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## **Purchasing the right mattress is no easy feat**

By Bill Sugg

Many UPH managers – including some at Navy and Air Force installations – asked questions about mattress purchases during Army Day at the recent Professional Housing Managers Association meeting in Atlanta.

The U.S. Army Engineering and Support Center in Huntsville, Ala., centrally manages the Army's Furnishings Program. In response to those questions and the growing interest we are seeing at installations, we have put together a guide on mattress purchases.

The most commonly purchased mattresses are innerspring or foam construction, and government buyers have quite a number of options based on price, quality, construction, warranty, sustainability, the FAR and Army regulations. There are many considerations and no clear guide to help the poor, hapless soul choose the best mattress for their dorm and quarters application. This article is intended to provide food for thought and a compilation of considerations, but the result will not be a recommendation for a particular type or source of mattress.

The government buys mostly innerspring mattresses, due to the comfort and longevity of the product. Foam mattresses, however, are “greener” because they can be ground up and used for carpet backing, pet beds, etc. Innerspring mattresses also can be recycled, but in a different way.

Recycling mattresses is gaining in importance because landfills are getting increasingly reluctant to take innerspring mattresses. There are many companies that will recycle innerspring mattresses for \$3 to \$10 per mattress, plus the cost of shipping the mattress to the recycling plant. These recyclers strip the cover, padding and stuffing from the old mattresses, dispose of them as waste and then send the steel innersprings to rod plants that melt them and form them into the steel rod for new innersprings. These innersprings are 95 percent recycled material – a high percentage because the re-used steel is such high quality. When you consider that most of the rest of each mattress is cotton – a bio-based material – and that the stitched cotton felt is 60 percent recycled material, then innerspring mattresses start to look good for sustainability.

At least one innerspring mattress manufacturer directly reuses the innersprings. This company bakes the entire mattress for two hours to sterilize it, strips away the cover, padding and stuffing (disposing of them as waste), inspects the innersprings and uses those that pass the inspection to make mattresses. These mattresses are marked with a yellow tag to clearly identify them as containing previously used innersprings.

There are a few instances where charitable organizations will accept used mattresses, but the mattresses are screened for condition before being accepted and relatively few can be disposed of this way.

Innerspring mattresses come in many sizes with many options. For the Army Centralized Furnishings Program, the mattresses can be ordered in thicknesses from 6 to 12 inches; firm or extra-firm, with varying pillow-top thicknesses; with or without additional foam layers; and with ticking (the outer cloth covering) that is stain-resistant, water-resistant, anti-static, anti-fungal, anti-bacterial (silver ion technology) and (always!) fire-retardant.

Foam mattresses for the Army Centralized Furnishings Program involve fewer options – typically involving just the thickness and the ticking. It is not necessary to choose between firm and extra-firm if the buyer includes the requirement for two foam core densities to allow the user to choose his or her own firmness by flipping the mattress over.

However, the above considerations are only the beginning in determining which mattress to buy.

How do you select a mattress?

**Materials.** Whether you choose innerspring or foam, mattress materials come in various quality levels which can impact the longevity of a mattress. For mid-grade mattresses within each material type, most experts will say that the innerspring mattress is the best choice considering comfort, price and longevity.

**Mattress Support.** Firm? Extra firm? Or soft? Everyone has an opinion on this, but just like in Goldilocks, the best solution, for all sleepers, is not too firm, not too soft. You may have heard that a firm mattress is bad for a bad back, no wait a soft mattress is better for a bad back, but there is no firm (pun intended) solution as to what works best. Thus, the middle of the road for firmness works best.

**Coils.** How many? How thick? How many turns? Coil Shape? Continuous, or independent? Much agonizing goes on in this area, but for most buyers, it can be simplified to independent coils with a coil count of a minimum of 300 coils for a full mattress. Even more important than the number of coils is whether the coils are independent or continuous, how thick the steel is in the coils (the heavier the steel, the longer it lasts and the firmer it is) and the number of turns in the coils (a turn is a 180 degree curve in a coil). Some suggest multiplying the number of coils times the number of turns, with the higher number the better, but many manufacturers and retailers are stingy with the coil turn information for specific mattresses. However, each manufacturer combines all of the elements of the coils to produce a mattress that is of a certain firmness and quality.

**Warranty.** Always, always buy from a source that offers a non-prorated warranty. Many manufacturers only offer prorated warranties on some or all models. A prorated warranty means that you have to pay a percentage of the purchase price to get the warranty problem resolved. This means if a key component breaks and has to be replaced eight years into a 10-year warranty, you could pay as much as 80 percent of the original purchase price (plus shipping) to correct their mistake.

Life Cycle and Financial Analysis. To determine the true cost of a mattress, you have to consider the expected replacement cycle of the selected mattress (three years, five years, 10 years, etc), the cost of disposal and the replacement cost over the expected life of the facility. Also, what funding is available now and what funding is expected to be available in the future has to be considered. Mattresses procured through Huntsville Center typically have a 10-year warranty for innerspring mattresses and warranties that vary from one year to 10 years for foam mattresses.

Although it is difficult to compare model numbers from one manufacturer to another (or even from one retailer to another), a similarly constructed mattress will have a similar quality and comfort level. The hard part is to determine what quality and comfort level is best for the user. Good manufacturers will have specification sheets that provide some of the information, and they will have cutaway models that show the layers and the coil type and assemblage.

How to know when you need to replace a mattress? If the mattress has formed hills, valleys or lumpy spots, if users complain of restless sleep or soreness in the mornings or if it is soiled or stained are all good reasons to replace the mattress. Innerspring mid-quality mattresses can be expected to last up to 10 years, while most foam mattresses of a comparable quality can expect to last five to 10 years. Some of the practices that can be used to extend the life of a mattress include turning and flipping the mattress (unless it is a one sided, no-flip mattress), using a mattress pad or cover, using a foundation (box-springs) that is manufactured to current standards and vacuuming the mattress frequently.

Other considerations that matter. What applicable federal, service and local regulations apply? How difficult is it to dispose of the mattress in a landfill? What is the availability of recycling sources for this mattress? Are there special considerations for size, anti-microbial or other features? What sources can I consider? The following paragraphs will address some of these considerations.

What applicable federal, service and local regulations apply? Executive Order 13514 requires that 95 percent of all new contract actions are ... “bio-based, environmentally preferable ... contain recycled content ... where such products and services meet agency performance (Reference 1). Federal Acquisition Regulation (FAR) Section 23.404 requires” (b)(1) Agency affirmative procurement programs must require that 100 percent of purchases of EPA or USDA-designated items contain recovered material or bio-based content, respectively, unless the item cannot be acquired — (i) Competitively within a reasonable time frame; (ii) Meeting reasonable performance standards; or (iii) At a reasonable price.” (Reference 2). USDA BioPreferred Final Item Designations do not include mattresses, although bedding is required to have 12 percent minimum bio-based content (Reference 3). FAR Section 8.603 Purchase priorities indicates that “ordering offices shall purchase supplies and services in the following priorities: (a) Supplies. (1) Federal Prison Industries, Inc. ([41 U.S.C. 48](#)). (2) AbilityOne [including NIB/NISH] participating nonprofit agencies. (3) Commercial sources.” (Reference 4).

UNICOR indicates on its Web site that mattresses have a “green / recycled” designation. They do not indicate that they are a mandatory source for mattresses, but the FAR language indicates in Section 8 that they are to be competed.

There are at least two NIB/NISH suppliers that recycle mattresses, although their recycling programs come with constraints (i.e., geographical territory and/or the mattresses must have originally been purchased from them. At least one of them uses recycled content in their new mattresses.

What are the alternatives to landfills for this mattress? When selecting mattresses, consider up front if the mattress can be recycled by the mattress manufacturer, other national sources or local sources. Earth911 ([www.Earth911.com](http://www.Earth911.com)) is an excellent resource to determine if mattresses (or many other items) can be recycled in your area. An increasing number of installations are ordering foam mattresses because they can be shredded and recycled for other uses at the end of their useful life.

An alternative to recycling is to re-use the mattress by replacing or adding a cover if the structural integrity of the mattress is sound. Sometimes installations will order mattress covers for mattresses that are stained but otherwise useable. The most important thing to remember is that replacement mattress covers do not come with a fire-resistant coating unless you specifically request it. So, if you are trying to economize by buying mattress covers, make sure to install them over the existing mattress ticking instead of unzipping and removing the original mattress cover and then putting the new one on. A second alternative is to donate to a commercial or non-profit source that will refurbish the mattress for a charitable cause.

Acronyms:

UPH – Unaccompanied Personnel Housing

NIB – National Industries for the Blind

NISH – National Industries for the Severely Handicapped

FAR – Federal Acquisition Regulation

UNICOR – Corporate name for Federal Prison Industries

EPA – Environmental Protection Agency

USDA – U.S. Department of Agriculture