

# THERMA-KLEEN®

## INDUSTRIAL DRY VAPOR CLEANERS

### How To Use Your Dry Vapor Steam Cleaner

Dry Vapor Steam Usage is somewhat counterintuitive, in that high pressure and lots of water are not best suited for cleaning with the Therma-Kleen® Dry Vapor Steam systems.

1. The lower the steam pressure, the higher the consistent temperature and the drier the steam.
2. The drier the steam the smaller the water vapor and the better deep cleaning characteristics.
3. Pressure is great for heavy cleaning, but for the best results in applications....turn it down! Condensation occurs at a higher-pressure output....so once again, keep it down and let the heat do the cleaning.
4. Cut out the chemicals and the toxic and allergen creating residues they leave behind.
5. Remember, the sooner you cut out chemicals, the sooner the residues will disappear and on your way to toxic, pathogen and allergy free environment. By doing away with Soap, you will be doing away with soap residue which attract dirt and allergens that stick to the surface. There is no purer way to clean than with steam and you will feel and see the difference immediately.
6. Never put anything in the boiler or reservoir other than tap or distilled water. On the other hand, don't be afraid to also use a safe cleaning agent if you run into a difficult situation that may call for more than steam. Cold water and soap clean ok, but use that same soap with hot water and watch what happens. The same principle applies.

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## **ACCESSORIES YOU WILL BE USING:**

Triangle Brush – Nylon Bristles, w/clips on top to hold cloth bonnet. Use - in the most diverse of all the tools, can be used on anything from hard to soft surfaces, from glass to wood.

12" Floor Brush – This rectangular brush also has clips to hold a cloth bonnet. Use - for cleaning larger areas.

Nylon Detail Brush – 1" & 2-1/2" Dia. Use - to clean smaller areas and in tighter spaces. Nylon bristles are less likely to scratch.

Brass Detail Brush – 1" & 2-1/2" Dia. Use - on some metal and tile surfaces to help remove stubborn dirt.

Stainless-Steel Detail Brush – 1" & 2-1/2" Dia. Harder and longer lasting than other brushes Use - only used on surfaces which are scratch resistant.

Horse Hair Detail Brush – 1" & 2-1/2" Dia. Softest of all, use - on item that are easily scratched and delicate. The soft bristles allow for better cleaning around objects.

Extension Wand – Used to extend your reach for cleaning walls, floors, windows, etc. Can be used with all attachments.

## **1 – FLOORS:**

It is always best to Pre-vacuum or sweep hard surface floors first to remove loose particles.

- **TILE** – First clean the edges, corners and baseboards with detail brush at low/medium setting. Use large floor or triangle brush at a low to medium steam setting to absorb dirt. In especially soiled areas pre-steam using brush without cloth. Always use a clean cloth towel to absorb the dirt.
  - **HINT** – heat cloth with steam on low, turn steam off and mop floor. Cloth should be hot and moist “not wet”. It is the damp heat that will dissolve grime, while the floors do not become over-wet and evaporation is quick, leaving a clean surface.
- **GROUT** – Use 1" Nylon detail brush on low/medium setting. If heavily soiled Pre-steam to help loosen dirt first. A back and forth action with the detail brush will help dislodge particles embedded in the grout, then with a clean cloth wipe clean.
- In certain instances, the Brass or Stainless-steel detail brush can be used, but caution must be used, so as not to damage the grout.
  - With a regiment of regular maintenance cleaning with Therma-Kleen equipment using the 12" floor brush with cloth bonnet attached will greatly reduce the number of time specific grout cleaning will be necessary.
- **VINYL or WOOD** – Use floor brush with cloth at low steam. If floor is especially dirty, pre-treat area lightly with cleaner such as murphy's Oil Soap.
  - Once bonnet/cloth is heated, commence cleaning by going over area with smooth back and forth motion. Pull trigger every 3 to 5 seconds to keep pad heated.
  - **NOTE** – When steaming a wood floor, never let the brush stand in one place while steam trigger is on. Always keep the brush moving. Go over the area two or three times as needed.
- **WAXED VINYL FLOORS** – Use floor brush with cloth and 3" detail brush in corners. Apply steam, cleaning a small area quickly at a time, this should melt the top layer of wax

holding dirt in the pores of the floor. If floor is greasy it may be necessary to repeat the procedure. It also may be necessary to reapply floor sealer when finished.

- NOTE – Do not overheat the vinyl as it may soften the surface and affect the texture.
- WOOD PARQUET – Use 12” floor brush with cloth and 2-1/2” nylon detail brush for tight spaces. Move quickly to avoid heat or moisture buildup in the wood, pulling the trigger every 3 to 5 seconds to keep the cloth warm.
- MARBLE – Use same procedure is in wood floors, keeping the buildup of heat and moisture off the surface as much as possible. Always use a marble conditioner conditioner to seal surface after cleaning.
- TERAZZO – TOOL – 12” Floor brush with cloth bonnet attached and 2-1/2” Nylon Detail brush. STEAM SETTING – Low to Medium. First use detail brush or Blast Nozzle to remove dirt from corners and tight spaces, then immediately wipe area clean with a clean dry towel. Use the Floor Brush with cloth attached to clean the main floor area.
- CEMENT – Cement is not an ideal application for Dry Vapor Cleaning. It is best to use one of Therma-Kleen’s Electric or Propane Wet Steam systems.
- CARPETS – Dry Vapor Steam is not recommended for cleaning large carpeted areas, but rather for spot cleaning.
  - Use triangle or 12” floor brush on medium setting. Hold approximately 2” above the area to be spot cleaned, to pre-steam the area, causing the dirt particles to loosen and open up the fibers. Then with the brush with cloth attached, and at a medium setting, go over the area with the same motion as when you vacuum. Change cloth when dirty & repeat if necessary.
    - TIPS:
      - Protein Stains – dab with a towel dampened with a solution of 1 teaspoon of white vinegar and 1 quart of cold water.
      - Food Dye Stains – wet stain with a solution of water, lemon juice or white vinegar.
      - Water Stains – wet the stain with carbonated water, then use the triangle brush with cloth.
      - Reoccurring Stains – if the stain keeps reappearing, it is coming from under the carpet. First you must dry out the area. Press a drying agent such as talcum powder, a mixture of cornstarch and cornmeal, or clean unscented & uncolored cat litter into the fiber “do not rub”. Let it sit for half an hour and vacuum it out.
      - Surface Stains – they can be removed by shooting the dry steam against the spot from the side, 1’ above the surface. Hold a towel on the opposite side of the stain to catch the residue. This prevents driving the stain deeper into the carpet.
      - Gum - the same technique as surface stains, except use a paper tower instead of a cotton towel. If the gum melts too much let it cool before trying again.

## **2 - WALLS:**

Painted walls, wallpaper, wood paneling are heat sensitive. Always use 2, preferably 3 layers of towel on brushes when treating these surfaces. Do not dwell on any one area too long - treat once, allow to cool and retreat. On heavily soiled areas, pre-steam w/ nozzle 6" from surface and then use brush w/ towel. Towel surface may be pre-treated w/ gentle detergent mist to help loosen soil. On wood paneling move quickly, check towel surface for color transfer.

- OIL PAINT – TOOL - Triangle brush with one or more cloths attached. STEAM SETTING – Low. Do not stay on one spot for too long, move quickly from top to bottom of wall. Use an even motion without applying too much pressure. CAUTION – Steam may remove some paint if thin.
- LATEX PAINT – TOOL - Triangle brush with one or more cloths attached. STEAM SETTING – Low. Preheat the cloth and wipe with no steam. Do not apply pressure. Starting from the top move quickly with smooth even strokes. Do not get surface too wet. Wipe gently with a clean dry microfiber towel. CAUTION – Steam may remove some paint if thin.
- WALLPAPER:
  - Washable – TOOL – Triangle Brush with cloth attached. STEAM SETTING – Low. Pre-steam at low setting with Triangle brush 2" from surface, then wipe wall with NO steam. Follow up with a clean microfiber towel to remove residue. Do not stay on one spot for too long.
  - Non-Washable – TOOL - Triangle brush with cloth attached. STEAM SETTING - Preheat cloth with low steam so as not to make cloth wet. Move quickly with smooth even strokes working from top to bottom. Wipe with clean microfiber cloth.
  - Removing Wallpaper – TOOL - Triangle brush with cloth attached STEAM SETTING - Low. Start on one corner, holding the brush in one spot for 5 to 10 seconds. Pull corner out and start peeling back while moving brush slowly back and forth.
- TILE – TOOL – Triangle Brush with cloth bonnet attached & Nylon Detail Brush. STEAM SETTING – Low/Medium. Starting at the top, First clean the edges, corners and other tight spaces with detail brush. Use large floor or triangle brush at a low to medium steam setting. In especially soiled areas pre-steam using brush without cloth. Always use a clean cloth towel to absorb the dirt.
  - HINT – heat cloth with steam on low, turn steam off. Cloth should be hot and moist “not wet”. It is the damp heat that will dissolve grime, while the wall does not become over-wet. This way evaporation is quick, leaving a clean surface.
- GROUT – TOOL - 1" Nylon Detail Brush SETTING Low/medium. If grout is heavily soiled Pre-steam to help loosen dirt first. A back and forth action with the detail brush will help dislodge particles embedded in the grout, then immediately wipe clean with a clean cloth
- In certain instances, the Brass or Stainless-steel detail brush can be used, but caution must be used, so as not to damage the grout.

- With a regiment of regular maintenance cleaning with Therma-Kleen equipment using the Triangle brush with cloth bonnet attached will greatly reduce the number of time specific grout cleaning will be necessary.

### **3 - FURNITURE:**

- WOOD – TOOL – Triangle, Nylon or Horse Hair Detail Brush – STEAM SETTING – Low (do not apply steam when on the wood surface). Pre-heat cloth (either the one attached to the Triangle Brush or a separate cloth over the detail brush. Do not apply pressure as you wipe the hot dry cloth over the wood surface. Finished surfaces on wood can be damaged by the heat generated, so you must not allow the brush to remain steam free. Pre heat the cloth then wipe away the dirt.
- METAL – TOOL – Triangle, Nylon or Horse Hair Detail Brush – STEAM SETTING – Low/Medium. Use the detail brush on edges, tight spaces and ornamental details. Use easy strokes covering the entire area. On larger sections, use the Triangle brush with cloth attached.
- PLASTIC – TOOL – Triangle, Nylon or Horse Hair Detail Brush – STEAM SETTING – Low. Check in an inconspicuous area, to make sure the plastic and color are adversely affected. Use the detail brush on edges, tight spaces and ornamental details. Use easy strokes covering the entire area. On larger sections, use the Triangle brush with cloth attached.
- UPHOLSTERY:
  - FABRIS – TOOL - 12” or Triangle brush with cloth attached – STEAM SETTING - Heat cloth for 3 to 5 seconds at low steam setting. Pre-test in an inconspicuous area. Work quickly and lightly especially if fabric has Scotch Guard. Clean using back and forth motion. If material seems to be getting too wet, cut off steam. Reheat cloth as needed.
  - LEATHER – DO NOT CLEAN INTERIOR LEATHER FURNITURE WITH STEAM.
  - VINYL & SYNTHETICS – TOOL – Triangle, Nylon or Horse Hair Brush or Blast Nozzle – STEAM SETTING – Low/Medium Test in inconspicuous location prior to treatment. Use appropriate brush. VINYL - Using blast nozzle blow out cracks and crevasses. Some Velour's are very heat sensitive and may deform. Pre-steam area with steam gun 6" from surface. Use small brush w/ towel over surface, working in two directions. Towel should be hot & moist, not wet. Use nozzle on material seam lines at 2" from surface, wipe away dirt with towel.

### **4 - WINDOWS:**

- WINDOW & SLIDING DOOR GLASS:
  - METHOD 1 – TOOL - Triangle brush with cloth attached – STEAM SETTING - Low Starting from the top and working down, wipe over the area in a smooth fashion, never keeping the tool at one place. Wipe clean & dry with a clean microfiber towel.
  - METHOD 2 – TOOL - Blast Nozzle. – STEAM SETTING - Low/Medium. Starting at the top, steam your windows / doors keeping the nozzle tip approximately 4” to 6” from the glass. Use a squeegee, drawing downwards. Wipe the blade after each swipe and continue until finished. Excellent, fast results can be achieved also by this method.

**CAUTION: DO NOT HOLD BRUSH IN ONE AREA FOR MORE THAN 2 TO 3 SECONDS – GLASS COULD BREAK!**

**CAUTION: ALWAYS PRE-HEAT GLASS HOLDING THE BRUSH 2” TO 3” FROM THE SURFACE BEFORE CLEANING!**

**CAUTION: NEVER CLEAN GLASS WHEN THE TEMPERATURE IS BELOW THE FREEZING POINT or WHEN THERE IS A LARGE TEMPERATURE DIFFERENTIAL FROM ONE SIDE TO THE OTHER.**

**CAUTION: NEVER CLEAN GLASS THAT HAS A CRACK!**

- WINDOW SILLS & THRESHOLDS – TOOL - Blast Nozzle or 1” Nylon detail brush & Cloth – STEAM SETTING – Medium. Angle Nozzle or Brush so that dirt is moving away. Hold cloth in a position to catch the dirt as it is being expelled.
- WINDOW FRAMES:
  - For painted wood or plastic\ - TOOL - 1” or 2-1/2” detail brush.- STEAM SETTING – Low/Medium. Place a cloth around the brush and wipe frame. It is best to start from the top so dirt runs to the bottom.
  - Aluminum – TOOL - 1” brass detail brush – STEAM SETTING – Low/Medium. Place the brass detail tool directly on the frame surface to remove dirt and polish the surface. Wipe with microfiber towel.
- Window & Sliding Door Tracks – TOOL - 1” Nylon or Brass detail brush (Depending on material) – STEAM SETTING - Low/Medium. Hold the nozzle in one hand and a towel in the other. Move the nozzle and towel in the same direction, blowing debris into the towel. Hold nozzle parallel to the surface. Move quickly and wipe dry with a towel.
- Window Screens – TOOL - Triangle brush with double cloths attached – STEAM SETTING - Low. Do both sides of the screen, working from top to bottom. If cloth becomes too dirty use a clean one.
- WINDOW BLINDS:

**CAUTION:** use only on metal blinds. NEVER USE ON VINYL BLINDS

- SLATS – Dusting – TOOL – Blast Nozzle – STEAM SETTING – Low. Open blinds and use blast nozzle at low steam setting to blow dust onto window.
- DEEP CLEANING – TOOL – Triangle Brush – STEAM SETTING - Low. Close Blinds with the top of the slat facing you. Use triangle brush with a cloth attached at a low steam setting. Wipe side-to-side from the top down. You may have to spread the slats with your other hand while cleaning. Close the blinds to clean the other side, following the same procedure as before.

## **5 - KITCHEN:**

Must be Safe, Clean and Sanitary for the health and safety of those who use the facility and those who consume foods prepared in the facility. Dry Vapor Steam is the most effective and, in some cases, the only method to effectively address this challenge. The Industrial & Commercial systems by Therma-Kleen are designed specifically for this task.

- SINK – TOOL - detail brush w/out cloth (1” or 2-1/2” depending on size of area) (Nylon, Stainless-Steel or Brass depending on material) STEAM SETTING - Low/Medium. Use a separate towel (paper tower) to clean up loosened dirt. For tougher stains, pre-steam the surface.

- STOVE TOP – TOOL – 2-1/2” Nylon or Brass detail brush w/out cloth – STEAM SETTING – Low/Medium. Use separate towel (paper towel) to clean up loosened dirt as you clean. Can use the 1” detail brush for cleaning gas burners.
- OVEN INTERIOR – TOOL - 1” or 2-1/2” Nylon or Brass detail brush w/out cloth. STEAM SETTING – Low/Medium. Be cautious so as not to damage Enamel surface. Use a separate towel to clean up loosened dirt. Very quickly the heat from the detail brush begins to melt away the crusty mess. In a very few minutes, with a paper towel the oven is clean without using chemicals, which means no fumes or foamy mess. This method can be used also with your grills, vents, drip pans & smokers. Depending on the size of the area, choose the scrub and detail brush that will work best
  - Oven Seal – TOOL - 1” Nylon detail brush – STEAM SETTING - Low / Medium  
Move the brush in the same direction as the seal. Use towel to clean up loosed dirt.
- COUNTER TOP:
  - GRANITE – TOOL – Triangle Brush with Cloth & 2-1/2” Nylon Detail Brush. STEAM SETTING – Low/Medium First use the 2-1/2” Nylon brush on corners, cracks & tight spaces, forcing grime from their hiding places. Wipe clean with clean cloth. Use the Triangle Brush with cloth attached. Pre-heat the cloth for 3 to 5 seconds and with a smooth back and forth motion wipe the surface clean.
    - Granite and all stone counter tops are pores, which means infectious pathogens and dirt will reside within those pores. Normal cleaning methods will not get rid of this problem. Super-heated dry steam produced by Therma-Kleen systems will penetrate those surface pores killing the pathogens and forcing out debris, leaving the surface sanitized and clean. This debris must be immediately wiped up before it has a chance to re-enter the pores
  - SOLID SURFACE (MAN MADE) – TOOL - Triangle Brush with Cloth & 2-1/2” Nylon Detail Brush, STEAM SETTING – Low/Medium First use the 2-1/2” Nylon brush on corners, cracks & tight spaces, forcing grime from their hiding places. Wipe clean with clean cloth. Then use the Triangle Brush with cloth attached. Go over the entire surface is slow even strokes, ensuring complete coverage.
    - Materials such as CORIAN is not as pores as stone, but still need to be cleaned and sanitized on a regular basis.
  - LAMINATES – TOOL – Triangle Brush with Cloth & 2-1/2” Nylon Detail Brush, STEAM SETTING – Low/Medium First use the 2-1/2” Nylon brush on corners, cracks & all tight spaces, forcing grime from their hiding places. Wipe clean with clean cloth. Then use the Triangle Brush with cloth attached. Go over the entire surface is even strokes, DO NOT stay in one place.
  - CUTTING BOARDS – TOOL – Nylon detail brush - STEAM SETTING – Low. When cleaning, use a circular and back & forth motion covering every inch of the board to remove embedded food scraps which reside in the numerous cuts usually found on cutting boards. Continually wipe away debris as you are cleaning the board. Dry Vapor Steam is the only reliable method of removing the

entrapped food particles which then removes the infectious dangers leaving a safe and sanitary utensil.

- CABINET & DRAWER FACINGS – TOOL - Triangle brush with cloth – STEAM SETTING – low/medium. Clean with smooth back and forth motion.
  - Corners & Tight Spaces – Use 1” detail brush at low to medium steam to blow out dirt & catch with a towel to prevent debris from being sprayed around.
- REFRIGERATOR – Remove all contents prior to cleaning.
  - Exterior Surface – TOOL -Triangle brush with cloth – STEAM SETTING – Low/Medium.
  - Interior Surface – TOOL - triangle brush with cloth STEAM SETTING – Low/Medium. Use 1” or 2-1/2” detail brush for corners or tight spaces. Use separate towel to clean up loosened dirt.
  - Door Seal – TOOL - 1” Nylon detail brush – STEAM SETTING – Low/Medium. Use separate towel to clean up loosened dirt.
  - Defrost Freezer – TOOL - 1” or 2-1/2” Nylon detail brush – STEAM SETTING – Low/Medium steam to dislodge ice. Use separate towel to mop up water.
- DISHWASHER – TOOL - 1” Nylon detail brush & Triangle Brush – STEAM SETTING – Low/Medium. Use 1” detail brush to clean corners. For larger areas use triangle or 2-1/2” Nylon detail brush. Use back and forth motion. Use separate towel to clean up dirt and water.
- SMALL APPLIANCES, FIXTURES, FAUCETS, ETC. – Use the appropriate size Nylon, Horse Hair, Brass or Stainless-Steel detail brush to clean and sanitize surfaces. Use low to medium steam

## **6 - BATHROOM:**

As we all know Bathrooms are a breeding ground for all sorts of dangerous bacteria. They must be made Safe, Clean and Sanitary for the health and safety of those who use the facility. Dry Vapor Steam is the most effective, and in some cases the only method to effectively address this challenge. The Industrial & Commercial systems by Therma-Kleen are designed specifically for this task.

- MIRRORS/GLASS/WINDOWS – TOOL - Triangle brush with cloth – STEAM SETTING - Low.
  - Always Pre-Steam glass prior to cleaning to avoid breakage. Wipe over area in a smooth fashion, never keeping the tool at one place. Wipe clean with a clean microfiber towel. It is best to start at the top, working your way down.
  - Another method is to use your blast nozzle. Turn your steam to low/medium and steam your windows / doors keeping the nozzle tip approximately 4-6 inches from the glass. Use squeegee, drawing downwards. Wipe the blade after each swipe and continue until done. Excellent, fast results can be achieved also by this method.

**CAUTION: DO NOT HOLD BRUSH IN ONE AREA FOR MORE THAN 2 TO 3 SECONDS – GLASS COULD BREAK!**

**CAUTION: ALWAYS PRE-HEAT GLASS HOLDING THE BRUSH 2” TO 3” FROM THE SURFACE BEFORE CLEANING!**



**CAUTION: NEVER CLEAN GLASS WHEN THE TEMPERATURE IS BELOW THE FREEZING POINT!**

**CAUTION: NEVER CLEAN GLASS THAT HAS A CRACK!**

- **TOILET:**

Porcelain material is possibly the easiest material to clean.

- Exterior – TOOL - Triangle or 2-1/2" Nylon detail brush w/cloth – STEAM SETTING – Low/Medium. Start from the top, working down to the base. Be sure to clean the floor up to 2 feet from the toilet to kill infectious and odor-causing bacteria.
- Interior – TOOL - 1" Nylon detail brush – STEAM SETTING – Low/Medium. Work from top down.

**CAUTION: NEVER PUT THE BRUSH/NOZZLE UNDER WATER!**

- **FAUCETS – TOOL – 2-1/2" Nylon or Horse Hair detail brush – STEAM SETTING – low/Medium.** Melts away build up in hard to reach areas. Use nozzle to reach into tight areas, or use with small nylon detail brush where needed, wipe surface dry. This will remove build up in the smallest of places around fixtures, sink edges, and help to kill bacteria.

- **BATHTUBS & SHOWERS:**

- Porcelain – TOOL – Triangle & Nylon or Horse Hair Brush – STEAM SETTING – Low/Medium. First use the Nylon Brush to clean corners and the Horse Hair Brush to clean around the Faucet. If surface is very dirty, pre-steam the area. Use the Triangle brush to clean the large areas. Use smooth & even strokes.
- Fiberglass – TOOL - Triangle or 2-1/2" Nylon detail brush – STEAM SETTING – Low  
Make sure the fiberglass surface is pre-steamed avoid scratching the surface. First use the Nylon or Horse Hair detail brush to clean corners, tight spaces and faucets, then wipe clean with a towel as you go. For the larger areas use the triangle brush with cloth attached.
- Ceramic – TOOL – Triangle & Nylon detail brush – STEAM SETTING – Low/Medium. Use the detail brush to clean corners and wipe clean with a towel as you go. Use triangle brush with cloth attached to clean the walls and ceiling.
  - GROUT – TOOL - 1" Nylon detail brush – STEAM SETTING – Low/Medium. Pre-steam to help loosen dirt, mold & mildew before cleaning. Wipe with a clean towel as you go.
  - HEAVY SOAP SCUM – TOOL – Brass Detail Brush – STEAM SETTING – Low/Medium. To remove soap scum, it may be necessary to use nylon or brass detail brush, but be care full not to scratch the surface.
- Shower Door – TOOL - Triangle brush with cloth – STEAM SETTING - Low . Pre-Heat keeping brush 2 to 3 inches away from glass. Start at the top working your way down as you clean. Wipe the surface dry with a separate microfiber towel as you go.

## **7- BED BUGS & DUST MITES:**

Once Bed Bugs, Dust Mites, Etc. have entered your realm, getting rid of them is not easy. You will need to keep up a daily cleaning regiment for about two weeks. If they are still present, you will need to re-start the daily cleaning process.

Unlike Chemical methods which kill only Bed Bugs, Therma-Kleen® Dry Vapor Steam machines are an ideal method killing both Bed Bugs and their larva/eggs. The threshold temperatures to ensure effectively kill is 150° to 170° F (65°/75°C). Therma-Kleen systems reach temperatures in excess of 250° F, which is much higher than the threshold needed to kill on contact.

Check for bed bugs in areas where people stay, especially at night, for they use our blood as their food source. Usually the first signs of an infestation are when someone wakes up with red itchy bumps. Bed bugs are generally found in mattresses, pillows, cushions, clothing, box springs and furniture. They will look like tiny black dots all gathered together and they can multiply fast, which is why it is important to detect them as soon as possible and act immediately.

Bed bugs tend to hide in the small places such as the stitching and crevices of mattresses, in pillow cases, bedding and clothing, cushion of chairs, etc.

- Look for very small black dots (bed bug eggs) grouped together in a grape like patterns.
- If you detect them after step 1, it's also a good idea to check your furniture and carpeting as they spread quickly throughout your environment.
- Try to determine how far the infestation has spread by looking around and identifying the places you must perform a steam treatment. Inspect all pieces of furniture, bedding and clothing in every room.
- Here are some tips on how to kill bedbugs with steam.
  - Clean up any clutter to eliminate hiding spaces.
  - Wash all linens and clothing in hot water. Dry, then seal in plastic bags to keep them protected. Vacuum your carpets, furniture, mattresses and box springs to get rid of dust and debris.
  - Thoroughly clean and disinfect your vacuum and any accessories used in the process. Make sure to throw vacuum bags in the trash outside your home.
  - Start steaming using the Tringle Brush with a microfiber cloth.
    - Before steaming, vacuum the areas to be treated. This will increase the effectiveness of the steamer. If possible, use a vacuum cleaner with a bag, as this allows for easy disposal of any bed bugs that may have been captured in the vacuum. If you have a bagless vacuum cleaner, dispose of all contents in a bag *outside* of your house, place the bag straight into the outdoor garbage, then wash the vacuum container and filter in as hot



water as the vacuum components can stand. Allow to air dry before refitting to the vacuum cleaner.

- The key here is to work slowly, to ensure the steam has time to heat up the surface and achieve deep penetration. Take your time and steam everywhere very slowly.
- Steam your environment top to bottom, beginning with curtains or drapes and working your way down to other furniture.
- Steam your mattress by attaching a microfiber cloth to your triangular brush so that steam is dispersed over a larger, not blowing the bed bugs around.
- Set the steam cleaner on low or medium pressure to avoid pushing bed bugs deeper into the mattress instead of killing them.
- Slowly pass steam on all six sides of the mattress and repeat as needed to make sure you steamed everywhere .
- Allow any steamed surfaces to thoroughly dry.
- Wrap mattress, box spring and any freshly steamed furniture in tear resistant plastic for two weeks to ensure all living organism will die.
- Thoroughly clean and disinfect your vacuum and any accessories used in the process. If signs of bed bugs are found after a week repeat this process.

## **8 – AUTOMOBILES & TRUCKS:**

Car & Truck interiors by nature become dirty as dirt from clothing, shoes and other objects find their way onto seats & carpet, oils from hands get transferred to the steering wheel, shifter, door interiors, etc., and oils from hair finds it way to the headrest.

Here again Therma-Kleen® Dry Vapor units are the most effective cleaning method. Cleaning agents may seem like the most expedient method, but in the long run they are not as effective. They don't clean as thoroughly, and their residue tends to attract dirt at an accelerated pace.

- Clean Carpet & Fabrics with steam:
  - First vacuum thoroughly enough to get as much loose debris as possible from the seats and floor.
  - Carpet – TOOL – Triangle Brush – STEAM SETTING – Low/Medium. Move the brush over the carpet, letting the bristles & heat loosen dirt particles.
    - Vacuum up the debris.
  - CAUTION – Move quickly enough that the steam doesn't collect in one place long enough to make the carpet etc.
  - Seats – Cloth – TOOL – Triangle Brush w/Microfiber Cloth attached. STEAM SETTING – Low/Medium. Move the brush over the seat cushion & back in an overlapping pattern.  
CAUTION – Move only quickly enough that the steam doesn't collect in one place long enough to make the fabric wet.
  - Seats – Vinyl – TOOL - Triangle Brush w/Microfiber Cloth attached. STEAM SETTING – Low/Medium. Move the brush/cloth attachment over the seat in an even overlapping pattern. Immediately, wipe the area with a microfiber cloth to remove dirt.

- Seats – Leather - TOOL - Triangle Brush w/Microfiber Cloth attached. STEAM SETTING – Low/Medium. Move the brush/cloth attachment over the seat in an even overlapping pattern, making sure no bristles are exposed to scratch the leather.  
CAUTION – Do not let the brush stay in one spot for too long. Immediately, wipe the area with a microfiber cloth to remove dirt.
- Dash – TOOL – Triangle Brush w/Cloth Bonnet attached, Horse Hair Detail Brush. STEAM SETTING – Low/Medium. Move the Triangle Brush over the dash in an overlapping pattern. Immediately wipe the area with a microfiber cloth.
  - Around the radio and like areas, use the Horse Hair Brush with the Steam Setting on LOW.
  - Vents can be cleaned with the Horse Hair Detail Brush with the Steam Setting on LOW.
  - Once you have cleaned dirty area such as cup holders and door pockets, use a Vacuum to remove residue.
- Head Liner – TOOL – Triangle Brush with one or two Cloth Bonnets attached. STEAM SETTING – LOW.  
CAUTION – The headliner is made of pressed board with foam glued to it, then fabric is glued to the surface of the foam. If the glue is softened, it can become loose and hang down, and the headliner will need replacing. Using two cloths on the brush will help alleviate this problem.
  - Overlap you passes with the steam brush just enough to ensure you don't miss any spots. If you overlap you passes too much or clean on area too many times, the layers can separate, and the headliner can be damaged. Move the brush over the headliner twice as fast as you did in the seats.
- Windows – TOOL – Triangle Brush with Microfiber Bonnet attached or Blast Nozzle. STEAM SETTING – Low/Medium.
  - Pass the Brush over the area holding it 1 to 2 inches above the glass to acclimate the glass to the temperature.
  - Using the Triangle Brush w/Cloth, work from the top down. On the inside of the windshield, the film may require turning the cloth to get good results.
  - If using the nozzle, follow the nozzle with a microfiber cloth to wipe the debris.

#### Outside of Vehicle:

Therma-Kleen® has both Propane & Electric fired Steam Cleaners. These machines are ideally suited for cleaning both the outside of vehicles and their engine compartments. The heat generated enhances the removal of oils, grease, tar, bug, etc.

#### 9 – REMOVING DECALS:

- TOOL - Triangle Brush or 2-1/2" Nylon Detail Brush. STEAM SETTING – Low/Medium.
  - In the case, the brush is used primarily to contain the heat in a specific area.
  - Removal of decals are easily accomplished by using the proper sized brush for the decal. Hold the brush steady over a corner of the decal for several seconds to loosen the glue. With a flat plastic scraper carefully lift a corner of the decal. Slowly move the brush along the decal while pulling the decal away from the surface.

## **10 – INDUSTRIAL CLEANING:**

Industrial equipment is no small investment. Companies invest many thousands, if not millions of dollars in industrial equipment for their manufacturing needs.

There are two basic types of cleaning protocols. The first being oily grease and grime that comes from the moving apparatus within the machine. The other being the build-up of the product being manufactured. The cleaning method is basically the same for both.

No matter the type of processing equipment being used, it will likely use oil/grease, therefore experience oil/grease build-up over time – it's inevitable. That grease build-up can lead to contamination of whatever it being produced. Additionally, grease build-up attracts abrasive dirt & debris which can find its way into any number of moving parts, leading to equipment breakdown which is expensive and can also lead to manufacturing downtime.

The best, most efficient & eco-friendly way to clean industrial apparatus, equipment & tools is with Therma-Kleen® Dry Vapor Steam, and in some cases, this may even be the only method. The Industrial & Commercial systems provided by Therma-Kleen® are designed to handle these tasks.

ADVANTAGES of Therma-Kleen® Dry Vapor Systems:

- **HIGH HEAT:**
  - Super-Heated Steam can effectively cut through most oil & grease.
  - It's the Dry Vapor Heat which breaks the bond that holds dirt to the surface.
  - The vapor penetrates the smallest of cracks & crevices, forcing the debris to the surface, where it is easily wiped away.
  - Temperatures are well above the threshold for killing infectious organisms, mold, mildew, fleas, ticks & their larva.
  
- **NO CHEMICALS:**
  - Super-Heated steam is the cleaning agent
  - No need to purchase costly chemical cleaning agents
  - No Toxic Chemical Fumes
  - No Chemical residue to become a concern in the future
  - No Allergic reactions caused by ingredients within cleaning agents.
  - Improves Employee Moral – Employees do not have to worry about the effects of chemical agents on their current or health.
  - No Residue for dirt to cling to.
  - A True GREEN process
  
- **LOW WATER USAGE:**
  - Water consumption is measured in portions of gallons per hour.
  - Pressure washing uses a large amount of water.
    - Dry Steam cleaning is a much more eco-friendly option because it uses far less water

- Low moisture means it can be safely used around electrical controls, switches, etc.
      - Therma-Kleen® systems can even be used to clean PCB boards using the correct protocol.
- LESS MESS TO CLEAN UP”
  - With less moisture comes less waste to deal with.
  - When you clean with chemical cleaning agents or pressure washers, you end up with a big mess and the risk of contaminating items with hazardous waste or damaging parts with debris and chemicals
- LESS ENVIRONMENTAL CONTAMINATION:
  - Because Dry Vapor uses so little water there is very little waste to worry about.
  - With the large amounts of water used in pressure washing, and toxic agents contained within cleaning agents, hazardous runoff becomes a problem.
  - Hazardous run-off containment is reduced.
  - Hazardous disposal cost is reduced.
- LESS CROSS CONTAMINATION:
  - The way Dry Vapor is released from Therma-Kleen® systems means there is very little splattering of debris.
  - Pressure washing tends to splatter debris around, causing it to end up in places where it is not wanted.
  - Don't have to move the item being cleaned to a secure area or cordon off the area around the item being cleaned.
- CAN BE USED AROUND ELECTRICAL EQUIPMENT:
  - The Dry Vapor process used by Therma-Kleen® has a very low moisture content, therefore it is friendly around electrical controls.
  - Pressure washing uses large amount of water, which can destroy electrical apparatus.

TOOLS – Blast Nozzle, Detail Brushes (Nylon, Brass, Stainless-Steel). STEAM SETTING – Low/Medium/High, depending on the application.

Because of the diverse nature of the items being cleaned, there is no hard and fast rule as to which tool is best to use. This is something which the operators experienced with what is being cleaned will determine. The only hint is that the detail brushes are better when you want to contain the heat in a certain area, for more intense application and to help break up debris.

Dry Vapor process will not pick-up the debris, so as an area is cleaned, the debris must be wiped up.

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