

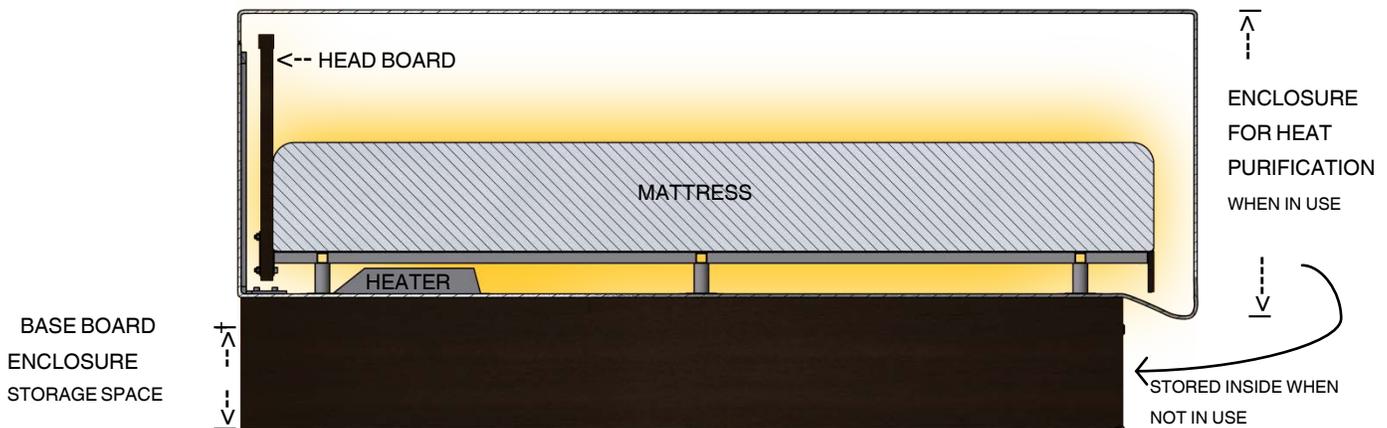
How does the GoodKnight™ work?

Bedbugs can be very difficult to get rid of because of their incredible ability to hide in cracks and crevices. They have also developed resistance to many pesticides.¹ The GoodKnight™ bed offers a unique and effective solution, using a combination of heat-purification technology and built-in trapping system.

Heat Purification Technology

Bedbugs

Heat is known to be very effective at killing bedbugs.² Heat also has the advantage of being non-toxic, and can kill all life stages of the bedbug, including the eggs. Studies show that temperatures above 49°C (120°F) will kill bedbugs in less than 1 minute.² At the lower temperature of 46°C, all bedbugs will die in less than 6 minutes.³ The GoodKnight™ uses convective heat to bring the mattress and bedding to temperatures above 50°C (122°F) for at least 20 minutes. The treatment is safe, being no hotter than the clothes dryer and effective, killing all bedbugs within the enclosure.



GoodKnight™ Heat Purification: The above cross-section shows how convective heat is distributed around the mattress and bedding.

Other pests & allergens

Mold, bacteria and other pests like dust mites are often a major source of indoor allergens.⁴ The GoodKnight™ can play a significant role in reducing many of these contaminants in the sleeping environment by killing them with heat. The target temperature of the GoodKnight™, 50°C (122°F) will kill 100% of dust mites in 20 minutes.⁵

Heat also helps denature asthma-causing allergens, reduces odors and even removes volatile organic compounds (VOCs).

The full GoodKnight™ heat-purification cycle lasts 3hrs, giving the convective heat enough time to penetrate into the fabric and other materials, reaching pests that may be deeper in the fabric. Below is a list of pests and the temperature required to eliminate them using the GoodKnight™.

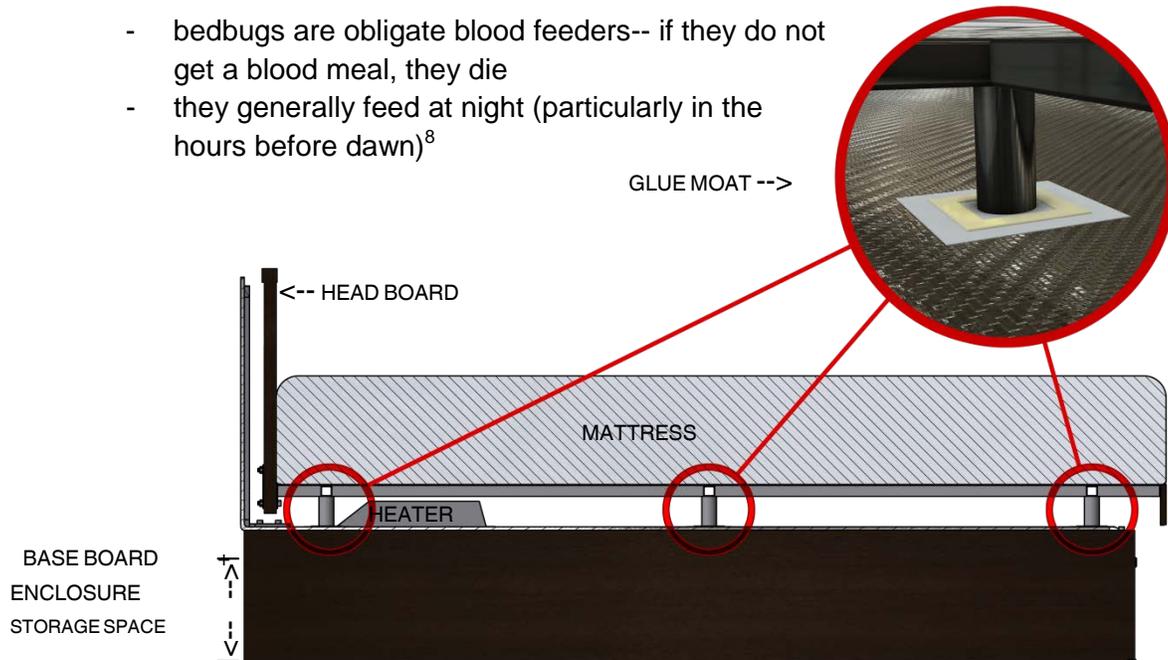
Pests & allergens	Required Temperature	Time
Bedbugs	49°C (120°F)	1 minute ²
Dust mites	50°C (122°F)	20 minutes ⁵
Ticks	60°C (140°F)	15 minutes
Scabies	49°C (120°F)	10 minutes ⁶
Body Lice	46.6°C (116°F)	1 hour ⁷
Fleas	40.6°C (105°F)	1 hour ⁷
Cockroaches	49°C (120°F)	29 minutes
Mold*	60°C (140°F)	30 minutes
Bacteria*	55°C (131°F)	15 minutes
Odors		
Volatile Organic Compounds		

*Not all species of mold or bacteria will be killed at these temperatures

Built-in Trapping System

The second part of the invention is based on these well-known entomological facts:

- bedbugs are obligate blood feeders-- if they do not get a blood meal, they die
- they generally feed at night (particularly in the hours before dawn)⁸



GoodKnight™ Trapping System: The above cross-section shows how the only migration routes into the bed are protected by traps.

The GoodKnight™ takes advantage of this behavior, by luring bedbugs from the room into the built-in trapping system. Thus, the bedbugs are killed, and the bed and it's user(s) remain protected by these impenetrable traps.

The GoodKnight™ Edge

Test-pilot studies show that the GoodKnight™ can provide users with instant relief from bedbug bites and allows them to sleep undisturbed.

For less than the price of a single exterminator heat-treatment, GoodKnight™ users can sleep in the total comfort of a heat-purified bed. The users will also enjoy 24/7 protection from bedbugs, allergy-causing dust mites, and germs, and have the ability to sterilize the bed as often as they want.

References:

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