



Rentokil

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THE COMPLETE GUIDE TO BED BUGS

INTRODUCTION

BED BUGS: two words that can make someone's skin crawl – with good reason. These pests earned their name from their tendency to harbor near beds or places where people rest, coming out at night to feed on the blood of unsuspecting sleeping victims.

As far as historians can tell, bed bugs have been around since the earliest humans. Illustrations of insects were found on cave walls.







Bed bugs were prominent in the United States until the early 1940s, when the use of DDT as a pesticide all but eradicated them.






But in the mid to late 1990s, bed bugs began to have a resurgence in the U.S. Although no one thing led to the bed bug comeback, it was spurred by a number of factors: increased global travel, an increase in the popularity of repurposed or recycled items, vigilance around pesticide usage, and the growth of urban areas.

With their resurgence, bed bugs have become a serious concern for businesses including hotels, multifamily properties, healthcare facilities, offices, transportation centers, municipal services, and more. This Complete Guide to Bed Bugs covers important information on this pest, including biology, inspection, and ways that business staff members can help protect their customers and brand from these biting pests.



INDUSTRIES IMPACTED BY BED BUGS

| HIGH-RISK INDUSTRIES | |
|---|--|
| Industry | Likely areas where bed bugs may be found |
|  Hotels, resorts, lodging, and casinos | <ul style="list-style-type: none"> Guest rooms Lobbies Locker rooms and gym facilities Laundry rooms |
|  Hospitals and urgent care facilities | <ul style="list-style-type: none"> Waiting rooms Emergency rooms Patient rooms Doctor sleeping quarters Transport vehicles and equipment (ambulances, beds, wheelchairs) Laundry areas |
|  Assisted living, long-term, and nursing care facilities | <ul style="list-style-type: none"> Resident rooms or apartments Common areas, lounges, waiting areas or recreation rooms Laundry |
|  Multifamily properties | <ul style="list-style-type: none"> Resident units, specifically bedrooms and living room areas Common areas, lounges, or recreation rooms |
|  Education (daycare, K-12, boarding schools, colleges, and universities) | <ul style="list-style-type: none"> Dormitories Classrooms Lockers and locker rooms, coatrooms, or cubbies where students store belongings Teacher lounges Lobbies or waiting areas Libraries |
|  Military facilities | <ul style="list-style-type: none"> Barracks |

| EMERGING-RISK INDUSTRIES | |
|--|---|
| Industry | Likely areas where bed bugs may be found |
|  Retail stores | <ul style="list-style-type: none"> Returned goods areas |
|  Offices | <ul style="list-style-type: none"> Worker cubicles Lobbies Break rooms with soft furnishings |
|  Public transportation and transportation centers | <ul style="list-style-type: none"> Airports Airplanes Transportation stations (bus, train, subway) Buses, taxis, train and subway cars |
|  Other businesses/ public areas where people sit or rest for long periods of time | <ul style="list-style-type: none"> Libraries Movie theaters |
|  Emergency response and municipal facilities | <ul style="list-style-type: none"> Fire, police, and EMT stations Training facilities Courthouses / courtrooms Jails City halls Motor vehicle departments |



THE BED BUG - *CIMEX LECTULARIUS*

A diagram of an adult bed bug's body

ANTENNAE

Antennae are used to help the bed bug seek out victims.

EYES

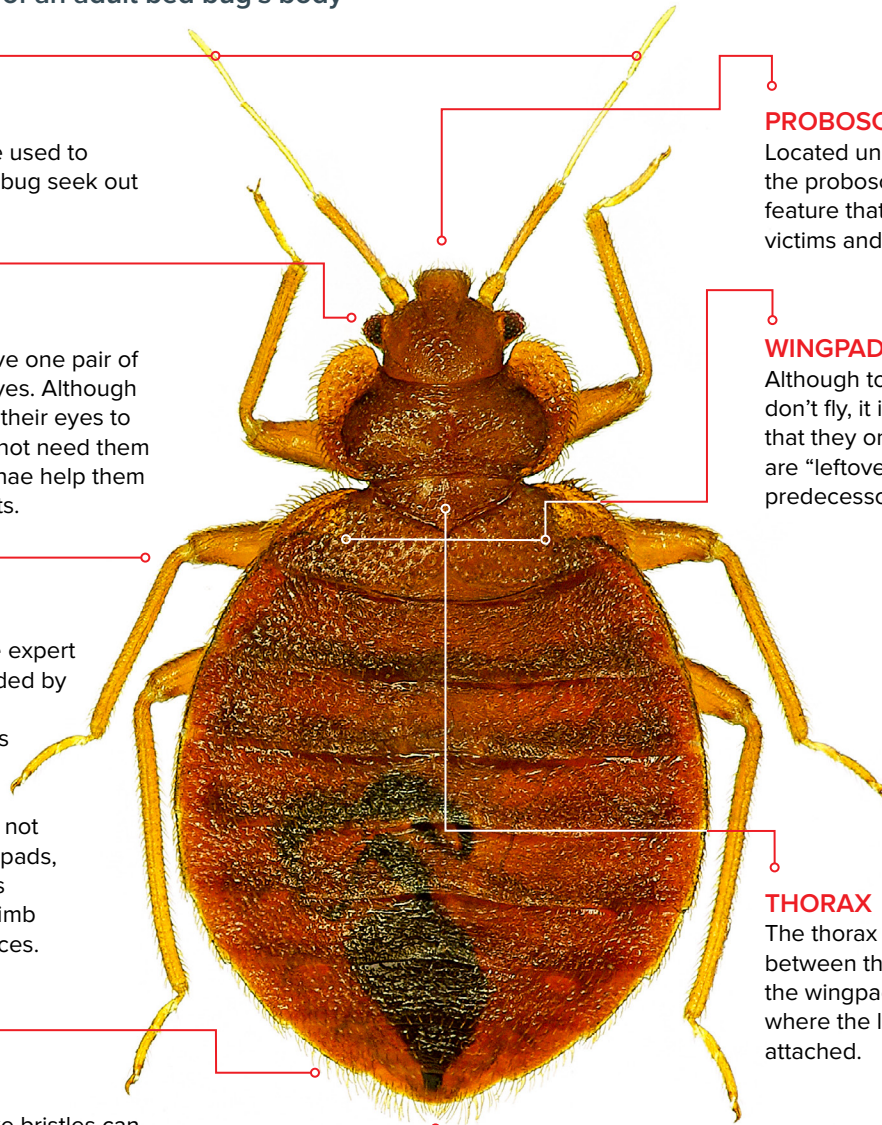
Bed bugs have one pair of compound eyes. Although they can use their eyes to see, they do not need them – their antennae help them seek out hosts.

LEGS

Bed bugs are expert crawlers – aided by their six legs. Each leg ends in a claw-like apparatus. Their legs do not have suction pads, so the insects struggle to climb smooth surfaces.

SETAE

These hairlike bristles can be found all over the bed bug's body and help the pest sense and feel.



PROBOSCIS

Located under the mouth, the proboscis is a needle-like feature that extends to inject victims and draw blood.

WINGPADS

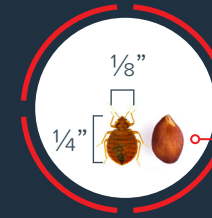
Although today's bed bugs don't fly, it is believed that they once did. These are "leftover" from their predecessors.

THORAX

The thorax lays between the head and the wingpads and is where the legs are attached.

ABDOMEN TIP

Experts can identify the sex of a bed bug by the shape of its abdomen tip. Females have a rounded abdomen tip, while males' are more pointed.



BED BUG ACTUAL SIZE

Apple seed for comparison.

| | |
|--------------------------|---|
| Size: | Adults – ¼-inch long, ⅛-inch wide (6.35 mm long, 3.175 mm wide) |
| | Nymphs – ⅙-inch - ⅜-inch (1.5875 mm - 4.7625 mm) |
| | Eggs – ⅓₂-inch long (0.79375 mm) |
| Color: | Adults – Mahogany-brown to red |
| | Nymphs – Translucent to pale-yellow or tan |
| Reproduction: | 200-500 eggs in a lifetime |
| Average Lifespan: | 316 days (under optimal conditions). Although they do need to take blood meals to survive, bed bugs can live for several weeks to months without feeding. |



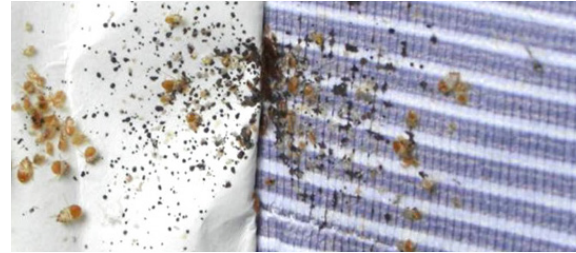
IDENTIFYING SIGNS OF A BED BUG ISSUE

A facility's staff is its first line of defense in spotting potential bed bug issues. Here are a few signs that should raise immediate alarm bells.



THE PRESENCE OF LIVE OR DEAD BED BUGS

Adult bed bugs are approximately ¼-inch long (6.35 mm) – about the size of an appleseed – and reddish-brown in color. Nymphs, or young bed bugs, can be translucent to pale-yellow or tan in color, and smaller than their adult counterparts. All are visible to the naked eye.



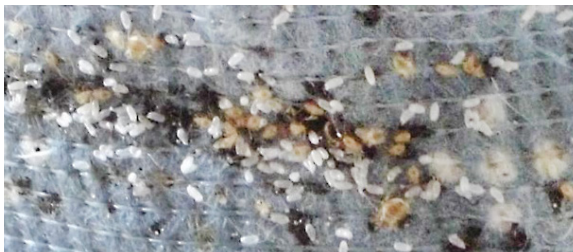
FECAL SMEARS

When bed bugs defecate, they leave behind “smears” of black fecal matter (in layman’s terms – poop). These smears may resemble what would happen if you touched a permanent marker to a piece of fabric.



CAST SKINS

Bed bugs molt as they grow, and when they do, they shed their skin and leave behind a “cast skin,” either as a whole shell or flakes of their previous skin.



BED BUG EGGS

Bed bug eggs are pearly white and visible to the naked eye, although harder to detect because of their size – about 1/32-inch long (0.79375 mm), or approximately half the size of a grain of rice. They are typically found grouped together in clusters.



ODOR

In extremely large infestations, a musty smell or odor similar to coriander or cilantro may indicate the presence of bed bugs.



BLOOD STAINS (INFREQUENT)

Small blood stains can be left behind on sheets or fabric when bite sites ooze or when humans unknowingly smash a bed bug.



HOW BED BUGS SPREAD AND TIPS FOR REDUCING INFESTATION

Bed bugs are most often introduced to businesses and homes by hitchhiking on people and objects – personal belongings such as clothing, coats, backpacks, and luggage; incoming supplies and linen vendors; transport equipment; returned goods; and more.

Any employee, guest, or patient with a bed bug issue at home could unknowingly bring pests into your facility.

Once inside your facility, bed bugs can spread quickly. They are expert crawlers and can move rapidly to new areas by crawling.

Bed bugs can also climb, but they have a hard time climbing smooth surfaces, such as finished metal objects, tile, porcelain, and similar finishes.

Although you can never fully prevent bed bugs from being introduced to your business, you can take steps to help alert you at the first sign of a problem.





WHERE YOU MIGHT SEE THEM

- Bed bugs are most likely to appear in sleeping areas and high-traffic areas where humans are present.
- Sleeping areas are the primary location where bed bugs will be found: hotel rooms, on-duty physician sleeping rooms, patient rooms, college dormitories, etc.
- Gathering areas – break rooms, lounges, reception areas, lobbies with soft furniture, or areas where people relax – can be hot spots for bed bug activity.
- Locker rooms and employee personal belonging storage areas are especially susceptible to bed bug activity.
- Holding areas or frequently traveled routes

for goods, supplies, and equipment may also be prone to bed bug activity as the pests can hitchhike on things such as incoming goods, vacuums, carts, etc.

- Bed bugs hide in gaps, voids, cracks, and crevices, such as in furniture, wall voids, and spaces in decorative items. If a credit card can fit in the gap, a bed bug can as well.

TIPS FOR MANAGEMENT

- Any items coming into your facility, especially returned goods or linen deliveries, should be inspected for bed bug activity. Institute a quarantine period for suspect items, placing them in sealed, clear plastic bags to monitor for activity.

- Seal cracks where bed bugs can hide, especially in high-risk areas.
- Restrict where employee personal belongings such as backpacks and handbags can be placed or stored to minimize introduction points.
- Enforce weekly or monthly employee locker clean-outs to find activity sooner.
- Minimize clutter to reduce bed bug hiding places.
- Utilize mattress and box spring encasements to protect sleep sets from becoming infested by any pests introduced to an establishment.
- Educate employees on how to identify bed bugs or signs of activity. They are the first line of defense in spotting potential issues.



HOW TO PERFORM A BED BUG INSPECTION

Businesses can empower their employees to help in the fight against bed bugs by having frontline personnel perform quick bed bug inspections of high-risk areas, such as sleeping areas, lobbies and waiting rooms, break rooms, personal item storage areas, and more.

This 10-point inspection checklist provides guidance on where to look for signs of bed bug activity (Page 5). This list can be modified to suit your operation and allow for quick inspections that do not disrupt or add to the length of your daily work.

A bright flashlight should be used during this inspection.





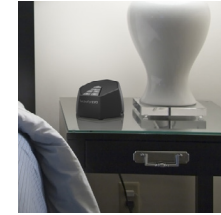
SOFT FURNITURE

- Inspect edges of cushions or pillows, especially around zippers
- Lift up cushions and inspect seams, edges, and cracks of furniture



BOX SPRING

- Inspect seams, creases, edges, folds, tufts, and tags



FURNITURE NEAR BED

- Inspect drawers, drawer rails/rollers, cabinets
- Inspect any accessories or decorative items on furniture next to bed: alarm clocks, charging stations, lights, picture frames, etc.



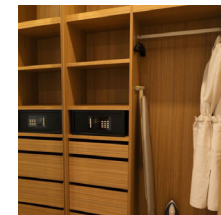
LOCKERS, STORAGE CUBBIES, OR CABINETS

- Conduct regular locker or storage cubby clean-outs – at least monthly
- Once all items are removed, inspect lockers, cubbies, and cabinets



BED FRAME

- Inspect slats, rails, or platforms



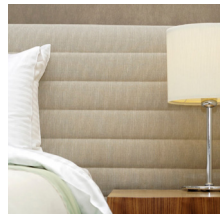
CLOSET

- Inspect luggage rack, particularly where webbing/straps connect to rack
- Inspect carpet/floor for any live or dead insects before vacuuming



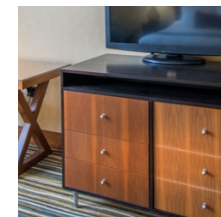
MATTRESS

- Look for small blood spots or smears on sheets
- Inspect mattress seams, creases, edges, folds, tufts, areas around zippers, and tags
- Lift up and look under the mattress
- Look for fecal smears, which will appear as black marks (similar to if a permanent marker had been touched to the fabric)
- Look for live or dead insects or cast skins



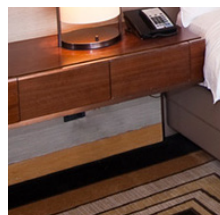
HEADBOARD

- Inspect the wall behind the headboard and the back side of the headboard, if possible
- Inspect any cracks or crevices, along the edges of the headboard
- Inspect in any intricate designs on the sides or front of the headboard



DRESSERS AND WARDROBES

- Inspect drawers and drawer rails
- Inspect inside cabinets
- Inspect where furniture meets the floor



BASEBOARDS / FLOOR / WALL NEAR BED

- Inspect the floor and baseboard coverings under and behind the bed
- Inspect the carpet for any live or dead insects before vacuuming
- Inspect around any outlet covers



BED BUG TREATMENT METHODS AND SOLUTIONS

Rentokil offers a range of bed bug treatments and solutions. Each offers advantages, which should be considered based on your operation's business and needs.





CONVENTIONAL INSPECTION

Conducted manually by Specialists, this inspection covers furniture and high-risk areas. It can be conducted on a scheduled rotation or on an as-needed basis if there are suspected issues.



PREVENTATIVE BED BUG SERVICE FEATURING THE PROTECT+ SYSTEM

This integrated approach can be used in areas with activity or as a preventative treatment. It is a proprietary mix of targeted service protocols, precise applications, and specialized residual products to eliminate bed bugs and provide ongoing protection.



BED BUG MATTRESS AND BOX SPRING ENCASEMENTS

These zippered covers encase an entire mattress or box spring. High-quality encasements with a bed bug-proof zipper help protect bedding investments by preventing infestation of the mattress and box spring. They can also make inspection easier.



K9 INSPECTION

Specially trained canines are brought through areas by a handler and alert to the scent of bed bugs. Alerts are confirmed by a conventional inspection. These inspections can be conducted on a rotation or on an as-needed basis.



HEAT TREATMENT

This treatment involves heating and holding areas at a specific high temperature to eliminate all bed bug life stages. Can be conducting using whole room heat or chamberized heat and may be combined with elements of preventative bed bug service treatment for residual protection.



BOX SPRING LINERS

These specially treated, thin polyester fabric liners that easily install over a box spring are impregnated with an active ingredient that, if a bed bug comes into contact with it, disrupts the feeding and reproductive capabilities and/or leads directly to bed bug mortality.



A close-up photograph showing a dense cluster of bed bugs and their eggs. The bed bugs are small, reddish-brown insects with visible legs and antennae. The eggs are tiny, white, oval-shaped objects scattered throughout the cluster. The background is a light, textured surface, possibly fabric or paper.

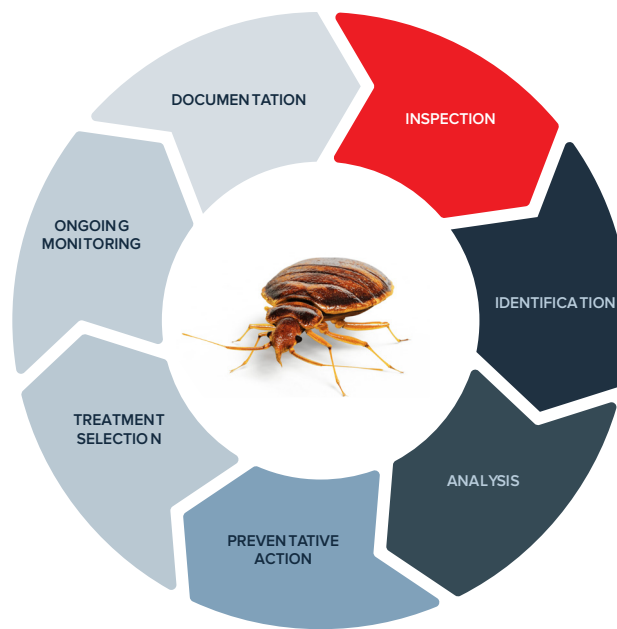
YOUR RELATIONSHIP WITH YOUR PEST MANAGEMENT PROVIDER

To best protect your facility against bed bugs, it is important to have an established relationship with a pest management provider.



Rentokil also recommends the following:

- Work with your pest management provider to establish a routine inspection frequency, such as twice yearly or quarterly, based on your facility's risk assessment. This may include inspection of high-risk areas or a percentage of total rooms during each inspection.
- Have your pest management provider's contact information readily accessible for all staff that are authorized to request service.
- Have a pre-established protocol for how suspected bed bug activity will be handled. Considerations should include:
 - Protocol for how area is to be handled (quarantined / closed) and how to communicate with and move any people present in the area.
 - Type of service to be conducted (conventional, heat treatment).
 - Range of cost for service that can be arranged without approval from senior management. This will help staff members arrange service expediently.
- Pest management providers should respond to bed bug concerns with urgency. Rentokil recommends following up with an inspection within 24 hours of notification.
 - In some states, there are legal requirements for landlords or multifamily housing operators to respond within a certain number of days. Know your state's law.



- If activity is confirmed in any area or room/unit, pest management professionals should recommend conducting inspections in nearby areas to confirm that activity has not spread. For hotels, dormitories, and multifamily properties, this may necessitate inspections of neighboring rooms/units, including those above and below the affected room/unit.
- Dependent upon the treatment method used, areas may be out of service for a period of time.
 - Rentokil's Bed Bug Program featuring the PROTECT+ System gets areas back in service within 4 hours of the completion of treatment.

- Ask your pest management provider about digital tools available for tracking, monitoring, and reporting on its pest management services. This can be especially useful for operations that have multiple facilities to view trends.
- Rentokil's PestNetOnline service offers all of these tools and more. To learn more, visit <https://www.rentokil.com/us/pestnetonline/>.
- Ensure that your bed bug service program has a warranty or guarantee.
 - Warranties and guarantees vary widely throughout the pest management industry and some may be more comprehensive than others. Be sure to ask questions and know exactly what you are covered for in the case return bed bug activity.
 - Rentokil's Bed Bug Program featuring the PROTECT+ System offers multiple levels of warranty coverage. Speak to your representative to determine the best option for your business based on your industry, risk-factors, and problem areas.
 - Rentokil offers up to a 90-day warranty under our PROTECT+ Essential and PROTECT+ Extended plans.
 - Customers who select the PROTECT+ Premium plan, available to select industries, enjoy unlimited warranty coverage for as long as they have the program.





PROTOCOLS AND NAVIGATING CUSTOMER OR RESIDENT ISSUES

Bed bug incidents involving customers can be complicated, due to the risk of litigation. It is critical that your organization work with your operations and legal teams to establish the best protocol for your facility based on your organization's policies and local and state legislation.

Rentokil provides these suggested guidelines for handling customer or resident issues based on our years of experience.





HANDLING REPORTS OF BED BUGS

Bed bugs carry with them a social stigma and are incorrectly associated with cleanliness. As such, reports of bed bugs should be handled with urgency and confidentiality.

- Acknowledge the customer/resident/patient's concern.
- Never share information about the property's activity history with customer/resident/patient.
- Avoid interactions or discussions that place blame or make the customer or resident feel shame.
- If possible, save an insect in a container for identification by a pest management professional.
- Follow your organization's policy.
 - Consider providing scripts for front desk or administrative staff that might handle reports of bed bugs. Role play these scripts so they are comfortable with conversations that may occur.



BED BUG BITES

Just as every person reacts a bit differently to mosquito bites, such is the case with bed bug bites.

- People who are bitten can exhibit a variety of skin responses, which most commonly appear within 24-48 hours of the bite. Skin reactions to bed bug bites appear in 30-90 percent of individuals.
 - Some people have reported no skin reactions. However, studies have shown that

the likelihood of a reaction increases with repeated exposure to bed bug bites.

- Some people will develop red welts that itch. These can be 2-5 millimeters in diameter.
- Medical professionals cannot diagnose a bed bug bite by simply looking at it.
- Do not assume that because an individual has bites that it is bed bugs. Wait for confirmation of activity from a professional.



QUARANTINING ROOMS OR AREAS

To reduce the likelihood of spreading suspected bed bug issues or additional issues with customers/residents/patients, quarantine specific rooms or areas where activity is suspected until a pest management professional can perform an inspection.

- This may necessitate moving customers/residents/patients to a different room permanently or temporarily.
- Remember that any belongings in an affected room could potentially have activity and should be inspected carefully before moving to a different room.

While Rentokil has provided these general guidelines, always consult with your own legal and insurance advisors for proper handling and response under the specific circumstances of your situation.



DOCUMENT ALL ACTIONS AND IMPORTANT INFORMATION IF BED BUG ACTIVITY IS SUSPECTED

- To ensure your organization has all the information needed, record the following:
 - All reports of bed bug activity by customers/residents/patients, staff, and pest management professionals.
 - The date and time of sighting or issue.
 - The room number or specific location of suspected activity; be as detailed as possible. For example, "Suspected bed bug activity in guest bed closest to window" or "Patient reported seeing a bed bug on the third chair in the fourth row from the exit."
 - The name and contact information of the person who reported the issue.
 - The date and time the room was inspected by staff and the findings.
 - Any actions taken, such as removing a room from service or moving a customer/resident/patient to new room, and details of all interactions with customers/residents/patients.
 - The date and time that pest management provider was called and the date and time service will be conducted.
 - The date and the time of service by pest management professionals and the findings.
 - If treatment is conducted, all treatment and follow up dates, treatment method and products used.
 - Date the room was put back into service.



ABOUT RENTOKIL

Rentokil is the world's largest commercial pest control company, operating in more than 80 countries globally. In the United States, Rentokil and its three regional brands, Ehrlich, Presto-X, and Western Exterminator have served customers for nearly 100 years. Rentokil companies offer a wide range of integrated pest management (IPM) services, along with other business services that serve to protect people and enhance lives, including termite and bed bug inspections and services, bioremediation, integrated bird management, surface disinfection, and vegetation management services.

RENTOKIL'S BED BUG PROGRAM FEATURING THE PROTECT+ SYSTEM

Rentokil's Bed Bug Program featuring the PROTECT+ System is an integrated approach that allows for a rapid response and resolution to bed bug issues in hours, rather than days. It's a smarter, faster way to protect people and your reputation, reduce disruption and revenue loss, and get peace of mind.

The PROTECT+ System uses a proprietary mix of targeted service protocols, precise applications, and specialized products to eliminate bed bugs and provide you with ongoing protection. With the PROTECT+ System, areas are back in service after 4 hours and you're back to business in no time.

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