

# CLEAN IS CHANGING

Let's build a brighter,  
cleaner future together

## How to Justify New Cleaning Equipment for Your School

A guide to assessing your current level of cleanliness, calculating your total cost of ownership, and identifying the right equipment for your facility





You know the value of cleanliness in schools. In fact, anyone who has spent any time in a classroom can likely attest to the impact of cleanliness on attendance and learning performance. You can all probably rattle off the [statistics](#) as well:

- Almost 22 million school days are lost annually to the common cold.
- 8 million school days are lost annually to the flu.
- Students who are chronically absent are 7.4 times more likely to drop out.
- Teacher absences cost schools more than \$25 billion annually.

But still, every time you suggest new cleaning equipment, you get the same answer: “It’s not in the budget.”

It’s no secret that schools are strapped for cash, and when budgets shrink, it’s tempting to stick with systems that are “good enough” even when we know they aren’t ideal. When it comes to cleaning equipment, part of the reason schools tend to stick with the status quo is that it’s hard

to translate nationwide statistics about absences into direct impacts on your school. Knowing that nearly 60 million school days are lost every year across the country simply isn’t enough to justify a \$10,000 or \$20,000 equipment investment for your facility.

This guide will help you provide that justification so that the next time you suggest new cleaning equipment, you get a different answer. Here’s what you’ll find on the following pages:

- An overview of the APPA levels of cleanliness and a worksheet to assess the cleanliness of your facility
- Tips for calculating the total cost of ownership (TCO) and return on investment (ROI) for new equipment
- Recommendations for features to consider



# “Why do we need this equipment?” Assessing your level of cleanliness

One challenge with talking about cleanliness is that it's difficult to define. That's why APPA — Leadership in Educational Facilities developed a five-level scheme for cleaning standards. The table below defines the five levels of cleanliness. The estimates of cleaning productivity are from the National Center for Education Statistics (NCES) Planning Guide for Maintaining School Facilities, [Chapter 5](#).



APPA Levels of Cleanliness		Level 1 Orderly Spotlessness	Level 2 Ordinary Tidiness	Level 3 Casual Inattention	Level 4 Moderate Dinginess	Level 5 Unkempt Neglect
Area Requirements	Floors	Bright and shiny	Minimal dust	Few stains	Dull, dingy, stained	Dirty, dingy, and scarred
	Surfaces	Freshly cleaned	Clean with a few marks	Obvious dust, dirt, smudges	Conspicuous dirt, dust	Major dirt, dust
	Restrooms	Freshly cleaned	Cleaned with all supplies	Obvious dust, dirt, stains	Conspicuous dirt, stains	Major dirt, mold
	Trash cans	Daily waste only, odor free	Daily waste only, odor free	Daily waste only, odor free	Old waste, malodorous	Overflowing, malodorous
	Light fixtures	Freshly cleaned	Clean	Clean	Dirty	Dirty, flies, dust balls
Cleaning Productivity (area a custodian using standard tools [e.g., vacuum, mop] can clean in an 8-hour period)		10,000 to 11,000 square feet	85,000 to 90,000 square feet			

On the next page, you'll find a worksheet you can print out and use to assess the cleanliness of your facility. Use this worksheet to show your

stakeholders which areas of your facility may be falling below standard, and where new equipment will help you ensure more consistent results. We

recommend you do this self-assessment a couple of times to get the most accurate picture.

# APPA Levels of Cleanliness Self-Assessment

Area	Level	Description	Check if applicable
Floors	1	Floors and baseboard moldings shine and/or are bright and clean. There is no build-up in corners or along walls.	
	2	There are up to two days worth of dust, dirt, stains, or streaks on floors and base molding.	
	3	Floors are swept or vacuumed clean, but upon close observation, there can be stains. A buildup of dirt and/or floor finish in corners and along walls can be seen. There are dull spots and/or matted carpet in walking lanes. There are streaks or splashes on base molding.	
	4	Floors are swept or vacuumed clean, but are dull, dingy, and stained. There is a noticeable buildup of dirt and/or floor finish in corners and along walls. There is a dull path and/or obviously matted carpet in the walking lanes. Base molding is dull and dingy with streaks or splashes.	
	5	Floors and carpets are dull, dirty, scuffed, and/or matted. There is a conspicuous buildup of old dirt and/or floor finish in corners and along walls. Base molding is dirty, stained, and streaked. Gum, stains, dirt, dust balls, and trash are broadcast.	
Surfaces	1	All vertical and horizontal surfaces have a freshly cleaned or polished appearance and have no accumulation of dust, dirt, marks, streaks, smudges, or fingerprints.	
	2	Dust, smudges, and fingerprints are noticeable on vertical and horizontal surfaces	
	3	All vertical and horizontal surfaces have obvious dust, dirt, marks, smudges, and fingerprints.	
	4	All vertical and horizontal surfaces have conspicuous dust, dirt, marks, smudges, and fingerprints.	
	5	All vertical and horizontal surfaces have major accumulations of dust, dirt, smudges, and fingerprints, all of which will be difficult to remove. Lack of attention is obvious.	

Area	Level	Description	Check if applicable
Washrooms	1	Washrooms and tile gleam and are odor free.	
	2	Washrooms and tile gleam and are odor free.	
	3	Washrooms have obvious dirt, dust, and staining.	
	4	Washrooms have conspicuous dirt, dust, and staining.	
	5	Washrooms have major dirt and/or mold.	
Trash cans	1	Trash containers and pencil sharpeners hold only daily waste and are clean and odor free.	
	2	Trash containers and pencil sharpeners hold only daily waste and are clean and odor free.	
	3	Trash containers and pencil sharpeners hold only daily waste and are clean and odor free.	
	4	Trash containers and pencil sharpeners have old trash and shavings. They are stained and marked. Trash containers smell sour.	
	5	Trash containers and pencil sharpeners overflow. They are stained and marked. Trash containers smell sour.	
Light fixtures		All light fixtures are freshly cleaned	
		Lamps all work and fixtures are clean.	
		Lamps all work and fixtures are clean.	
		Lamp fixtures are dirty, and some lamps (up to 5%) are burned out.	
		Light fixtures are dirty with dust balls and flies. Many lamps (more than 5 percent) are burned out.	

# What does it take to achieve APPA Levels 1 and 2?

Level 1 cleanliness isn't typical in schools, except for in areas where the risk of infection is high, like the infirmary, washrooms, and cafeterias. For most other areas, schools often aim to achieve Level 2 on a consistent basis.





The cleaning tasks for your school will depend on your facility, like whether it's a day school or a residential program, if there are showers, and if there are science and computer labs. The following tables provide examples of general cleaning tasks and frequencies required to achieve APPA Levels 1 and 2.

Sample Cleaning Tasks for APPA Level 1		
Room	Cleaning task	Frequency
Washrooms and change rooms	All fixtures (toilets, urinals, sinks, etc.) cleaned	Daily
	Floors vacuumed and washed	Daily
	Walls spot cleaned to a height of 6 feet	Daily
	Walls washed floor to ceiling	Monthly
Cafeteria	Floors swept and washed	Daily
	Walls spot cleaned to a height of 6 feet	Daily
	Horizontal surfaces cleaned	Weekly

Sample Cleaning Tasks for APPA Level 1		
Room	Cleaning task	Frequency
Classrooms	Carpets vacuumed and spot cleaned	Daily
	Hard floors cleaned	Daily
	Ceiling areas and light fixtures dusted	2x / month
Entrances and hallways	Carpets vacuumed and spot cleaned	Daily
	Hard floors mopped	Daily
	Horizontal surfaces dusted	Weekly

Since schools have unique needs, we recommend you create a comprehensive list of cleaning tasks and frequencies required to achieve your desired

level of cleanliness. This list, which could include 100 tasks or more, will help you demonstrate to your administrators the sheer amount of work that

must be done on a regular basis to keep your school in the desired state.w

# “It’s not in the budget”: Defining benefits and calculating TCO and ROI for new cleaning equipment

Giving your custodial staff the right equipment is the best way to guarantee you get the cleaning results you’re looking for. But high-quality cleaning equipment is an investment, and to get buy-in, your stakeholders need to be confident that investment will pay off. This section outlines the benefits of best-in-class cleaning equipment and then provides guidelines for creating financial justification by calculating your total cost of ownership (TCO) and your expected return on investment (ROI).



# Benefits of advanced, high-quality cleaning equipment

Cleaning equipment has come a long way since brooms, mops, and basic vacuum cleaners. Today's top vacuums and scrubbers have technologies that can not only vastly reduce cleaning times and improve cleaning quality, but also reduce chemical usage, boost your sustainability efforts, and, most importantly, cut your cleaning costs.

## **Improve the level of cleanliness you achieve on a regular basis**

When you did the self-assessment, did you find areas that are consistently falling below Level 2, perhaps even to Level 4 or 5? The right equipment will provide better results faster. This means not only that you will hit your key performance metrics more regularly, but you'll also be able to increase the frequency of cleaning in problematic areas.

Your custodian will also have more time to do deeper cleaning projects. For example, Nilfisk's patented LIFT technology for carpet extraction uses a unique indirect spray that allows carpets to dry in less than 30 minutes. This means that areas where carpets can get very dirty, like the front entrance, can be deep cleaned more often. It also reduces the risk of mold.

## **Maintain the desired level of cleanliness even when your custodial team is short-handed**

Employee turnover, vacations, and other absences among the custodial staff can compromise the level of cleanliness you're able to achieve. And, as you know, unfinished cleaning tasks can quickly pile up, which can impact the health and safety of students and staff.

Today's top equipment requires very little training to use, so temporary workers can get up and running immediately, and the machines are so efficient that productivity won't be impacted, even when the team is understaffed.

## **Cut cleaning costs by cutting cleaning time and water/chemical usage**

Labor makes up as much as 90% of cleaning costs. The rest is attributable to supplies and miscellaneous expenses.

High-quality equipment can cut cleaning costs immensely, starting with labor. A single high-productivity vacuum cleaner can do the work of several older ones. And with a floor scrubber, a custodian can make gym or cafeteria floors sparkle



in a fraction of the time as with a broom and mop. While supplies make up a smaller portion of the overall budget, their impact is not negligible. Nilfisk's patented dosage control system can cut water usage by up to 50% and detergent usage by up to 25%. With the EcoFlex system, you can achieve a high level of clean with water only, reducing your detergent use in some areas to 0%.

## **Improve student and staff health and safety**

Obviously, a cleaner environment is a healthier one. Especially during cold and flu season, cleanliness stops infections from spreading.

But high-quality machines improve day-to-day safety as well. For example, automatic floor scrubbers offer one-pass functionality -- cleaning and drying the floors in a single pass. That means fewer wet floors causing slipping hazards.

# Determining your TCO and ROI: Comparing equipment

For the people who hold the purse strings, the upfront price tag of new cleaning equipment is usually the sticking point. But, the upfront cost is not a good indicator of the total cost of ownership (TCO) or return on investment (ROI), especially because cleaning equipment can easily last 5 to 8 years or longer. In fact, while labor consistently makes up as much as 90% of cleaning costs, [major equipment \(i.e., equipment costing over \\$1,000\) accounts for only 3-5%](#) once all of the factors are taken into account.





The specifics of your TCO and ROI depends on your facility's needs, your staff, and your cleaning goals. The following table shows the major costs and savings associated with purchasing new equipment.

Factors to Consider When Calculating Total Cost of Ownership	
Costs	Savings
<ul style="list-style-type: none"> <li>• Initial price tag</li> <li>• Operating costs</li> <li>• Maintenance / replacement parts</li> <li>• Repairs</li> </ul>	<ul style="list-style-type: none"> <li>• Labor / productivity</li> <li>• Lifespan of equipment</li> <li>• Water and detergent usage</li> <li>• Lifespan of carpets / flooring</li> </ul>

Since labor accounts for 90% of cleaning costs, the biggest savings will come from labor savings. The following table shows some guidelines for equipment productivity, which you can use to estimate your labor savings.

	Cleaning method	Square feet per hour (est.)
Hard Floor Equipment Productivity*	Wet mop <ul style="list-style-type: none"> <li>• 16-oz. mop</li> <li>• 24-oz. mop</li> <li>• 32-oz. mop</li> </ul>	<ul style="list-style-type: none"> <li>• 1,724</li> <li>• 2,564</li> <li>• 3,333</li> </ul>
	Automatic scrubber <ul style="list-style-type: none"> <li>• 20" scrubber</li> <li>• 24" scrubber</li> <li>• 28" scrubber</li> </ul>	<ul style="list-style-type: none"> <li>• 9,274</li> <li>• 11,132</li> <li>• 12,990</li> </ul>
Carpet Equipment Productivity*	Vacuum <ul style="list-style-type: none"> <li>• 12" upright vacuum</li> <li>• 14" upright vacuum</li> <li>• 16" upright vacuum</li> </ul>	<ul style="list-style-type: none"> <li>• 2,239</li> <li>• 2,857</li> <li>• 4,225</li> </ul>
	Large-area sweeper <ul style="list-style-type: none"> <li>• 28" sweeper</li> <li>• 32" sweeper</li> <li>• 26" sweeper</li> </ul>	<ul style="list-style-type: none"> <li>• 15,441</li> <li>• 17,647</li> <li>• 39,474</li> </ul>
	Carpet extractor <ul style="list-style-type: none"> <li>• 12" extractor</li> <li>• 14" extractor</li> <li>• 16" extractor</li> </ul>	<ul style="list-style-type: none"> <li>• 1,091</li> <li>• 1,500</li> <li>• 1,714</li> </ul>

\*Note: These are just a few examples of equipment that's frequently used in education facilities. There are many other options available. A Nilfisk cleaning expert can help you calculate your ROI based on your unique needs.

For a very simple calculation, suppose your cafeteria is 10,000 square feet and your labor cost is \$20/hour. With a 24-oz. mop, it would take a single person just over 4 hours to clean the floor. With a 24" scrubber, that same floor can be cleaned in less than 1 hour. That's 3 hours of savings on a task that needs to be done every day.

**3 hours / day \* 180 days in a school year  
= 540 hours saved per year**

**540 hours \* \$20 / hour  
= \$10,800 saved per year on cafeteria cleaning alone**

At that rate, your investment in an automatic floor scrubber will be paid off in less than a year.

The results are impressive, but this calculation is incomplete. You also need to take into account the other items on the list, which can differ greatly between machines. For example, low-cost equipment often has higher operating and maintenance costs and a shorter lifespan, making it more expensive in the long run than equipment with a higher initial price tag. More advanced equipment will also have money-saving features like options to use less detergent. Over the course of several school year, these savings will add up significantly.

The long and short of it is that not all cleaning equipment is created equal. You need to compare the details. The following sections identify the most important details to consider for floor scrubbers, vacuum cleaners, and carpet extractors.



# Scrubbers

REV™ EcoFlex™

A commonly cited statistic is that mops only pick up about 40% of the dirt on the floor — and that's on a good day! Automatic scrubbers clean much faster and more effectively.

## Here are the main features to look for in a scrubber:

- **Equipment that's the right size and configuration.** Scrubbers come in different sizes as well as in walk-behind and ride-on varieties.
- **A scrubbing deck that matches your application.** Disc scrubbers are the least expensive option, but random orbital scrubbers are growing in popularity. This newer technology uses pads instead of discs or brushes. Nilfisk's REV is the industry's first and only scrubbing system that uses distinct orbital and rotational motions for a uniform non-swirled floor surface. In addition to providing efficient daily scrubbing, REV provides single-pass removal of old floor finish to prepare floors for restoration.  
**Single-pass functionality.** A machine that can scrub and dry floors in a single pass boosts productivity and safety.

- **A large tank.** Larger tanks provide higher productivity because you can run the equipment longer before you have to dump and fill.
- **Environmentally friendly cleaning.** Many schools are prioritizing green cleaning to boost sustainability and student health. With Nilfisk's BOOST technology, you can remove floor finish with no chemicals, saving you up to 70% in solution costs and extends your pad life by 40%. EcoFlex allow you to control the amount of detergent you use and even perform chemical-free, water-only cleaning, while SmartFlow reduces the amount of solution being dispensed when the machine slows down around corners and other obstacles.
- **Ease of use.** If equipment is difficult to use, staff won't use it correctly or regularly. Nilfisk's One-Touch Control technology simplifies user operation and minimizes training requirements by putting all cleaning and operational functions at the user's fingertips.
- **User configuration.** Different users may need to use scrubbing equipment for different reasons, like daily cleaning versus deep



- cleaning. Nilfisk's SmartKey provides unique levels of user access to ensure consistent cleaning results and greater operator accountability.
- **Quiet cleaning.** Finally, school cleaning often takes place when people are around, whether that's during the school day, when teachers are preparing their lessons, or when events are happening. Nilfisk's Quiet Mode allows operators to quickly and easily reduce noise levels for daytime cleaning and cleaning in noise-sensitive environments.



# Vacuum Cleaners

A vacuum is the workhorse of the custodial department. To achieve Level 2 cleanliness, classrooms and most other areas must be vacuumed every day.

**Here are the main features to look for in a vacuum:**

- **CRI Seal of Approval.** The Carpet and Rug Institute (CRI) tests vacuum cleaners on various measures of effectiveness. The CRI Seal of Approval guarantees that carpet cleaning equipment performs at the highest standards so you know you're getting the most out of your investment.
- **A true HEPA filter.** A true, or certified, HEPA filter has been individually tested and verified to contain 99.97% of all dust, pollen, bacteria, allergens, and other particles down to and including 0.3 microns. Filters labeled "HEPA-type" or "HEPA-like" have not been tested and may not be able to capture and contain these particles. Learn more about certified HEPA filtration.
- **LEED compliance.** For schools looking to go green, LEED (Leadership in Energy and



Environmental Design) compliance indicates energy efficiency and sustainability. To be LEED-compliant, vacuums must meet or exceed CRI efficiency requirements, have a HEPA filter, and operate at a noise level of under 70 decibels.

- **Automatic self-adjusting height for different floor surfaces.** Not all carpets are the same height, and the differences become greater over time. Automatic height adjustment helps you get consistent results for all carpets.
- **Tight turning radius.** A tight turning radius is essential for cleaning smaller spaces, like closets and parts of classrooms.
- **Ease of use.** Vacuums should be lightweight and easy to use. Features like quick cord clips and detachable power cables facilitate easy operation and maintenance.



## Carpet extractors

Even with daily vacuuming, school carpets can take a beating, especially in parts of the country with a lot of rain and snow. Carpet extractors extend the lifespan of your carpet via restorative deep cleaning, as well as ad hoc spill cleaning.

### Here are the main features to look for in a carpet extractor:

- Multiple cleaning modes. Carpet extractors should be able to operate in multiple modes to meet all of your restorative cleaning needs. Earlier, we mentioned Nilfisk's LIFT technology, which can clean and dry carpets in just 30 minutes. Our carpet extractors also have Deep Clean and Pre-Treat modes for flexible functionality.
- CRI Seal of Approval. See "vacuums" above. Maximum contact with carpet. To clean effectively, carpet extractors need to come into as much contact with the carpet as possible. Nilfisk's machines feature a uniquely designed brush head to maximize carpet contact and produce superior cleaning results.
- Compact design. Small machines are easier to store.
- Ease of use. Features that make carpet extractors easy to use include adjustable handles, integrated hand tools, and a front-mounted drain hose, which simplifies emptying the tank.

# Learn more about the technologies in this section and other innovation at Nilfisk.

We hope this guide has given you some ideas and tools for convincing your decision makers that now's the time to invest in new equipment. If you'd like to learn more, visit our website or contact us at [asknilfisk@nilfisk.com](mailto:asknilfisk@nilfisk.com). Our local dealers and regional managers are available to help you assess your needs, calculate your total cost of ownership and return on investment, and select the best equipment for your facility and your budget.

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