

Bed bugs are very challenging pests. The best way to rid them from your home is to hire a professional. Many over the counter products are contact-kill only (which can be very difficult with bed bugs) and offer little to no residual action. But with the average fee for bed bug treatment being around \$600, money is often an issue. What can be done if you simply don't have the funds available? Here are some DIY treatment options.

What is Not Effective for a DIYer?

Bug bombs or foggers for roaches or fleas are NOT effective against bed bugs. Bed bugs can easily hide in places that are unreachable to drifting insecticidal fogs.

Heat treatment can be effective, but is best done by a professional. Just turning up your furnace for a while will not eliminate many bed bugs. Thermal death temperature must reach at least 115°F for 60 minutes or more to kill bed bugs and their eggs. Some people have accidentally burned down their homes in desperate attempts to rid their property of bed bugs. Don't do this!



Remove Clutter

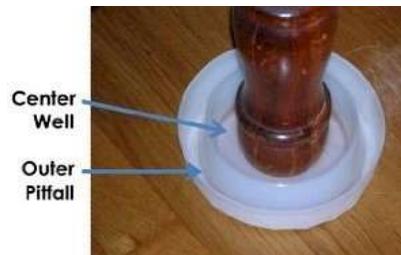
Cluttered spaces provide many places for bed bugs to hide. This makes treatment nearly impossible because clutter is difficult to penetrate.



Place piles of clothes that are on the floor in sealed bags for washing. Remove all items from under the bed, but do not put anything on top of the bed or move it to another room (this may spread bugs to un-infested spaces!) Don't move items from the closet into other rooms. Stack the things you wish to keep in front of the closet door for inspection. Items with no value, such as old newspapers, junk mail, magazines, and broken items should be bagged and thrown in the trash immediately.

Bed Bug Detection

It is very important to catch a bed bug infestation before the population becomes large and difficult to control. Devices such as a bed bug interceptor can help. It is basically a dish which is rough on the outside and coated with talc on the inside.



Bed bugs climb up the outside of the device and fall into the outer well where they can't escape. It will not eliminate an infestation, but it can catch enough bed bugs to reduce the population size. It also give you an idea where they are located; for example: in the bedroom but not in the living room.

Vacuuming

A high powered vacuum is very useful for removing bed bug debris, such as dead bugs, molted skins, hatched eggs and feces. No vacuum will remove all of the bed bug eggs (they are cemented in place), but the removal of bed bug debris makes it easier to see if anything is still alive in the harborage areas after treatment. Just make sure the infested vacuum bag is thrown away outside of the building.

Steam

Bed bugs are easy to kill with heat; the temperature must only get to 113-115°F. Putting infested clothing and bedding in a hot dryer is an excellent way of killing bed bugs and their eggs.



Heat can also be used to kill bed bugs and their eggs in furniture and carpeting by using a steamer. But steaming bed bugs is a slow process that takes patience. Steaming is an effective way to reduce an infestation, but steam alone will not eliminate an infestation.

Diatomaceous Earth and Silica Gel

Both diatomaceous earth (DE) and silica gel are made up of silicon dioxide. DE is mined from fossilized microorganisms called diatoms. Silica gel is synthetically produced, often from sand. The term "gel" is somewhat misleading since it is hard and often formed into granules. It is also an efficient drying agent, which is why small bags of it are often

packaged with electronics to prevent moisture accumulation.

DE kills bed bugs by acting like sandpaper as they crawl through it. It abrades their exoskeleton causing them to die of dehydration within a few days. DE is generally safe to use, but note that there is more than one kind: (1) 100% DE; (2) Food grade DE; (3) DE that contains pyrethrin, a type of insecticide; and (4) DE used for swimming pool filters. **Note that the swimming pool DE is a serious inhalation hazard and should never be used inside the home.**

Silica gel has recently (2014) been found to be much more effective at killing bed bugs than DE ⁽¹⁾. It acts more as a sponge to absorb the bed bug's body moisture, having a tremendous absorbing capability. Studies showed that silica gel killed 97.5% of the available adult bed bugs in a 24 hour period, with 100% mortality within 48 hours vs. 10% for DE ⁽¹⁾.



CimeXa is a brand name silica gel that is available for general purchase. It too, is non-toxic. As with any dusty material, airborne silica gel or DE particles can be irritating to the eyes and respiratory tract. Due to the desiccating properties, the dust has a drying effect on skin which can be avoided by wearing gloves or washing after use.

Mattress Encasements

A mattress encasement is more than a bed cover. It seals your mattress so bed bugs can't infest it, and any bed bugs currently on your mattress can't bite through it or escape. A mattress encasement must be placed on the mattress as well as on the box spring. The zipper teeth must be tight enough to ensure that newly hatched bed bugs cannot escape. Make sure the encasement you purchase

describes on the label that it has been tested for containing bed bugs.

Bed bugs hide well!

The drawing below shows some areas to treat and to look for bed bugs.



See our other brochure, Bed Bugs, for additional information

⁽¹⁾ Silica Gel: a Better Bed Bug Desiccant; Pest Control Technology, August 26, 2014 (www.pctonline.com/pct0814-silica-gel-research-bed-bugs.aspx)

Dr. Michael Potter at the University of Kentucky is a premier bed bug entomologist.

www.ca.uky.edu/entomology/entfacts/ef636.asp

More good information at the following websites:

www.nyc.gov/html/doh/downloads/pdf/vector/bed-bug-guide.pdf

<http://citybugs.tamu.edu/factsheets/biting-stinging/others/ent-3012>

www2.epa.gov/bedbugs/top-ten-tips-prevent-or-control-bed-bugs

<http://extension.entm.purdue.edu/bedbugs>

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DIY Bed Bug Treatment



Phone 812-738-3237

www.harrisoncountyhealth.com