

Resuspension vs Capture • Microfiber vs Cotton • HEPA Filtration • Technique + Overlap

1 THE PROBLEM

Dust return complaints usually come from:

- Resuspension: dust is disturbed and goes airborne again
- Incomplete recovery: fine dust is redistributed or re-emitted

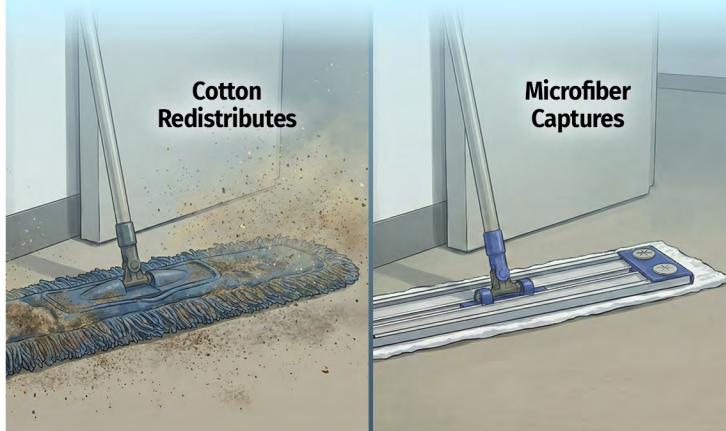
**IF DUST GOES AIRBORNE AGAIN,
IT WILL SETTLE AGAIN.**



2 HARD FLOORS: MICROFIBER CAPTURE

Best practice for hard floors:

- Replace cotton dust mops with microfiber flat mops
- Capture + hold fine dust instead of pushing it around
- Dispose/replace pads before they overload



4 TECHNIQUE + OVERLAP

Better results come from:

- Slower, controlled movement (don't outrun the machine)
- Consistent overlap/coverage (avoid striping/missed lanes)
- Right tool for the surface (hard floor vs carpet)

**Repeating rushed passes
won't fix a recovery problem.**



3 CARPET + FINE DUST: HEPA RECOVERY

When fine dust keeps coming back, recovery matters:

- Seal integrity (gaskets, bag seating, filter fit)
- Airflow + controlled agitation
- High-efficiency filtration (HEPA) to reduce re-emission

NIOSH defines HEPA as 99.97% at 0.3 microns.



IF DUST KEEPS COMING BACK...

It's usually not the floor.

**It's the tool, the recovery system,
and the technique.**

EPA – Human activity and cleaning can resuspend settled particulate matter into indoor air.

Manufacturer guidance – technique/coverage recommendations (move slower for better pickup)

References:

EPA – What is a HEPA filter? (defines HEPA's 99.97% efficiency) – <https://www.epa.gov/indoor-air-quality-iaq/what-hepa-filter>

CDC/NIOSH – HEPA filters and efficiency – https://www.cdc.gov/niosh/ventilation/faq/index.html#what_is_hepa

ASHRAE – Filtration and Disinfection FAQ – <https://www.ashrae.org/technical-resources/filtration-and-disinfection-faq>

EPA – Lead RRP Rule: HEPA vacuum requirement – <https://www.epa.gov/lead/renovation-repair-and-painting-rrp-rule-requires-hepa-vacuums-be-used-cleaning-dust-created>

Rosati et al. – Resuspension of particulate matter (human activity studies) – <https://www.tandfonline.com/doi/full/10.1080/02786820802187069>