

1987

## Selecting an Innerspring Mattress

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### Recommended Citation

Hawks, Leona K., "Selecting an Innerspring Mattress" (1987). *All Archived Publications*. Paper 513.  
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## *Smart Shopping for Home Furnishings*



# Selecting an Innerspring Mattress

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Home Furnishings & Housing Specialist

1987

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Shopping for an innerspring mattress? The innerspring mattress is the most common mattress sold today. To get the most for your money, you should be able to answer these questions.

- WHAT'S ON THE MARKET?
- WHAT GOES UNDER THE INNER SPRING MATTRESS?
- WHAT'S ON THE LABEL?
- WHAT'S ON THE WARRANTY?

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

Many different types of innerspring mattresses are on the market today. It is difficult, therefore, to determine quality. Two good methods of determining quality are to ask the sales clerk and to check the cutaway sample. Some of the characteristics to look for are high-quality steel of correct thickness, a quality coil system, an adequate number of coils used in the mattress, quality padding, and a quality cover.

The quality of steel used to make coils is an important characteristic. Quality coils are usually tempered with heat or electricity. This process makes the coils more likely to return to their original shape when compressed. An enamel or plastic coating may be applied to coils to resist corrosion and wear. The thicker the metal, the firmer the support and the more durable the mattress. Manufacturers of the better mattresses use a 13 gauge wire. Some of the softer mattresses consist of a higher-gauge wire. The higher the gauge wire number, the thinner the wire. Just because the coil or spring is made of thinner wire does not mean the mattress is poor quality. The quality of a mattress is affected by many factors.

A quality coil design consists of a soft surface with firm support. This means that the coil yields under gentle pressure and becomes more resistant as additional weight is applied to the surface. The amount of support is a function of the number of turns in the coil. Fewer turns provide less support and firmness. The range of turns you will find in coils are between five and eight.

A quality coil system has its greatest support in the shoulder-to-knee area where body weight is greatest. Additional support is found around the edges, where some of the greatest

wear occurs from getting into and out of bed. The five most common coil systems are **Continuous, Karr, Knotted Bonnell, Knotted Offset** and **Marshall** (see Figure 8.1, Innerspring Mattress Coil Systems). The continuous coil system consists of coils formed from a single strand of 18 gauge steel wire strung through the system. This system gives a lot of support because of increased use of wire, even though it is 18 gauge wire. The Karr coil system consists of hour-glass shaped coils with the ends left unknotted. The hour-glass-shaped coil offers a soft surface and firmness as pressure is applied. The offset coil configuration of the Karr coil means the coils are not totally round at the top and bottom. This shape is what gives the coils independent movement and reduces leaning by alternating offset from right to left. The Knotted Bonnell coil system consists of the hourglass shaped coils with five turns. It has a knotted end, making the surface firm. The Knotted Offset is similar to the Bonnell except that part of the top and bottom wire sections are squared off to fit together in a parallel fashion on the top surface. This hinge action also prevents leaning and sagging. The Marshall coil system consists of cylindrical coils sewn into a cloth or plastic pocket, so that they move independently of each other. The pockets keep each spring under tension at all times, thus reducing the tendency of the spring to spread when compressed. The Marshall system has a lot of coils. Since there are so many coils, very light wire is used to make the coils, around 18 gauge wire. This coil system is uncommon today, partly because of the high cost.

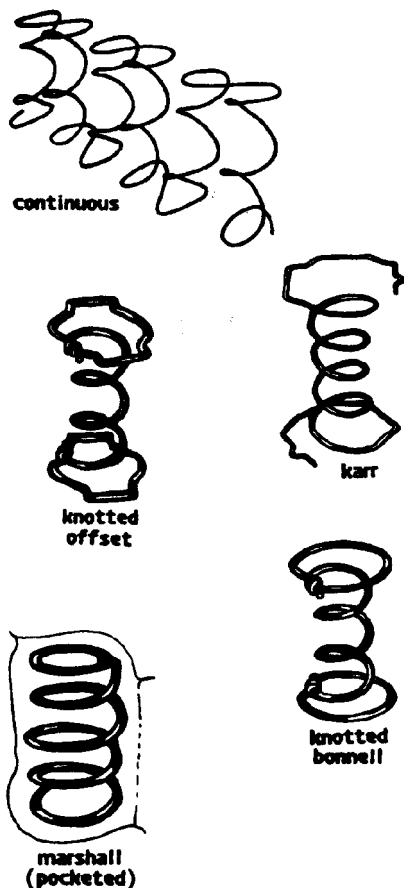


Figure 8.1. Innerspring Mattress Coil System

The number of coils in a system is important in determining the quality of the innerspring mattress, but do not let that be the only characteristic you consider. Technical improvements in the high-carbon-steel coils have reduced the number of coils formerly required for high performance and comfort. A full-size mattress should have at least 300 coils, a queen size should have about 400 coils, and a king size should have about 480 coils.

If you find an innerspring mattress with a coil count below 300 for a full-sized mattress, it is generally of poor quality. On the other hand, you can get too many coils in an innerspring mattress. When the number of coils is increased, the size and thickness of coils are decreased, thus reducing firm support. Extra coils, however, do not necessarily enhance the longevity or performance of a mattress. It is the design of the coils and their arrangement that is more important.

On top of the coils are the insulation and upholstery. The insulation is used to prevent top materials from working into the coils. Materials used as insulators are sisal, resin-bonded synthetic pad, rubberized curled hair, synthetic fibers, mesh type insulators, and polypropylene netting. Upholstery consists of the layers of material between the top cover and the insulator. The most common materials used for upholstery are cotton batting and urethane foam. Upholstery makes the mattress soft and comfortable. It also prevents the person sleeping on the bed from feeling the coils. Generally

higher-quality mattresses have more upholstery. Some manufacturers have the same coil unit but change the firmness by adding or subtracting layers of foam and cotton in the upholstery (see Figure 8.2, Mattress Insulation and Upholstery).

Today, the top layers of some of the more expensive innerspring mattresses have changed. Manufacturers have added the soft top, which consists, in addition to the upholstery, of a thick layer of foam, polyester batting, or down (see Figure 8.3, Soft-Top Mattress). This extra layer of upholstery may be as thick as 2 inches and gives the inner-spring mattress a softer feel on the surface.

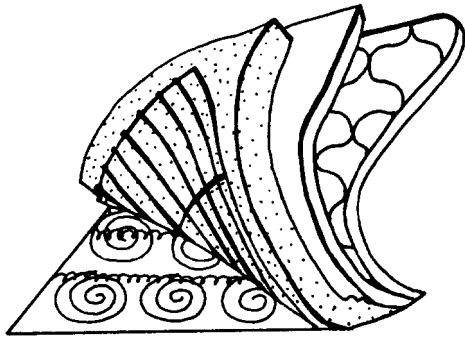


Figure 8.2. Mattress Insulation and Upholstery

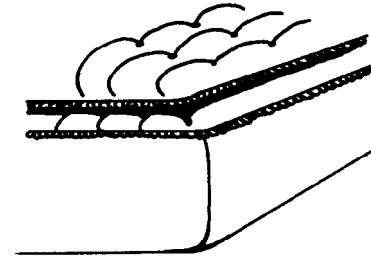


Figure 8.3. Soft Top Mattress

The outside mattress cover comes in cotton or polyester blends with special soil and stain-resistant finishes like Scotchguard and Teflon. Flame-resistant finishes are also added to the cover, as required by law.

## WHAT GOES UNDER THE INNER SPRING MATTRESS?

It does not make sense to buy a high-quality mattress and a low-quality foundation. A good quality foundation provides one-third of the support for the total system. If you purchase a poor quality foundation, the mattress wears out faster.

There are several types of foundations: **wood base**, **torsion bar**, and **coil** (see Figure Innerspring Foundations). Regardless of which type of foundation you purchase, check for padding under the cover. Manufacturers of higher-quality foundations add padding over the coils or torsion bars, which gives additional layers of comfort to the complete set. Some manufacturers of lower-quality foundations try to save money by using less padding. You can check this by rubbing the palm of your hand in a circle over the cover. The surface should feel soft and padded, not hard.

A wood-based foundation consists of wood frame covered with fabric. This foundation is less expensive to produce because it does not have coils. One problem with the wood-based foundation is that it reduces the life of the mattress by about 60%. Do not purchase a quality mattress with a 15-year warranty and put it over a wood-based foundation. In 5 years your mattress will become soft from lack of support from the wood-based foundation, and the warranty does not cover a mattress becoming too soft.

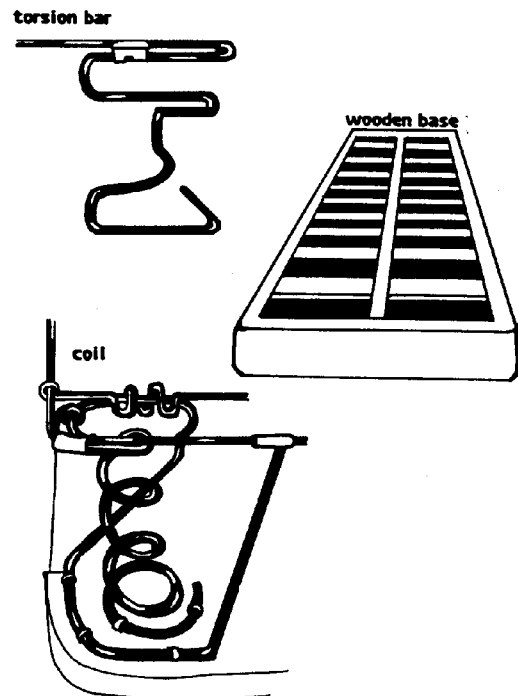


Figure 8.4. Innerspring Foundations

The second type of foundation is the torsion bar. The torsion bar does not have coils but pieces of metal bent in a Z shape, and set vertically into the frame. Each bend in the wire is a torsion bar. Some wires have five torsion bars or five bends in the wire.

The third type of foundation is the coil. There are three types of coils: flat, spiked, and cone-shaped. The flat coil consists of flat strips or links of steel wire that run horizontally and are attached to the frame with helical coils. Flat coils are widely used for bunk beds and baby cribs. Spiked coils are cylindrical and wider at the bottom. These have several spirals and give good support. The cone-shaped coils are wide at the top and narrow at the base, which provides even compression upon the entire coil. Most better-quality coil foundations have around an 81 coil count for a full sized mattress. You can get 72 or 63 coil count, but this coil foundation is less satisfactory than the 81 coil count.

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

Manufacturers are required by law to list the materials used inside the mattress on the label. The label, usually sewn on the underside of each mattress, indicates what kind of materials are used, the percentage of each, and whether it is in sheet or shredded foam.

Some mattresses have the manufacturer's name and the name or number of the mattress style. There is little consumer information found on the label.

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

Most quality mattresses carry at least limited warranties and in some cases full warranties for a limited time. These warranties assure the consumer that manufacturers will repair or replace the mattress if defective while under warranty. Warranties only cover defects in materials or workmanship, not wear and tear on the mattress. It is a good idea to read the warranty before purchasing the mattress. You will find full warranties, prorated warranties, and combinations of both from 1 year to 20 years. All warranties apply to the original purchaser. It is important for you to find out what the warranty covers, how to validate the warranty, where the mattress has to be taken if defective, who pays the expenses to and from, and where the closest factory is located.

Manufacturers handle consumer complaints differently. Depending on the warranty, the manufacturer may replace the mattress rather than repair the defect, repair the mattress for you at no charge, or charge you a fee to repair the mattress. In addition, service under the warranty is usually not free. You may have to pay transportation costs to the nearest factory to have your mattress repaired.

A word of advice. Buy your innerspring mattress and foundation from the same manufacturer. Most manufacturers do not validate warranties unless the innerspring mattress and foundation are bought as a set.

## **✓ QUALITY CHECKLIST**

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

1. Does the mattress contain a quality coil system?
2. Does the mattress have at least 310 coils for a full-sized, 400 coils for a queen-sized, or 480 coils for a king sized bed?
3. When compressed with the hand, do the coils provide support?
4. Has the wire for coils been tempered?
5. Is the innerspring mattress comfortable to lie on?

6. Is the outside cover made of tight-woven, durable fabric?
7. Does the outside cover have some type of finish to protect the mattress from stains?
8. Is the foundation for the mattress made of coils with a count of at least 81 coils for a full-sized foundation?
9. Is there a label on the mattress with the manufacturer's name and the name or number of the mattress style?
10. Does the mattress have a warranty?
11. Did you read the warranty?
12. Is the warranty a full warranty for at least one year?
13. Does the warranty indicate that if there is a manufacturer's defect, the retailer will replace or repair the mattress?
14. Will the store stand behind the manufacturer's warranty?
15. Does the mattress have support at the edges?
16. Is the mattress 6 inches longer than the tallest person?
17. Is there enough width in the mattress to avoid the crowded feeling?
18. Does the mattress have enough upholstery so you cannot feel the coils?
19. Are the coils painted or treated some way to be rust-proof?

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

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Issued in furtherance of Cooperative Extension work, Acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture, Robert L. Gilliland, Vice President and Director, Cooperative Extension Service, Utah State University. (EP/05-95/DF)