ZappBug® Oven 2

IMPORTANT! READ USER MANUAL BEFORE USE

KEEP OUT OF REACH OF CHILDREN

See User Manual inside package for directions for use,
safety and hazard information, and other product information.

Manufactured For:
ZAPPBUG
1700 WESTLAKE AVE N STE 200
SEATTLE WA 98109

Contact ZappBug for support
info@zappbug.com +1(206)430-5514

EPA Est. No. 101830-CHN-1

MADE IN CHINA

Size: 18 x 24.5 x 9.5 in (46 x 63 x 25 cm)
Net Weight: 20 lbs (9kg)

This package includes:
Two (2) ZappBug Thermal Units
One (1) Folded ZappBug Oven 2 Shell and Carry Bag
Four (4) Support Blocks
One (1) Support Net
One (1) Extension Cord
One (1) Wireless Thermometer and Probe
One (1) User Manual

The ZappBug® Oven 2

User Manual

KEEP OUT OF REACH OF CHILDREN

Manufactured For:
ZAPPBUG
1700 WESTLAKE AVE N STE 200
SEATTLE WA 98109

EPA Est. No. 101830-CHN-1

MADE IN CHINA
Net Weight: 20 lbs (9.0 kg)

V3.04.22

This page is intentionally left blank

Table of Contents

Important Safety Information

You must comply with all safety information and operating instructions when using this product. Please read all Safety and Hazard Information outlined in this manual.

Failure to comply could result in personal injury, damage to property, or fire hazards.

STOP

Read This <u>IMPORTANT!</u>
SAFETY AND HAZARD INORMATION Before Proceeding

IMPORTANT SAFETY AND HAZARD INORMATION

PHYSICAL OR CHEMICAL HAZARDS

Power outlets with poor electrical connections can become dangerously overheated and may result in severe injury, damage to property, or fire.

High-power appliances require more electric current than most household items. Old or high-use outlets can have poor or loose connections. The high current required by this product, combined with a poor electrical connection can cause outlets to overheat and melt. It is important to make sure that any outlets used with this product have strong electrical contact.

Follow the steps below for safe use of <u>ANY high-power appliances</u>:

1. **Inspect outlet connection and contact strength.**

    Insert a standard, two-prong plug (without ground connection) into the outlet. Ensure that both prong connections offer strong and equal resistance when inserted. If the two-prong plug does not offer strong resistance or one prong feels easier to insert than the other, this outlet could be unsafe for high-power appliances. Have an electrician inspect and/or replace the outlet before use.

2. **Ensure that the outlet is no older than 15 years.**

3. **If you are unsure about an outlet, have an electrician inspect and/or replace the outlet.**

4. **Inspect outlets and plugs <u>after each use</u>.**

IMPORTANT: Extension Cords

Some extension cords are not adequate to carry the load of current drawn by this ZappBug thermal unit without becoming dangerously overheated. If an extension cord must be used, do not use a cord rated less than *1500 watts or 15 amps*, and of a minimum size of 16 gauge. Only use an extension cord with the UL seal. Use of an inadequate extension cord may result in overheating of the extension cord or fire.

IMPORTANT: Old Electrical Wiring and Outlets

Each ZappBug thermal unit will draw 12-15 amps of current (1500 Watts) and must be run on circuits rated **15 amps and above only**. Some old electrical wiring and outlets may not be capable of sustaining these loads. If you are unsure of the electrical wiring or outlets in your location, contact an electrician before operating ZappBug or any other high-current products. Old or faulty electrical wiring could lead to damage, injury, or fire. If an electrical cord appears deformed or feels hot to the touch, unplug it immediately and contact ZappBug customer service.

Additional Safety Information

- Failure to comply with the safety information presented by this manual may result in severe injury and/or damage to property.

- Incorrect assembly or improper use may result in hazardous conditions. Only assemble the ZappBug Oven 2 according to instructions in this manual.

- **Do not block air intake or exhaust vents on the ZappBug Thermal Unit**. Obstructions of the intake or exhaust vents can cause the ZappBug thermal unit to overheat and pose a fire hazard. Always maintain **6 or more inches of clearance** around the ZappBug thermal unit during operation.

- Do not use outside or in a wet environment. This product is designed for indoor use only.

- Do not reach into or insert objects into the ventilation fan while the ZappBug thermal unit is running. This may result in personal injury or damage to the ZappBug thermal unit.

- Do not place flammable objects or aerosols inside the ZappBug Oven 2.

- Some items may be damaged during heat treatment. Use care when heat treating fragile items made of materials such as antique leather and wood.

- Consult the manufacturer of items in question, such as electronics, for a maximum safe temperature before placing them in the ZappBug Oven 2. Always monitor the temperature to ensure it does not exceed the recommended level.

Hints & Tips

BED BUGS

- Researchers have found that bed bugs at **all life stages** die quickly at temperatures at or above **120°F.**

- Bed bug eggs are nearly translucent and incredibly difficult to detect.

- A best practice is to **heat treat all items** that may have been in the vicinity of bed bugs even if no bed bugs are found.

- Bed bugs can survive for up to **18 months without feeding**. It is critical that all potentially infested items are heat treated or, alternatively, sealed and stored for 18 months.

- Bed bugs can flatten their bodies and **slip into tiny cracks**.

- Bed bugs are unable to climb smooth, nonporous surfaces like the lining of the ZappBug Oven 2.
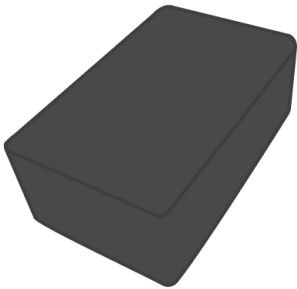
THE ZAPPBUG OVEN 2

- Always use provided support blocks and/or net to ensure maximum air circulation around your belongings. If your belongings are densely packed together it will take significantly more time for them to reach bed bug killing temperatures.

- Make sure to turn the ZappBug thermal units on **before placing potentially infested items inside the ZappBug Oven 2.**

- Only use indoors with an **ambient room temperature at or above 70°F**. The ZappBug thermal unit works by adding heat to the air from the room in which it is located. If the ambient temperature is below 70°F, the ZappBug Oven 2 may not reach bed bug killing temperatures.

- Always **monitor the temperature** inside the ZappBug Oven 2 with the thermometer and thermometer probe provided.

- Do not place the ZappBug Oven 2 directly on cold floors such as concrete. **Always place the ZappBug Oven 2 on surfaces at or above 70°F**.

Components Included

The following components are required for proper use of this product. If you did not receive all of the components listed below, contact ZappBug immediately by phone at (206)-430-5514 or by e-mail at service@ZappBug.com.

Note: Some components may appear different from the representations below.
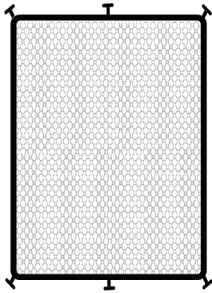
Support Block
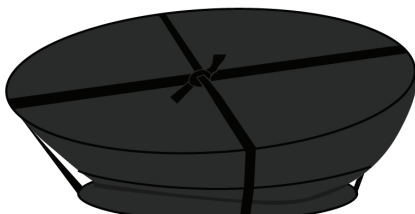
X4

ZappBug Thermal Unit with Integrated Timer

DO NOT COVER
IMPORTANT! READ MANUAL BEFORE USE
IMPORTANT! LIRE LES INSTRUCTIONS AVANT UTILISATION
*Overheat light indicates blocked vent.
See User Manual

8hr   4hr   1hr
Press Timer To Start

OVERHEAT°   TIMER   POWER

OFF

ON

KEEP OUT OF REACH OF CHILDREN
Refer to the User Manual for directions for use, safety and hazard information,
and other product information.

ZappBug® Thermal Unit
Contact ZappBug for support. +1(206)430-5514

Manufactured For:
ZAPPBUG, INC.
1700 WESTLAKE AVE N STE 200
SEATTLE, WA 98109

EPA Est. No. 101830-CHN-1

Net Weight: 3.8 lbs (1.75 kg)
MADE IN CHINA

X2

Support Net

X1

Extension Cord

X1

Carry Bag & Folding Oven

X1

Wireless Thermometer

TIME 12:00

AMB 72.8 °F

ZB 102.3 °F
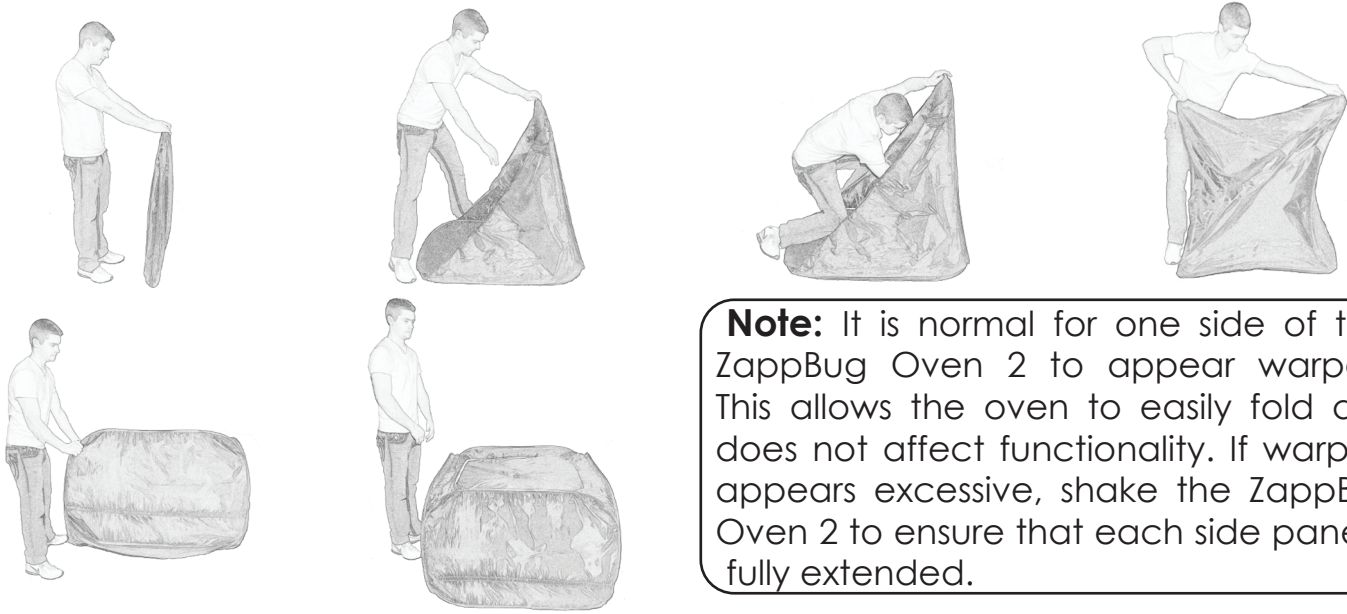
1
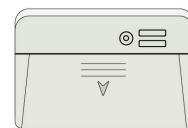
X1

Use & Operation

1. Unfold the ZappBug Oven 2

Note: It is normal for one side of the ZappBug Oven 2 to appear warped. This allows the oven to easily fold and does not affect functionality. If warping appears excessive, shake the ZappBug Oven 2 to ensure that each side panel is fully extended.

2. Connect the Two ZappBug Thermal Units

Locate Ventilation Tube

Place Base of ZappBug Thermal Unit in Tube

Stretch Tube Around ZappBug Thermal Unit
**(Observe "Do Not Cover" markings)**

Note: It is normal for small gaps to appear between the textured side of the ZappBug thermal unit and the ventilation tube. Bed bugs **will not escape** through these gaps if the ZappBug thermal unit is on. Bed bugs experience thermal shock and are not capable of moving toward the ZappBug thermal unit. Always ensure that the ZappBug thermal units are on when placing potentially infested items inside the ZappBug Oven 2.

Safety Note: Always maintain a minimum clearance of 6 inches around the ZappBug thermal units when operating.

Use & Operation (continued)

3. Select Appropriate Support Configuration

The ZappBug Oven 2 has a unique and modular support system which is designed to accommodate a wide range of items. Support blocks allow for ventilation around rigid, heavy items such as luggage and small furniture. A combination of **support blocks** and the **support net** allow for ventilation around loose items such as books and clothing. Follow the appropriate support configuration for your items as shown below. It is critical that air is allowed to flow freely around the items you are heat treating.

6-12inches

2-4inches

2-4inches
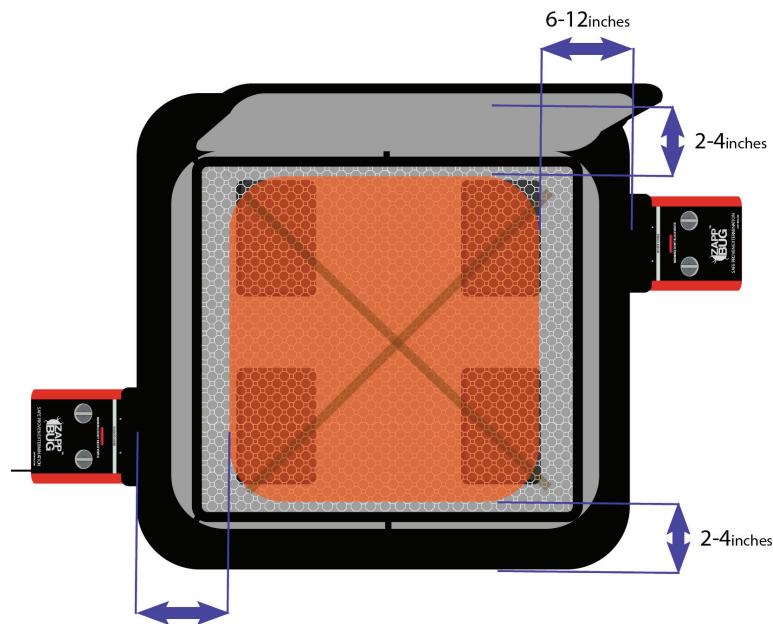
| Place support blocks **under** the support net | Attach **support net to loops located inside** the ZappBug Oven 2 |

4. Locate Two Independent Power Outlets

NOTE: Each ZappBug thermal unit must be powered from its own circuit. Typical residential and commercial buildings have one circuit per room. Use the included extension cord to reach outlets in other rooms if necessary.

One extension cord is included with each ZappBug Oven 2. Plug one ZappBug thermal unit directly into a nearby electrical outlet.

Locate an electrical outlet in another room or area that operates on a separate electrical circuit. Typically, each room will have its own independent electrical circuit. Use the included extension cord to connect the remaining ZappBug thermal unit to a separate electrical outlet.
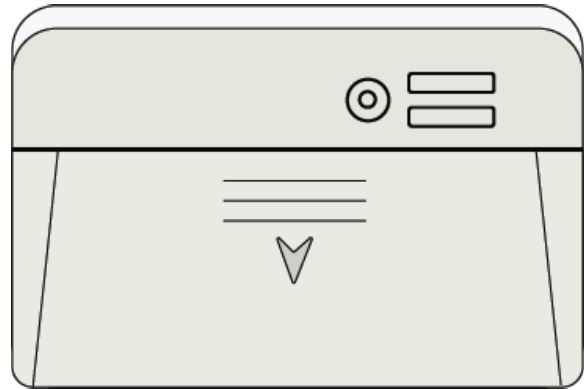
Use & Operation (continued)

5. Wireless Thermometer Set Up
The ZappBug Oven 2 comes with thermometer base station and a remote probe.

Thermometer Base Station

Thermometer Probes

Note: Set up the thermometer base station first

Use & Operation (continued)

Thermometer Base Station Set Up

1. Remove the battery door on the back of the base station as, shown in **Figure 1** below.
2. Insert one AA battery. All of the LCD segments will light up for a few seconds to verify that all segments are operating properly.
3. The thermometer base station will instantly display the ambient temperature. The probe temperatures will update on the display within a few minutes after you place batteries in the thermometer probe. **See Thermometer Probe Set Up on page 13.**
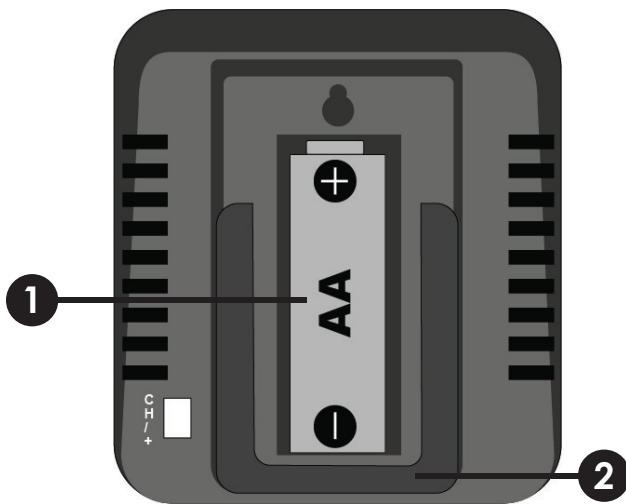
Figure 1

Figure 1
1. Battery Compartment
2. Stand Mount

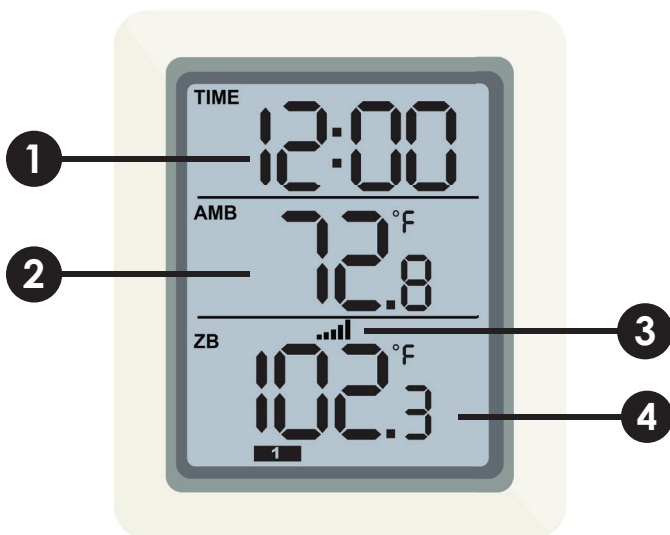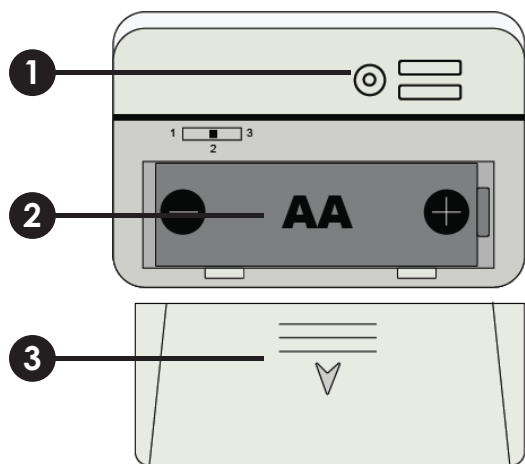IMPORTANT: Insert batteries and set up thermometer base station first

Figure 2

Figure 2
1. Time
2. Ambient Room Temperature
3. Reception Icon
4. Probe Sensor Temperature

Use & Operation (continued)

Thermometer Probe Set Up

Thermometer Probe

1. Wireless Transmitter LED
2. AA Battery
3. Battery Door

Remove the battery door on the back of the thermometer probe by sliding the door down and insert one AA battery.

1. After inserting the battery, the remote sensor LED indicator will light for 4 seconds, and then flash once per minute, thereafter. Each time it flashes, the sensor is transmitting data.
2. Close the battery door. While in search mode, the reception icon ▪▪▪▫ will flash on the thermometer base station. **See Figure 2.**
3. Place the wireless thermometer probe in the deepest, most insulated part of the item being treated. Allow the ZappBug Oven 2 to run for 60 minutes or longer after the temperature reaches 120°F.
4. If you are not present while the unit is running, we advise setting the timers to 8 hours, however this is generally more time than required for the ZappBug Oven 2 to reach 120°F and maintain it for one hour.
5. If the base station does not update, view troubleshooting tips on **page 18.**

Use & Operation (continued)

6. Turn on ZappBug Thermal Units

1. Plug the ZappBug Thermal Unit into power outlet.
2. Place power switch in ON position.
3. Press the TIMER button to select desired run time.

We recommend using the 8-hour setting for large loads and the 4-hour setting for small to medium loads. Always use the included thermometer and thermometer probe to confirm that the temperature reaches lethal levels. See Heat Treatment Chart **on page 17** for more information.

> **Safety Note:** Each ZappBug thermal unit draws 1500 watts of electrical power. Do not use extension cords rated below 1500 watts. **Each ZappBug thermal unit should be plugged into a separate circuit**, using the included extension cord if necessary.
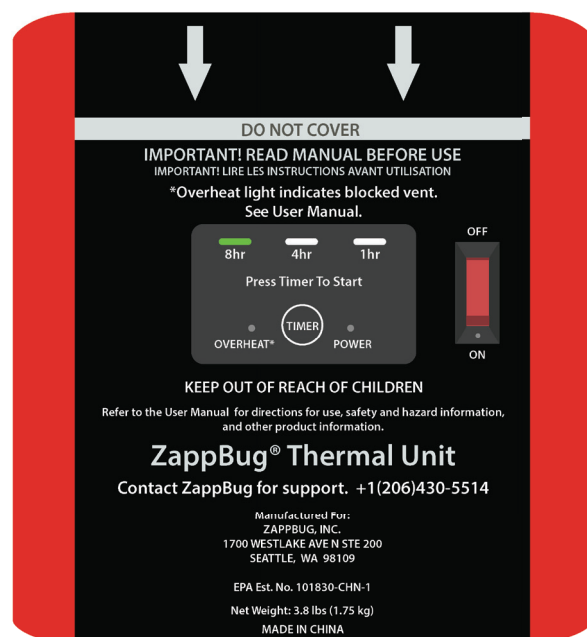
Overheat Light

If the ZappBug thermal unit overheats, the overheat light will turn on and the ZappBug thermal unit will begin to beep.

If the Overheat light is on, turn the ZappBug thermal unit off by switching the power switch to the OFF position. Remove the ZappBug thermal unit from the ventilation tube and allow it to cool for 20 minutes.

The ZappBug thermal unit overheats when hot air is being blocked from exiting the ZappBug thermal unit. **Before restarting the treatment**, be sure that all ZappBug enclosure contents are at least 6 inches away from the ZappBug thermal unit to ensure proper air circulation.

If the problem persists, contact ZappBug customer service.

DO NOT COVER
IMPORTANT! READ MANUAL BEFORE USE
IMPORTANT! LIRE LES INSTRUCTIONS AVANT UTILISATION
*Overheat light indicates blocked vent.
See User Manual.

8hr   4hr   1hr
Press Timer To Start
TIMER
OVERHEAT*   POWER
OFF
ON

KEEP OUT OF REACH OF CHILDREN
Refer to the User Manual for directions for use, safety and hazard information, and other product information.

ZappBug® Thermal Unit
Contact ZappBug for support. +1(206)430-5514

Manufactured For:
ZAPPBUG, INC.
1700 WESTLAKE AVE N STE 200
SEATTLE, WA 98109

EPA Est. No. 101830-CHN-1

Net Weight: 3.8 lbs (1.75 kg)
MADE IN CHINA

Use & Operation (continued)

Safety Tip Over Switch
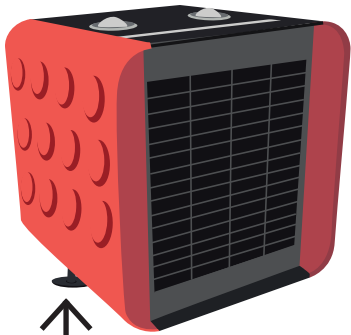
Safety Tip Over Switch

If the ZappBug thermal unit and timer are plugged into an outlet, and the timer is ON, the ZappBug thermal unit should automatically begin to run. If the ZappBug thermal unit is plugged in but not operating, check the safety tip-over switch located on the bottom of the ZappBug thermal unit. The safety tip-over switch is a small black button that must be pressed in to run the ZappBug thermal unit. This switch is a safety feature to stop the ZappBug thermal unit from running if it is tipped over.

> **Safety Note:** The ZappBug thermal units draws 1500 watts of electrical power. Do not use extension cords rated below 1500 watts. Each ZappBug thermal unit should be plugged into a separate circuit, using the included extension cord if necessary.

7. Insert Items for Heat Treatment

Place items inside the ZappBug Oven 2 on top of support blocks and/or support net. To **ensure adequate airflow**, items should not touch the walls or ceiling of the chamber. Place the wireless thermometer probe in the deepest location in the items being treated to ensure all the materials will be exposed to the 120°F necessary to kill bed bugs. After that, zip the top cover closed.

Hint: Always open luggage and **arrange items loosely** to ensure proper air circulation. If items are densely packed, they take longer to heat.

8. Run Time

Once the remote sensor reaches a temperature of 120°F or above, run the ZappBug thermal unit for 60 minutes.

Bed bugs die at temperatures of 120°F or above in less than two minutes. The higher the temperature, the less time it takes to kill them. The standard practice for heat treating is to measure the temperature at one, representative location. When the temperature at this location reaches 120°F and is held at 120°F (or above) for one or more hours, the heat treatment is complete.

Use & Operation (continued)

9. Remove Items After Heat Treatment

IMPORTANT SAFETY INORMATION: Items may be hot after heat treatment. Wait for items to cool before handling. Items such as metal zippers can remain hot after heat treatment and cause burns.

Hint: If your home is infested with bed bugs, place all items into sealed plastic bags or containers immediately after heat treatment to prevent re-exposure.

10. Folding and Storing the ZappBug Oven 2

**Zip Top Closed, Leaving 4"
Gap for Air to Escape**

**Place Oven on Side
Step On Corner &
Collapse Oven as Shown**

**Allow Air to
Escape**

**Ensure Side Panels
Fold Flat**
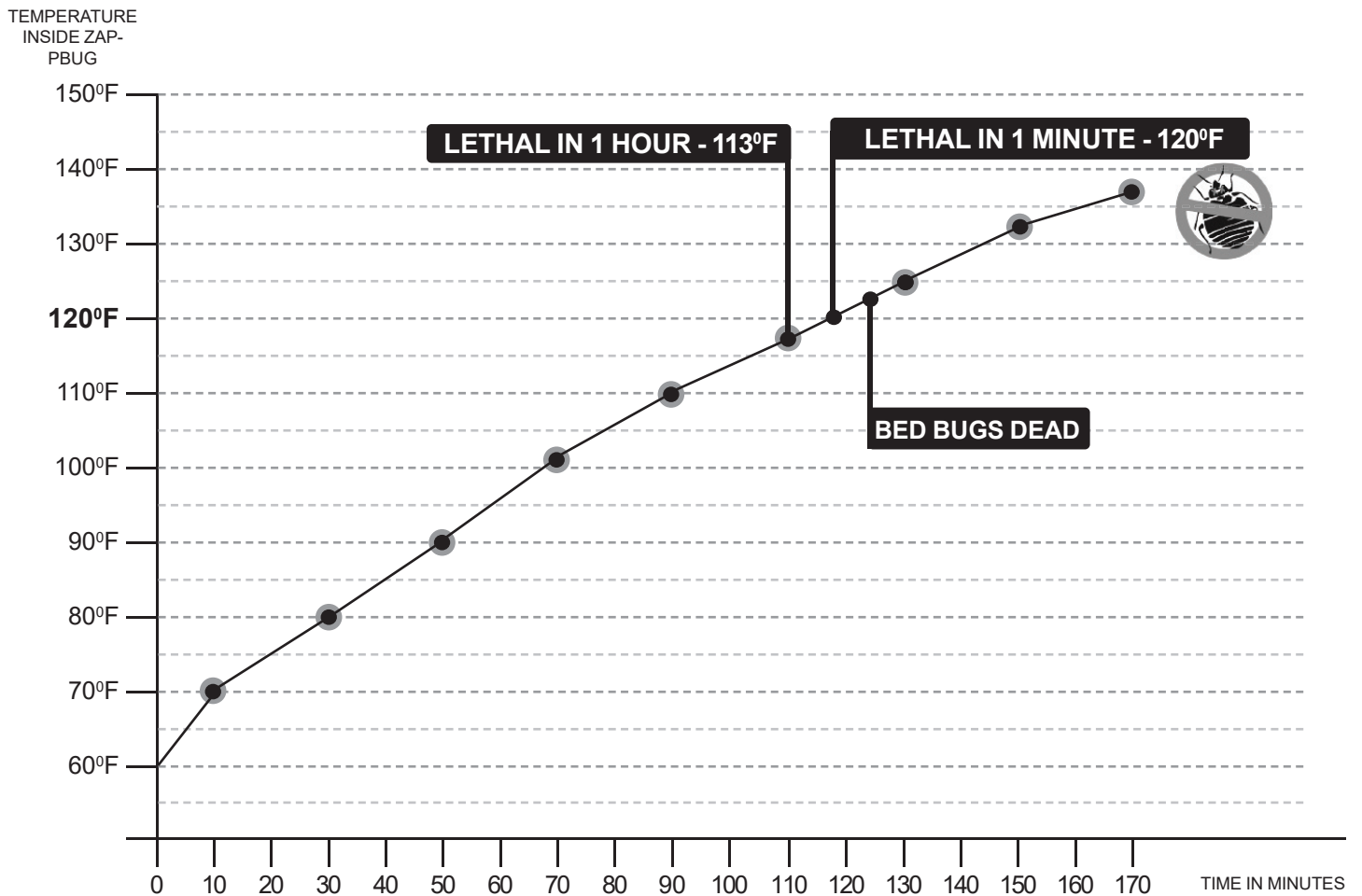

Fold Sides Inward

Complete Fold

**Store Oven & Support Blocks
in Carry Bag**

Store the **folded ZappBug Oven 2**, **thermometer and thermometer probe**, **support blocks** and **net** inside the carry bag. Store in a dry place.

Heat Treatment Chart

Typical Heat Treatment

(Actual Treatment Times Will Vary)

TEMPERATURE INSIDE ZAP-PBUG

Chart plotting temperature (60°F to 150°F) against time in minutes (0 to 170). Data points rise from 60°F at 0 minutes through 70°F, 80°F, 90°F, 101°F, 110°F, 117°F, 120°F, 123°F, 125°F, 132°F, to 137°F at 170 minutes. Annotations: "LETHAL IN 1 HOUR - 113°F" at ~110 minutes; "LETHAL IN 1 MINUTE - 120°F" at ~118 minutes; "BED BUGS DEAD" at ~124 minutes. TIME IN MINUTES on x-axis.

Sources

Office of the Under Secretary of Defense 2019. Bed Bugs – Importance, Biology, and Control Strategies. The Armed Forces Pest Management Board US Army Garrison— Silver Spring, MD. Available from: https://www.acq.osd.mil/eie/afpmb/docs/techguides/tg44.pdf

Miller, D. M. 2016. Non-Chemical Bed Bug Management. Virginia Department of Agriculture and Consumer Services. Richmond, Va. Available from: http://www.vdacs.virginia.gov/pesticides/pdffiles/bb-heat1.pdf

Troubleshooting

Thermometer Reset

If you're having issues getting a temperature reading, you may need to reset the thermometer and probe. To do that, remove the batteries from the sensor and the display screen at the same time. Put the batteries back in the **display screen first**, followed by the probe.

Keep in mind that the display screen may lose signal if it is too far away from the thermometer probe, or if the unit heats above 140°F. If this happens, simply follow the reset instructions above.

Safety Tip Over Switch

If you plug in and turn on the ZappBug thermal unit and it still does not turn on, please check the safety tip over switch which is a little black button on the bottom of the red square ZappBug thermal unit. This button needs to be pressed in for the ZappBug thermal unit to turn on and is designed so that if the ZappBug thermal unit is knocked over, possibly blocking the vents, it turns off for safety. When the ZappBug thermal unit is plugged into a wall outlet and is flat on the ground the button should naturally be pressed in and the ZappBug thermal unit should turn on.

Getting Up to Temperature

It can take a while for the unit to fully heat up, sometimes 2-3 hours or more depending on ambient temperature or the size of the treatment load.

The most common reasons why the unit struggles to get up to 120°F are ambient conditions and item arrangement. The ZappBug Oven 2 works best in rooms that are 70°F or above.

Whenever possible do not place the ZappBug Oven 2 on concrete flooring. If you must, place insulation such as cardboard or area rugs between the ZappBug Oven 2 and the floor in order to limit heat loss.

Always arrange items as spread out as possible to allow air to flow easily throughout the ZappBug Oven 2.

Thermometer Probe Channel

If you aren't able to receive a signal from the thermometer probe you may need to set the probe channel. To do that, take the back off of the thermometer probe and change the channel by sliding the button to position 1. The probe needs to be on the correct channel in order to monitor treatment correctly.

Circuits popping

Each ZappBug thermal unit should be run on its own circuit to avoid electrical overload.

Notes:

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Questions?

Please contact ZappBug directly before place of purchase

ZappBug's staff are here to help! If you have any questions about ZappBug or are experiencing any issues, please don't hesitate to contact Customer Service by phone or e-mail. Our representatives are ready to assist Monday-Friday, 9a.m. to 5p.m. PST.

☎ (206) 430-5514   ✉ service@zappbug.com

Warranty Information
One Year Limited Warranty for the ZappBug® Oven 2

ZappBug® warranty obligations are limited to the terms set forth below:

> ZappBug warrants this product against defects in materials and workmanship for a period of 365 days from the date of original retail purchase. This warranty is good only to the original purchaser.

What Does This Warranty Cover?

This warranty covers any defects or malfunctions in the ZappBug Oven 2. This includes ZappBug Oven 2 items such as: two ZappBug thermal units, one ZappBug Oven 2 shell, one carry bag, one support net, four support blocks, and one wireless thermometer and probe set. Coverage terminates if you sell or otherwise transfer the ZappBug Oven 2.

What Does This Warranty Not Cover?

This warranty does not cover the following:

1. Any defect or malfunction of the ZappBug Oven 2 caused by abuse, misuse, neglect, carelessness, or accident.

2. Any defect or malfunction caused by alteration or modification of the ZappBug Oven 2.

3. Any defect or malfunction of the ZappBug Oven 2 which would not have occurred if instructions in the owner's manual had been followed.

4. The cost of repairing or replacing any electronics that are placed in the ZappBug Oven 2. (In our experience, the ZappBug Oven 2 operates at temperature ranges that are safe for most electronics, but we do not cover any damage to electronics that might occur while using the ZappBug Oven 2).

5. The cost of repairing or replacing any property which is damaged when the ZappBug Oven 2 does not work properly.

6. The cost of repairing or replacing any property which is damaged due to not following the instructions in the owner's manual.

What is the Period of Coverage?

Coverage under this warranty is for 365 days from the original date of purchase. Coverage terminates if you sell or otherwise transfer the ZappBug Oven 2.

What Will We Do to Correct Problems?

If there is a problem, we will replace or repair (at ZappBug's discretion) the ZappBug Oven 2, free of charge. You are responsible for shipping charges to send the ZappBug Oven 2 to us for repair or replacement. We are responsible for shipping charges to return the repaired or replaced ZappBug Oven 2 to you.

How Do You Get Service if There is a Problem?

E-mail us at service@zappbug.com or call us at (206) 430-5514. Tell us the problem and when and where you purchased the ZappBug Oven 2. We will e-mail you back with instructions on how to send us the ZappBug Oven 2 for repair or replacement.

How State Law Applies

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

This page is intentionally left blank
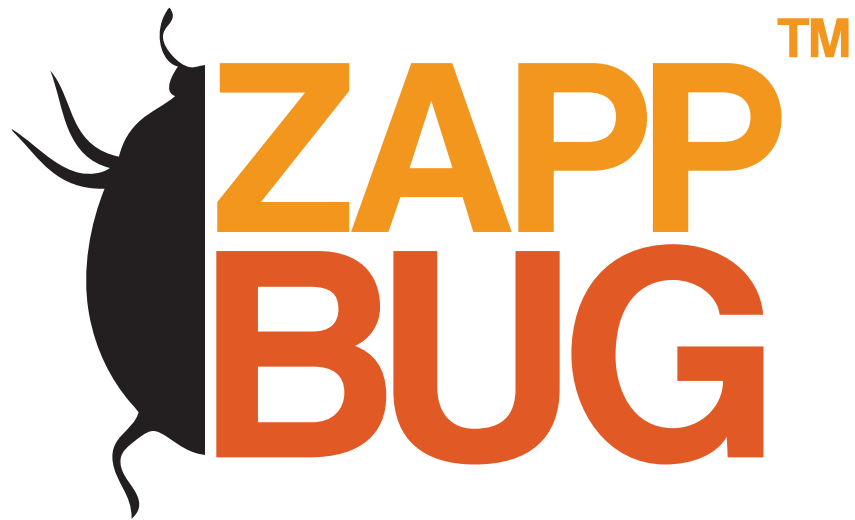
ZappBug® Customer Service
service@zappbug.com
(206) 430-5514
We are waiting to assist
9a.m. - 5p.m. PST, Monday-Friday