can be done using colors, for instance, brass, bronze, gold and some dark, opaque colors.

Glass may be clear, colored, etched, obscure, textured or smoked. Stone can be natural or polished, rough or smooth. Edges should be rounded or beveled and polished.

Rattan is naturally silicon-coated, so it generally doesn't need any additional finish. Rough spots or discolored areas may require some sanding. If so, use a finish to seal the sanded areas. You may use clear lacquer, varnish or enamel.

Experts who work with rattan discourage use of paint or colored finishes on any of the natural materials (rattan, wicker, cane) unless the piece is damaged or has sections that need covering to make them attractive. Also, scratches in the paint detract, so maintenance is time-consuming and costly. Paint on wicker tends to clog the openness of the design and is very difficult, if not impossible, to remove should you want the natural material and color to show later.

A good professional paint stripper may be able to remove the paint from old wicker, but that is the only practical method. Spray finishing these materials usually is more successful than brush finishing.

Styles

Furniture styles fall into several categories: classic or traditional; provincial or country; and modern or contemporary. All furniture need not be in the same style, but one style should dominate. Other pieces should harmonize.

Case goods should be scaled and proportioned for the space you have and the surrounding furnishings. Although unusual marketing trends and styles are inevitable, avoid selecting fad items. They will soon look out of place.

Labels

Guidelines for the home furnishings industry were established by the Federal Trade Commission. They primarily apply to wood, metal and upholstered furniture, although there are a few label requirements for some plastics.

When exposed furniture surfaces or parts are made of metal or plastic that looks like wood, labels must

clearly say so: *oak-grained (metal/plastic) top; solid cherry top with (metal/plastic) front and sides; walnut-grained (steel/molded plastic) bookcase; imitation wood; simulated oak finish on (metal/plastic); and (metal/plastic) simulating wood.*

Only solid metal may bear the label "copper," "brass," or "bronze." The terms "brass-plated," "copper-plated," "nickel-plated," "chrome-plated" or "chromium-plated" may be used when the plating is of that metal.

A metallic term for a color or finish must be clearly stated. The terms "brass finish" or "copper finish" are not acceptable. "Gold-colored metal trim"; "silvery finish"; or "bronze tone finish" are acceptable finish descriptions.

Master Plan/Purchasing Considerations

Because case goods represent a sizeable investment, purchase them carefully. Developing a master plan for your home will help you select pieces for long-term use. Spur-of-the-moment purchases may result in an uncoordinated array of things that never quite meet your needs. To prepare a master plan, consider the following:

- What do you want as an end result?
- How much do you have to spend? What is your budget for furnishings? ***Remember: It is unnecessary to purchase everything you want now.***
- What do you most need? By when do you need what?
- Purchase the best quality your budget will permit.
- Select major pieces before investing in accessory items.
- Styles and materials can be mixed. What do you like?
- Avoid fads unless you have unlimited funds.

With your master plan, you know where you're heading. As dollars become available, you'll be able to buy what you need so you have a planned end result rather than a "happening."

Select a reliable store with reliable salespeople. Find out what kinds of services the store offers and its policy on delivery. Furniture sales are usually in February, July and August, but check your locality.

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A-1d, Furniture Selection

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