



Cleaning for Health & Efficiency

A REPORT

LEARN MORE ABOUT:
Indoor Air Quality
Productivity
Labor Savings
Ergonomics



The information presented in this report is designed to enable better understanding of the effects of green cleaning and proper vacuuming on your facility.

Partners in Indoor Air Quality



ProTeam has partnered with the American Lung Association in a campaign designed to promote public awareness and education about indoor air quality issues.

This educational partnership recognizes the American Lung Association's mission of preventing lung disease and promoting lung health as well as ProTeam's goal of developing innovative cleaning technologies to address indoor air quality concerns.

The American Lung Association does not endorse products. For more information from the American Lung Association, call 1-800-LUNG-USA, or visit their website at www.lungusa.com

Cleaning or Polluting?

By John Walker President, ManageMen, Inc. Founder, Janitor University

When we established the Janitor University Philosophy of Cleaning, one of the guiding principles was

“Clean for health first, then appearance.”

Of course Cleaning for Health™ requires the proper chemicals, equipment and machines, but more important is the system that is utilized within the cleaning operation. The system, or process, must assure that the facility is properly detail cleaned on a scheduled basis and it must assure that cleaning, rather than polluting, is the result of the cleaning worker activities in the facility.

IMPROVE CLEANING PRACTICES

Poor cleaning procedures, equipment and habits can inhibit the effective cleaning of buildings.

Workers thinking big need to

think small



skin flake magnified

when it comes to health and cleaning.

Cleaning for appearance removes “big” visible soil rather than cleaning for health that removes “small” invisible bacteria, dust and airborne particulates and other micro, bio and chemical contaminants – largely the contributors to unhealthy indoor environments.

ProTeam vacuums capture soil and safely contain harmful particles, as well as prevent them from being reintroduced back into the environment. The improved air quality is the result of ProTeam vacuums’ unique Four-Level Filtration system. This system captures tiny dust mites, bacteria, and other particles – which can cause unhealthy air.

ProTeam® is committed to
CLEANING FOR HEALTH®



Historically, the quality of vacuuming has been evaluated by the appearance of the carpet. However, the statistical data of expert studies in this report will demonstrate the importance of proper vacuuming on issues of indoor air quality, particulate removal and containment, and also presents new concepts on labor efficiencies.

ProTeam is committed to manufacturing superior high-filtration vacuums that exceed the challenges of Cleaning for Health.

FACTS

TO KNOW ABOUT INDOOR AIR QUALITY

CARPETS

Daily vacuuming is more important than interim deep cleaning methods.

Dry soil is abrasive; when ground into your carpet, it cuts into carpet fibers—dulling appearance and reducing the longevity.

- No. 1 Carpets cover 70% of the floors in the United States.
- No. 2 Carpet can hold more than its weight in soil.
- No. 3 70–80% of dust, dirt, and grime is tracked into a building from outside.
- No. 4 30% of dirt is deposited in the first 3 feet, while 90% is tracked off in the first 25 feet.
- No. 5 Carpet soil generally consists of 85–95% dry soil and 5–15% oily soil.
- No. 6 Carpet has a high surface area and is known to act as an organic dust sink containing bio-contaminants and allergens.

HARD FLOORS

When using the correct tools, ProTeam backpack vacuums clean 52% faster than a dust mop in crowded classrooms and congested areas.

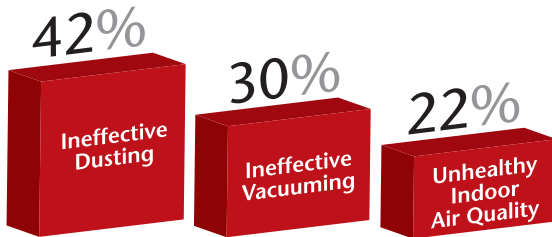
- No. 1 Using traditional dust mopping methods requires extensive time to train employees.
- No. 2 Vacuuming is a faster, healthier, and more efficient way to clean hard floors.
- No. 3 Dust and dirt are immediately contained within the Four Level Filtration in ProTeam vacuums.
- No. 4 Dust mopping continually redistributes dirt and fine particulate on and into the floor, leaving scratches and dulling a high gloss finish.
- No. 5 Dust bunnies reappear in 24 hours when a floor has been dust mopped as compared to 72 hours when cleaned with a ProTeam backpack vacuum.

Sources—

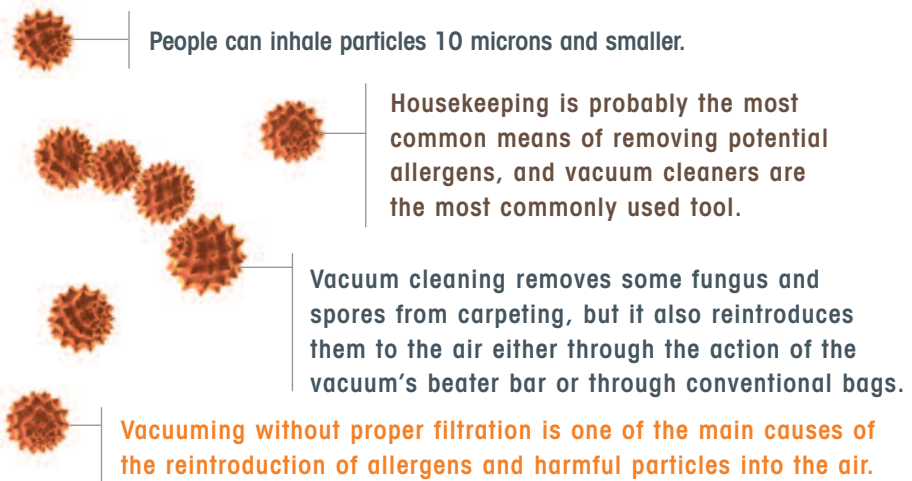
Carpet and Rug Institute, Dalton GA; ISSA: International Sanitary Supply Association; IIREC: Institute of Inspection Cleaning and Restoration; Dust Mopping Floors for Health and Efficiency Test, Colorado State University, 1998; Photo: Courtesy of CRI

Protect the Built Environment

Customer Complaints in Office Environments¹



Above-the-floor dusting represents 42% of customer complaints.



Vacuums with high filtration collection systems retrieve soil and safely contain harmful particles, preventing them from being reintroduced into the built environment.²

Sources—

¹Cleaning and Maintenance Management, 1998;

²"Indoor Allergens: Assessing and Controlling Adverse Health Effects", Educational Committee on the Health Effects of Indoor Allergens. Division of Health Promotion and Disease Prevention. National Academy Press, Washington, D.C. pp 37-39, 86-117, 222-225;

Indoor Allergens & Microorganisms

FACT: Dust contains dirt, textile fibers, pollen, hair flakes, residue from cleaning chemicals and household products, decaying organic matter, dust mites, bacteria, fungi, viruses, and a variety of other contaminants. Source— Science Illustrated

Many viruses use dust particles as rafts to ride the air.



Cleaning is always a critical ingredient in maintaining a healthy building.



When contaminants are removed or minimized through cleaning, human exposures and risks are reduced.

Source— Protecting the Built Environment, Cleaning for Health, Michael A. Berry, Ph.D. Tricomm 21st Press, Chapel Hill, NC. 1993;

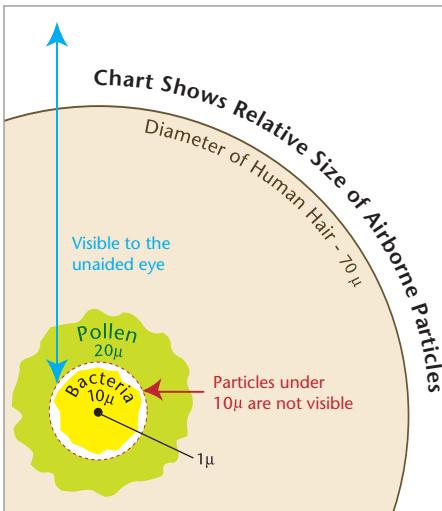
WHAT'S A MICRON?

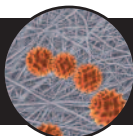


A MICRON (μ) IS A UNIT OF MEASURE, USED BY THE CLEANING INDUSTRY, TO DESCRIBE PARTICLES THAT ARE EXTREMELY SMALL.

One micron = 1/25,000 in.

A human hair averages 70 μ
Bacteria is .4 to 10 μ
Mold is 1.2 to 90 μ





FILTRATION IS

the process of blocking and catching dirt particles with a filter.

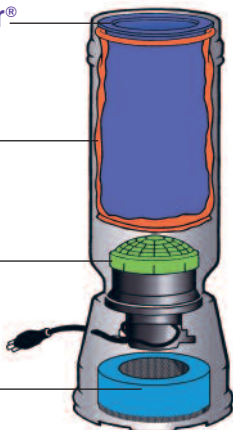
PROTEAM'S FOUR LEVEL® FILTRATION SYSTEM

Intercept Micro Filter®

Micro Cloth Filter

Dome Filter*

Exhaust Filter



*For extra filtration effectiveness, use ProTeam High Filtration Disks within the Dome Filter.

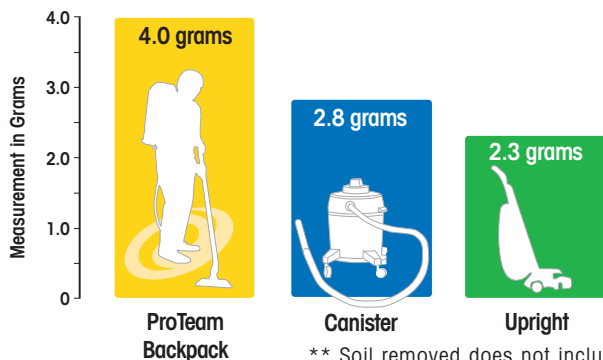
ProTeam's unique suction method of vacuuming cleans carpeting and floors without stirring up dust. The air stays cleaner, furniture collects less dust, and the operator can work without breathing unhealthy air.

VACUUM CLEANER EFFICIENCY

In 5 passes, the ProTeam backpack vacuum is:

43% more efficient than a commercial upright vacuum and

30% more efficient than a canister in removing soil.**



** Soil removed does not include carpet fiber

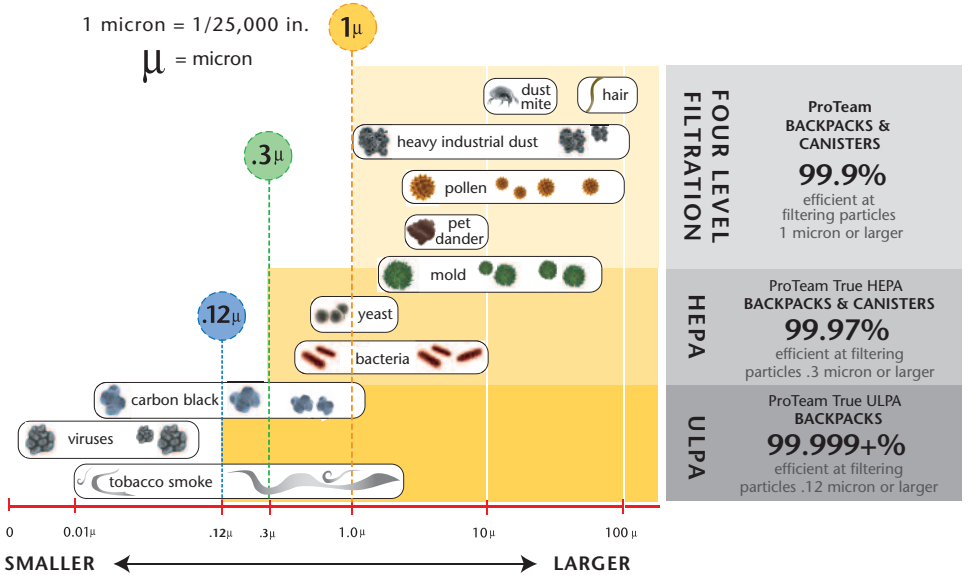
Source—

Quality Environmental Services & Technologies, 1996; APC Filtration, Inc., 1996; *An Evaluation of ProTeam's QuarterVac and CoachVac in a School Environment*, Dr. Eric Brown, Cleaning Research International, UK, 1994

PROTEAM'S

FILTER EFFICIENCY CHART

This chart illustrates how effective ProTeam's different filtration systems are in **capturing and containing** particles of a particular size.



ProTeam backpacks & canisters with Four Level Filtration® are **99.9%** effective at capturing and containing particles measuring **1 μ** or larger.

technical definitions...

HEPA

A HEPA (High Efficient Particulate Air) filter is a throwaway, extended-medium, dry type filter in a rigid frame having a minimum particle collection efficiency of 99.97% (that is, a maximum particle penetration of 0.03%) for 0.3- μ particles.

ULPA

An ULPA (Ultra-Low Penetration Air) filter is a throwaway, extended-medium, dry type filter in a rigid frame, having a minimum particle collection efficiency of 99.999% (that is a maximum particle penetration of 0.001%) for particles in the size range of 0.1 to 0.2 μ . Σ

THE FACTS ABOUT HEPA & ULPA

By **ROBERT WOELLNER** President, Quest, Inc. Greenwood Village, Colorado

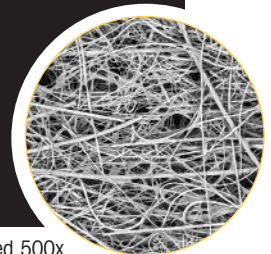
Properly sealed vacuum systems containing certified HEPA Filters utilize advanced filtration technology that meets vacuuming needs in highly specialized cleaning applications.

There are several factors to consider when evaluating HEPA-vacuum specifications and applications:

1. True HEPA/ULPA filters **MUST** be used when an asbestos or lead paint release has occurred and/or where mold spores have contaminated a facility.
2. HEPA filtration is **HIGHLY RECOMMENDED** when the intent is to clean up localized areas of potentially hazardous particles.
3. Truly sealed HEPA and ULPA filtration vacuums **ARE EXTREMELY EFFECTIVE** when used correctly to contain hazardous airborne materials or when conditions exist where particles could be extremely damaging or catastrophic.
4. TRUE HEPA/ULPA filters **SHOULD** be used in a sealed environment where there is sensitive equipment in use.

An **AFFORDABLE AND RECOMMENDED** alternative to HEPA/ULPA vacuums is to select a vacuum with a multi-filter vacuum system utilizing HEPA media.

Vacuums with HEPA media maximize cleaning while furnishing excellent filter performance.



HEPA media magnified 500x

ERGONOMIC DESIGN

FAST AND EASY TO USE



The results of two studies by the Department of Surgery, Division of Orthopedics, at Ohio State University and the Battelle Memorial Institute, determined that ProTeam backpack vacuum cleaner's ease-of-use and ergonomic design allowed workers to vacuum more than twice the area in half the time with less fatigue and body strain (a figure backed by the ISSA official timetables for cleaning).

Requires less than half the energy and effort to clean the same area as it would take with an upright

- Allows more carpet to be cleaned in a shorter amount of time due to the natural walking motion used.
- Avoids repetitive motions.
- Results in less body stress.
- Increases efficiency.
- Minimizes "hunching over" often associated with upright and canister vacuums.

The Team Cleaning Solution

Team Cleaning® is a flexible, efficient and cost-effective cleaning system for custodial operations. Team Cleaning applies the power of systems to reduce costs and maximize productivity.

It offers solutions to the many challenges that managers face—through better deployment of labor, effective cleaning methods, improved appearance levels, and simplified training programs.

TEAM CLEANING TASKS ARE GROUPED INTO 4 DISTINCT FUNCTIONS

ProTeam Education Products and Services
Products and Services offered:



Light-Duty Specialist™

Dusting, emptying trash, spot cleaning, etc.



Vacuum Specialist™

Vacuuming carpets and hard floors



Restroom Specialist™

Cleaning, sanitizing and restocking restrooms



Utility Specialist™

Cleaning lobbies, spot cleaning, glass, mopping and scrubbing floors, etc.

Team Cleaning results in increased productivity, less equipment, clear-cut responsibilities, and easier supervision.

Team Cleaning allows flexibility in staffing levels and in the size and complexity of the facility to which it is applied. The number of workers does not affect the Team Cleaning concept. In smaller buildings a worker may perform two or more specialists' duties.

Team Cleaning - Green Cleaning

by Jim Harris, Sr. President of Concepts IV



"I have spoken to, taught and worked with over 3,200 organizations over the past 13 years about the application of the Team Cleaning™ System into their operation. I, as many others, have come to the conclusion that this is currently the best cleaning system to absorb the most stringent demands for High Performance Cleaning requirements that face our industry today."

"From a 'cleaning science' perspective, the Team Cleaning System operating within a cleaning specification at the "Cleaning for Health™" standard was green before green became popular."

Jim Harris, Sr. President of Concepts IV

ANALYSIS OF LABOR COSTS

What a mere
five minutes
lost each day
 costs in annual
 labor dollars —

Based on 254 working days per year and 20% for overhead cost, including F.I.C.A., Federal and State Unemployment Taxes, and Worker's Compensation Insurance.

Hourly Rate	5 Employees	10 Employees	25 Employees	50 Employees	100 Employees	250 Employees
\$ 6.00	\$ 762	\$ 1,524	\$ 3,810	\$ 7,620	\$15,240	\$38,100
8.00	1,016	2,032	5,080	10,160	20,320	50,800
10.00	1,270	2,540	6,350	12,700	25,400	63,500
12.00	1,524	3,048	7,620	15,240	30,480	76,200
14.00	1,778	3,556	8,890	17,780	35,560	88,900
16.00	2,032	4,064	10,160	20,320	40,640	101,600



“ProTeam backpack vacuum cleaners allow workers to vacuum more than twice the area in half the time.”

Sources—
 International Sanitary Supply Association (ISSA)—Cleaning Times, Labor rates: Industry average

ANALYSIS OF BACKPACK VACUUM SAVINGS



Case Study No. 1

Account: ABC Services
 Labor Rate: \$8.00/hour
 Vacuuming Area: 100,000 sq. ft.
 Annual Work Months: 12
 Monthly Work Days: 22

	Sq. Ft. Per Hour	Daily Cost	Monthly Cost	Annual Cost
14" Upright	2,857	\$280	\$6,160	\$73,920
Pull Behind Canister w/14" Tool	7,059	113	2,493	29,919
ProTeam Backpack w/14" Tool	10,000	80	1,760	21,120

Annual Savings using a
 ProTeam Backpack Vacuum versus
 a Pull Behind Canister w/14" Tool:
\$8,799 or 29%!

Annual Savings using a
 ProTeam Backpack Vacuum
 versus a 14" Upright:
\$52,800 or 71%!

Source—
 International Sanitary Supply Association (ISSA)— 447 *Cleaning Times*, Labor rates: Industry average

Case Study No.2



A large western university
 (24,000 students) realized over
\$376,440
 in **annual labor savings** using
 42 ProTeam backpack vacuums
 in their cleaning operation!

Source— Dust Mopping Floors for Health & Efficiency Test,
 Colorado State University, 1998.

CARPET AND RUG INSTITUTE APPROVED

ProTeam vacuums have been approved by the Carpet and Rug Institute for the Vacuum Cleaner and Indoor Air Quality Testing Program. Exceeding the stringent requirements for soil removal, dust containment, and carpet appearance retention.



PROTEAM IS A MEMBER

ISSA • BSCAI • SWABSCO • WFBSC • ASBO • NRA
NJSSA • NWFA • PABSCO • ARA • NAFEM • APPA
VDTA • CRI • PASBO • CSSA • AACEM

PARTNERSHIPS



ProTeam has partnered with the American Lung Association in a campaign designed to promote public awareness and education about indoor air quality issues. This educational partnership recognizes the American Lung Association's mission of preventing lung disease and promoting lung health. The American Lung Association does not endorse products. For more information call 1-800-LUNG-USA, or visit www.lungusa.com

5118 North Sawyer Avenue
Boise, ID 83714
TEL: 800.541.1456

Mailing Address:
PO Box 7385
Boise, ID 83707

www.pro-team.com