



LEED O+M: Schools | v4 - LEED v4

## Green cleaning - equipment

Possible 1 point

Glossary

### Intent

To reduce chemical, biological, and particulate contaminants from powered cleaning equipment.

### Requirements

#### ESTABLISHMENT

Create an inventory of existing interior and exterior equipment, including what is brought on site by vendors. At least 40% of all powered janitorial equipment (purchased, leased, or used by contractors) must meet the following criteria. For existing equipment that does not meet the criteria, develop a phase-out plan for its replacement with environmentally preferable products at the end of its useful life.

All powered equipment must have the following features:

- safeguards, such as rollers or rubber bumpers, to avoid damage to building surfaces;
- ergonomic design to minimize vibration, noise, and user fatigue, as reported in the user manual in accordance with ISO 5349-1 for arm vibrations, ISO 2631-1 for vibration to the whole body, and ISO 11201 for sound pressure at operator's ear; and
- as applicable, environmentally preferable batteries (e.g., gel, absorbent glass mat, lithium-ion) except in applications requiring deep discharge and heavy loads where performance or battery life is reduced by the use of sealed batteries.

Vacuum cleaners must be certified by the Carpet and Rug Institute Seal of Approval/Green Label Vacuum Program and operate with a maximum sound level of 70 dBA or less in accordance with ISO 11201.

Carpet extraction equipment, for restorative deep cleaning, must be certified by the Carpet and Rug Institute's Seal of Approval Deep Cleaning Extractors and Seal of Approval Deep Cleaning Systems program.

Powered floor maintenance equipment must have vacuums, guards, or other devices for capturing fine particles, and must operate with a maximum level of 70 dBA, in accordance with ISO 11201

Propane-powered floor equipment must have high-efficiency, low-emissions engines with catalytic converters and mufflers that meet the California Air Resources Board or EPA standards for the specific engine size and operate with a sound level of 90 dBA or less, in accordance with ISO 11201.

Automated scrubbing machines must be equipped with variable-speed feed pumps and either (1) on-board chemical metering to optimize the use of cleaning fluids or (2) dilution control systems for chemical refilling. Alternatively, scrubbing machines may use tap water only, with no added cleaning products.

#### PERFORMANCE

At least 40% of all powered janitorial equipment (purchased, leased, or used by contractors) must meet the above criteria. For existing equipment that does not meet the criteria, develop a phase-out plan for its replacement with environmentally preferable products at the end of its useful life.