



Facts About HEPA Vacuums

Vermont Housing & Conservation Board
58 East State Street, Montpelier, Vt. 05602

Lead Hazard Reduction Program
Phone 1-800-290-0527

What is a “HEPA” Vacuum?

HEPA (High-Efficiency Particulate Air) vacuums differ from conventional vacuums in that they contain filters that are capable of trapping extremely small, micron-sized particles. A true HEPA filter can trap 99.97 percent of all airborne particles larger than 0.3 microns. To illustrate how small this is, a human red blood cell is usually between 6 and 8 microns wide.

Why do HEPA vacuums need to be used for lead dust cleaning?

Airborne lead dust particles are around 2 or 3 microns in size and settled dust can be anything larger than this all the way up to full size paint chips. While any household vacuum could pick up paint chips, the average household vacuum releases particles smaller than 50 microns which means that the vast majority of the smallest and most easily spread particles are being blown back into the air.

If I use a HEPA vacuum to clean a surface, does that mean it is free of lead dust?

A HEPA vacuum will pick up loose dust from surfaces, however a residue of adhered lead dust will likely remain on the surface which should be cleaned by wet wiping or cleaning.

Are all HEPA vacuums the same?

Vacuum manufacturers are not required to test their vacuums for particle emissions so the quality and filtration capability of HEPA vacuums can vary greatly.

What are some things to consider when purchasing a HEPA vacuum?

1. Consider what type of cleaning you are using the vacuum for. Generally a good canister style vacuum will suffice for most household cleaning jobs while a more industrial style vacuum may be needed for cleaning up after renovation work. Consider a power head for the canister vacuum if cleaning carpets.
2. Upright vacuums tend to be less well built, leak more exhaust air, and are harder to use for cleaning vertical surfaces.
3. Look for a vacuum with pre filter stages before the main HEPA filter. Pre-filters in a vacuum will help prevent dirt from directly impacting and clogging the HEPA filter, which is usually expensive to replace.
4. Check for gaskets in the vacuum housing that prevents air leakage that can bypass the filters. While many manufacturers will talk about how good their HEPA filtration is, a vacuum that lets air leak out before it gets to the filter is not very effective.
5. Look for a vacuum with the HEPA filter after the motor. If the motor is after the filter, the motor will emit carbon particles from the brushes in the motor.
6. Look for a vacuum with bags that have built in dust flaps or a tab that pulls over the bag opening to minimize the release of dust when changing bags.
7. Avoid a “bag less” vacuum or a vacuum that collects dust in a cup or container. These tend to not seal very tightly and release lots of dust when emptied.
8. HEPA filters should not be allowed to get wet and as such should not be used for vacuuming water or wet debris.
9. Make sure vacuum wands have a suction control or air vent to control the strength of suction. This is very useful when vacuuming polyethylene sheeting.
10. Avoid vacuums with “water filtration” as they are not a replacement for HEPA filtration.
11. When using a good quality HEPA vacuum, you should not be able to see or smell dust although most odors will not be stopped by a HEPA filter.