

## *Smart Shopping for Home Furnishings*



# Selecting Metal Furniture

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Shopping for metal furniture? Rarely do you see a chair or sofa made entirely of metal. Metal furniture generally consists of metal legs or frame and nylon webbing or upholstery of some type. With this in mind, you may also need to coordinate the reading of this section with the section on upholstered furniture.

To make sound purchase decisions concerning metal furniture, you should be able to answer the following questions.

- WHAT'S ON THE MARKET?
- WHAT DO I LOOK FOR IN QUALITY?
- WHAT FINISHES ARE AVAILABLE?
- WHAT'S ON THE LABEL?
- WHAT'S ON THE WARRANTY?

### **WHAT'S ON THE MARKET?**

Metal furniture is made from either aluminum or steel (iron), with the specific type of metal difficult to identify once the finish coat is applied. One way to tell the difference between aluminum and steel is to place a magnet on the surface of the metal. If the magnet sticks, it is made from steel. Steel is generally more expensive than aluminum when used in furniture. However, the price varies with thickness and specific type of metal as well as the finish used. In addition, aluminum must be thicker than steel to be as strong.

Aluminum furniture is quite common. One reason for this is that it does not rust; however, it does oxidize. When aluminum oxidizes, it turns a chalky white. The better quality furniture is made of either cast or heavy tube aluminum.

Steel is made of a strong, tough metal consisting of iron alloyed with various small percentages of carbon and other metals. Steel is divided into low, medium, and high carbon. Most of the metal furniture is made of low-carbon steel because it is less expensive and the strength of high carbon steel is not needed for furniture.

## **WHAT DO I LOOK FOR IN QUALITY?**

The characteristics that determine metal furniture quality are the weight of the furniture, the way the metal is joined, sturdiness of the furniture piece, reupholster potential, vent holes, and the use of floor protectors.

**Furniture Weight.** Light-weight furniture indicates that thin metal was used, and heavier furniture indicates that thick metal was used to construct the piece of furniture. Heavier furniture generally lasts longer than lighter weight furniture.

**Metal Joints.** The method and quality of work used to join metal furniture pieces also determine quality. You may have to look carefully because quality joints are placed so that they can not be seen, unless the chair is turned upside-down. Manufacturers are also skilled in hiding the joints with the finish. Methods used to join metal are welding, riveting, bolting, and screwing.

Welding is one of the best methods of joining metal. There are, however, different types of welds used to construct furniture. They are spot, electric arc, and brazing welds.

Spot welding uses electricity to fuse the two pieces of metal together. A spot weld looks like a small round dent in the metal and is found where two pieces of metal are fastened together. The quality of spot welding depends on the location and the number of spot welds. One spot weld can come apart easily, depending on the amount of stress put onto the joint.

Arc welding is where electricity is conducted through an electrode, which is applied to the two pieces of metal that are to be joined. The arc from the electrode is directed at the two pieces of metal. The heat generated by the arc causes small sections of the metal to melt. These molten portions, along with the molten portions of the electrode, flow together and solidify. Again the quality of the arc weld depends on the quality of work. When comparing the arc weld to other types of welds, it provides a rougher joint.

Brazing is done with a torch and brass. The brass melts and joins the two pieces of metal that are being welded. Brazing can be an excellent joining for metal furniture depending on the quality of the work. Brazing is easily identified because it is smoother than an arc welding and you can scrape a little of the finish off and see the brass.

Rivets are used to hold the joints together in metal furniture, but because they lack the rigidity and permanence of welding or brazing, they are usually found in less expensive pieces. Two types of rivets are used in furniture construction; solid rivets and “pop” rivets. Solid rivets are cylindrical steel fasteners that are placed through drilled or punched holes and have smooth round or oval heads that are mechanically formed to create a tight joint. “Pop” rivets are tubular in form and although they appear strong at first glance, have a tendency to work loose with use and time.

Bolted joints are used when the metal furniture is shipped in pieces and assembled after it arrives at the retail store. Bolted furniture will hold up if the bolt is large enough to support whoever sits in the chair. Some problems associated with bolts are that they can catch on clothes and can work loose. Bolts that are countersunk do not catch onto clothes, and bolts with self-locking nuts do not work loose. The self-locking nut looks like an acorn nut.

Screwed joints are used on less expensive metal furniture. Screws work loose when used with metal because sometimes there is not enough for the screw threads to grasp. If screws are used, they should be countersunk so they do not catch onto clothes.

**Sturdiness.** One way to check quality construction is to put pressure on the piece of furniture. Does the structure give or wiggle under pressure? Chair legs should be sturdy without a lot of give under pressure. Many of the dining chairs are made with “S” shaped

legs. The high quality “S” shaped legs are reinforced with another piece of metal inside the bend (see Figure 9.1, “S” Shaped Chair Legs). You can determine if the extra reinforcement has been added by sitting on the chair. Does the chair compress? If it does, it probably does not have reinforcement and will not last as long as the one that is reinforced.

**Reupholstery Potential.** If the seat has an upholstered cushion, an important feature to check is whether the seat can be taken off and reupholstered once it wears out. Check the underside of the seat to see if it can be removed. If the seat is screwed down, you can generally remove it for reupholstering. If the seat is welded and clamped, you may not be able to reupholster.

**Vent Holes.** Most tubular metal furniture have vent holes in the lowest part of the tube. These tube vents are important for the evaporation of moisture, as an outlet of pressure when welded, and so the inside of the tube does not rust. To check for tube vent holes, turn the piece of furniture upside down. You can look inside the metal tube through the vent holes.

**Floor Protectors.** The bottom of the legs where the metal sits on the floor should have plastic or rubber gliding tips on the ends of the legs, so that the floor is not damaged when the chair is used. Some metal furniture designs such as the “S” design legs do not need this tip.

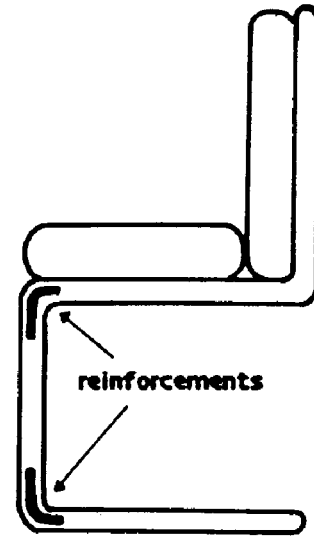


Figure 9.1. “S” Shaped Chair Legs

## **WHAT FINISHES ARE AVAILABLE?**

The type finish applied to metal furniture is very important to its durability. The most common finishes used on metal furniture are anodized, brass and chrome plated, plastic, and painted.

Since aluminum oxidizes, anodized finishes are used on a lot of aluminum furniture. The anodized finish is an electroplating finish applied in a bath. It is a hard finish that is difficult to scratch, but because it is so thin, it will wear through. Anodized finishes come in clear or colored.

**Brass plating** is also an electroplated finish applied in a bath. Brass plating is extremely durable, yet a thin finish can wear through. Most of the brass furniture sold today is brass plated, not solid brass. Solid brass furniture is very expensive and rare. One way to tell if it is solid brass is to place a magnet onto the metal furniture. If the magnet clings to the metal, it is brass plating over steel. If it is solid brass, the magnet will not cling to the metal. Both the solid and brass-plated furniture should be coated with a clear plastic finish, so the brass does not oxidize. If the clear finish is scratched, both the solid brass and brass plating oxidize and change color. Solid brass can be polished easily if it oxidizes, but the brass plating rubs off when polished a lot.

**Chrome plating** is also an electroplating finish. Chrome is made of chromium, which is a very hard metallic element with a high resistance corrosion. This type of finish is durable but thin. If the chrome plating is damaged to the point that the steel is exposed to the air, the scratch will rust.

**Plastic-coated finishes** are used to prevent the metal from rusting or changing color caused by air exposure. These synthetic finishes are as durable as paints, but not as durable as the electroplated finishes. These finishes are also used over other finishes for extra protection.

**Paints** are used to finish both steel and aluminum. Paints generally used on metal furniture are the durable synthetic finishes, but are not as durable as the electroplated finishes. Painted metal furniture scratches easily, and once the metal is exposed to the environment it oxidizes or rusts.

## **WHAT'S ON THE LABEL?**

Generally, the only labeling found on a piece of metal furniture in the retail store is the name of the retail store and the price of the furniture. If you want to know what type of metal you are buying, you will have to become skilled at identifying the different types of metal. If the metal furniture has upholstery, it is required by law that all upholstery have a tag indicating the type of materials used inside the upholstery. Identifying the top fabric is not required.

## **WHAT'S ON THE WARRANTY?**

Most reputable dealers repair or refund money for furniture that is defective. The length of the warranty is about one year. Generally a written warranty does not accompany metal furniture, so buy from a reputable dealer.

## **✓ QUALITY CHECKLIST**

After each question, answer with a yes\* or no.

1. Is the furniture heavy rather than lightweight?
2. Are the joints welded?
3. Are welds smooth and neat without ripples?
4. If a spot weld is used, is there more than one?
5. If bolts are used, are they counter sunk so they will not catch on clothes?
6. If bolts are used, do they have self-locking nuts?
7. Is the chair sturdy when you put pressure on the frame?
8. If upholstery is used, is it removable for reupholstering?
9. If metal tubing is used, are there vent holes on the underside?
10. Are there plastic or rubber gliding tips on the ends of the legs?
11. Is the finish electroplated?
12. Is there a warranty?

\* If you answered all these questions with a yes, you can be assured of getting high-quality metal furniture.

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