Spring Mattress Glossary for buyer

Bonell: A knotted, round-top, hourglass – shaped steel wire coil. When lacked together with cross wire helicals, these coils form the most basic innerspring unit. The finished unit is also referred to as a Bonnell.

Border rod: A heavy gauge wire rod attached to the perimeter of the innerspring unit (top and bottom) by metal clips.

Box spring: A mattress foundation consisting of coils or other forms of springs mounted on a wood or metal frame and secured with a wire-interlaced or welded-wire grid, topped with upholstery and insulating materials and covered on the top and sides with fabric and on the bottom with a dust cover. Also see Foundation and Wire Foundation.

Coils: The individual wire springs that form an innerspring unit. See Bonnell, Hourglass, Continuous and Offset Coils.

Coil count: The number of coils in an innerspring unit. When specifying an innersprin unit, the coil is usually designated by the number of coils in a full-size unit of that model or series. Example: a "312 Bonnell" innerspring has 312 coils in the full-size and proportionately larger numbers in the queen and the king.

Continuous coils: An innerspring configuration in which the rows of coils are formed from a single, continuous piece of steel wire.

Foundation: A generic term for any base or support for a mattress, though often used to refer to a construction that does not contain springs, usually a built-up wood base with some upholstery on top and covered with fabric. Also see Box Spring and Wire Foundation.

Gauge wire: A measurement of the diameter of the steel wire used in coil construction. The wire gauge for innerspring unit coils ranges from 12.5 to 18. The higher the gauge, the thinner the wire.

Hand-tied: The process of hand-lacing the coils in a box spring together with twine. Seldom used in modern bed construction.

Helical: A tightly-coiled, elongated wire used in the manufacture of innerspring units to join individual coils to each other.

Hourglass Coils: Coils that taper inward from top to middle and outward from middle to bottom, thus resembling an hourglass in shape. They are typically employed in Bonnell and Offsett coil designs.

Insulator: Any material used on the top and bottom of an innerspring unit to prevent the upholstery layers from cupping down into the coils. Some common types are: a fiber pad, non-woven fabric, netting, wire mesh or foam pad.

LFK: An unknotted offset coil with a cylindrical shape. An LFK innerspring unit is generally high coil count and high (thinner) guage wire.

Pocketed Marshall: A type of innerspring construction in which thin gauge, barrel-shapped, knotless coils are individually pocketed in high strength fabric. This type of construction offers the highest support & comfort.

Source: The international Sleep Products Association (ISPA), www.sleepproducts.org

Offset Coils: A coil design on which portions of the top and bottom convolutions have been flattened to facilitate hinging action between coils. Offset coils with unknotted wire at the top and bottom are called "open offset."

Pocketed Coil: See Marshall.

Spring Wire: Wire made from high carbon steel, characterized by toughness, strength and ductility. Typically furnished in 8 to 18 gauge for bedding industry applications.

Straightline defletion: pertains to mattress innerspring construction and refers to the constant ratio between stress and strain, weight and movement. This means that two people of unequal weight sleeping on the same mattress receive the same support.

Tempered steel: Steel for use in coil springs is treated with heat to reduce brittleness, a process employing electric charge, oven heat or both. The finished innerspring unit is also heat-tempered, or "stress relieved," to restore original coil characterstics after assembly.

Torsion bars: A type of spring system characterized by square-shaped wire forms used in box springs.

Welded grid top: Wire welded into a lattice to which box spring coils, formed wire or modules are fastened. Offers even weight distribution, but allows some flex and give.

Wire foundation: A unitized wire construction used as the main support system inside a foundation. See also Box spring and Foundation.

Sources: American Innerspring Manufacturers (AIM), www.aiminfo.org