

Identification

Adult German cockroaches are approximately 5/8 inch long and light brown to gold in color with two dark longitudinal stripes on the pronotum. They have fully developed wings, but do not fly.

Due to their short maturation time (103 days from egg to adult) and high reproductive capabilities, German cockroaches are the most successful and most prolific of the roach species that live indoors. Unlike other cockroach species, German cockroach females carry their ootheca until the young nymphs hatch. Each ootheca contains on average 30-40 viable eggs.

German cockroaches are the most common cockroach pest found in homes, restaurants, grocery stores, apartments, and other buildings. They are transported easily in clothing, bags, boxes, and other belongings, allowing populations to become quickly established in new locations. They prefer warm areas with high humidity, are active at night. They are commonly found in kitchens near dishwashers, sinks, refrigerators, and stoves. Once population increase you can find activity in any room. During the day they hide in cracks and crevices that provide them with a suitable harborage.

German cockroaches are an aesthetic nuisance, carry diseases and produce large amounts of fecal material. They have a very unpleasant characteristic odor which becomes quite prevalent in large populations.



Treatment

German cockroach services are provided on a curative and well as a preventative basis. These services are a multi-step process involving the use of non-chemical and chemical methods.

- Inspection
- Sanitation
- Physical removal
- Material control
- Exclusion
- Monitoring
- Follow-up

Prior to treatment for German cockroaches, refer to and review the [Commercial Full Prep Service Checklist](#). Note sanitation issues specific to the facility that will receive the German roach service and review with the Manager. This checklist is designed to focus on sanitation. Dead insects and fecal matter should be cleaned prior treatment for optimal success of service.

Inspection:

- Using a flashlight, provide a detailed inspection.
- German cockroaches can be found in, but not limited to, rooms where food is stored and where people eat. The places these can be found in hotels or resorts are:
 - Kitchenette/Kitchen
 - Cabinets, microwaves, behind electrical outlet covers, baseboards, drawers.
 - Under and on the back of refrigerators, in and around stoves, if present
 - Under and around sinks
 - Breakfast nook
 - Under table and chairs
 - Living Space
 - Furniture
 - Televisions
- Other possible areas of infestation
 - Bedrooms & closets
 - Headboard and nightstand
 - Dresser and Television
 - Areas where plumbing pipes enter a wall
 - Toilet
 - Shower
 - Doors, hinges
 - Wall trim or wire runners
 - Chaseways between rooms
 - Dining Room areas of Restaurants
 - Dry Areas of Commercial Facilities, e.g., in panels in the deli at a Wawa
- Identify
 - Sources of infestation
 - Active adults
 - Active nymphs
 - Evidence of infestation
 - Fecal matter
 - Cast skin
 - Egg cases
 - Conditions conducive to pest activity

Sanitation:

Sanitation is a critical step in German cockroach services that requires effort on both our part and the customer's part. It is our responsibility to identify all areas that are conducive to German cockroach activity. Sanitation is **not** a reason we cannot overcome to be successful but can prolong the treatments. The following are recommendations that will make the environment much less inviting to German cockroaches:

- Eliminate as many moisture sources as possible by repairing leaking pipes.
- Assure that trash is regularly removed from the area.
- Insulate pipes to prevent condensation, and do not leave water standing on counters or in the sink.
- Assure housekeeping carts are inspected regularly.

Physical Removal:

- Vacuuming is an important step in the elimination of German cockroach infestations.
 - There is an immediate decrease of population.
 - It helps in preparation for other control methods.
 - The impact of other pest prevention measures is more significant due to decreased numbers.
 - The Customer sees an immediate result from your treatment.
- Using a HEPA filtered vacuum, remove dead and live German cockroaches, cast skins, egg cases, and minor food debris found during your inspection.

Preventative/Curative Material:

Massey Services' material treatment strategy incorporates multiple formulations that contain active ingredients with various modes of action and are rotated on a set schedule. See the most current Material Rotation Chart for the specific products to be used. Dry Flowable baits are not to be used in a kitchen of a commercial restaurant.

- Dry Flowable Bait
 - Apply to areas of harborage (voids/cracks and crevices) to eliminate pest populations and in areas of potential harborage to prevent any future activity.
 - Behind baseboards
 - Wall voids
 - Behind switch plates/outlets
 - Under and on the sides of the dishwasher when available
 - Cabinet voids
 - Plumbing penetrations
 - Crevices along trim
 - Dining Room areas of a commercial restaurant
 - Dry Areas of Commercial Facilities, e.g., in panels in the deli at a Wawa
- Flushing Agent:
 - Use compressed air in cracks and crevices to locate harborage sites and identify areas treated with dry flowable bait.
- Using MicroFlow Insect Bait
 - Apply 1 to 1.8 oz per 100 sq.ft.

- Gel Bait
 - Contains food attractants and active ingredients that when consumed, will cause the insect to die.
 - Gel bait are applied in areas active or conducive to cockroach activity.
 - Behind refrigerators
 - On the back of microwaves
 - Door hinges
 - In areas where a large amount of fecal matter is present due to presence aggregation pheromones.
 - Apply bait in small, BB sized amounts according to the manufacturer's label.
 - Place bait approximately every 6 inches in areas where activity is present.
 - Apply ½ (15 grams) to ¾ tube (22 grams) per room.
 - Ensure that people or pets cannot contact bait placement.
- Granular Bait
 - Using an IDT to contain the bait.
 - Remove protective layer.
 - Place glue portion into bait to coat glue.
 - Place IDT/Granular bait.
 - Not accessible to children or in view of public.

Exclusion:

- Seal cracks and crevices where practical to eliminate cockroach harborage areas once treatment has been applied. Some areas may include:
 - Cracks and crevices of baseboards
 - Behind cabinets
 - Where countertops meet the wall

Monitoring:

- Place insect detection traps in areas of confirmed and potential activity.
- In sensitive or low population environments, cockroach pheromone detection traps may be utilized.
- Insect detection traps will allow for the identification of any areas of continued activity and will allow you to determine the success of the treatment on proactive follow-up services.

Follow-up:

- Every 5-7 days until infestation is eliminated.
- Inspect all areas:
 - Paying special attention to insect detection traps.
 - Areas where the Customer has observed activity.
- Repeat treatment steps as necessary.
 - Remove old bait before applying fresh bait.

Advion Microflow **is not** to be used in commercial kitchens. Dusts should be used in commercial kitchens as stated in the Massey Services Elimination Service Protocol. It may be used in dining areas under booths and other areas where it will be undisturbed for a long period of time.