保护环境...

拯救世界!

真空吸尘器
对比
中央吸尘系统

PV Vacuum Engineering Pte Ltd
(A member of Darco Water Technologies Limited)

puzair
A subsidiary of PV Vacuum Engineering Pte Ltd

便携式(家用/工业用)真空吸尘器与中央清洁真空吸尘系统

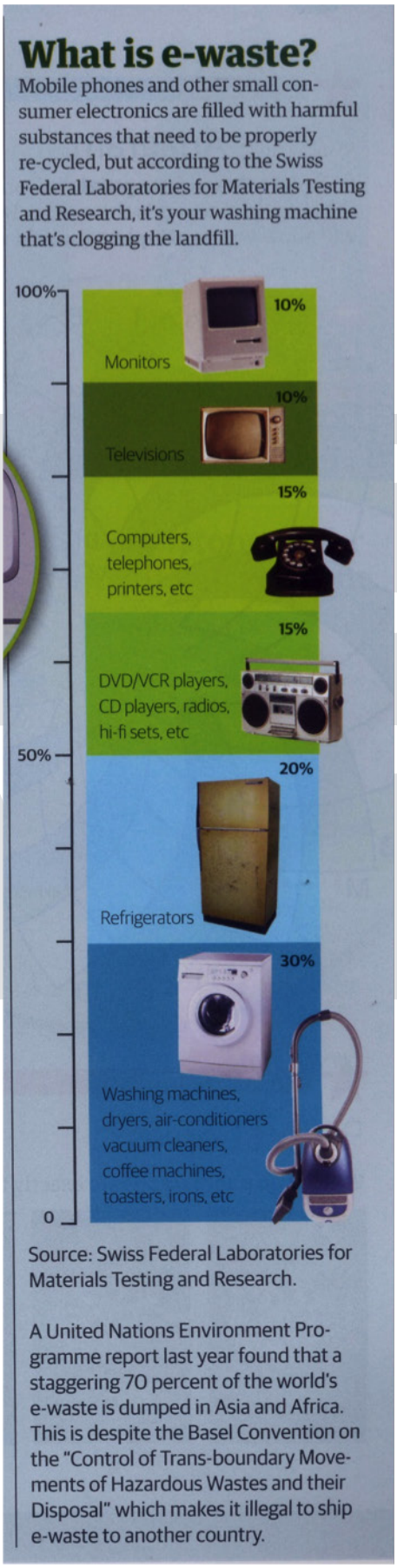
家用或工业用便携式真空吸尘器及其耗材是废气处理工作量不断增加的重要因素之一。 实际上，根据负责材料测试与研究的瑞士联邦实验室的情况，其形成了阻塞垃圾填埋场的30%电子垃圾中的一部分。

使用中央清洁真空吸尘系统将会极大地减小我们日常清洁对环境的负面影响。

如下表格中，我们尝试对原因进行深层次的分析：

序列号	部件	便携式(家用/工业用)	中央清洁真空吸尘系统	备注
1	真空生成器平均寿命	300到600小时.	40000到100000小时 正常情况下	便携式真空吸尘器使用的发动机采用碳刷。 因此，其使用寿命有限。 因此，发动机故障之后更多的处置工作导致产生更多的处置废弃物。
2	废气和粉尘的排放接近用户	限制在0.05mg/m3(EN60-312) (这意味着废气含有40%到60%的细微粉尘)	废气排放到建筑/住宅楼以外	由此而排放出的粉尘加重了空调系统的负担，增加了空气处理装置的压力，从而导致能耗变高，过滤器更换次数增多，频繁的清洁。 过滤器更换次数频繁增加，导致更多过滤器被送至垃圾填埋场。
3	过滤袋更换	每4到6周(平均)	无要求。 中央容器在填满之后须清空	过滤袋处置导致每天送到填埋场的垃圾数量增加。
4	高效空气过滤器更换.	通常是更换过6到12个过滤袋之后或每月6个。	无要求	有时会在便携式真空吸尘器上加装高效空气过滤器以减少废气中的粉尘排放量。 但是，加装这些高效空气过滤器之后，确实意味着垃圾填埋场垃圾处置工作量的增加。
5	清洁效率	根据地板类型和过滤袋状况不同，从40+到97%不等	根据地板类型，平均从98%到100%不等	便携式真空吸尘器无法有效清洁通常需要进行更为深度的清洁。 这样会导致能源需求量增加，耗材更换次数更频繁。

摘自于瑞士联邦实验室对于材料测试和研究



摘自于欧洲生态标签的真空吸尘器 （最终报表-2002）

6 Final criteria proposal

SUMMARY TABLE

CRITERION	SUB-CRITERION	ACCEPTANCE THRESHOLDS or requirement level	METHOD OF PROOF
DURABILITY and REPARABILITY	Durability of motor	≥ 550 hours	test report according to EN 60-312
	Durability of power nozzles	≥ 1000 drum rotations	test report according to EN 60-312
	Durability of hoses	≥ 40 000 oscillations	test report according to EN 60-312
	Reparability	Spare parts availability during 10 years	Declaration on one's honour Checking by auditor
CLEANING EFFICIENCY and ENERGY CONSUMPTION	Dust removal on wilton carpet	on standardised Wilton carpet: k ≥ 67 % after 5 strokes	test report according to EN 60-312
	Dust removal on hard floor	On hard floor : k ≥ 97% after 1 stroke	test report according to EN 60-312
	Suction head motion resistance	R< 30N	test report according to EN 60-312
RECOVERY and PREVENTION OF ECOTOXICOLOGICAL HAZARDS	End of life Recovery	Plastics marking and easy access to electric and electronic parts	Checking by auditor
	Prevention of ecotoxicological hazards	absence of heavy metals in the plastics electrical and electronic components containing heavy metals able to be easily isolated	Checking by auditor
EMISSION OF REJECTED DUST	Emission of rejected dust	quantity < 0,05 mg/m^3 a new criterion will be proposed after the end of CSTB study	test report according to EN 60-312 A new method will be proposed after the end of CSTB study
NOISE	Noise	sound level ≤ 77 dBA	test report according to EN 60 704-2-1 and EN 60 704-3
CONSUMER INFORMATION	Consumers information note	Information Note in packaging	Checking by auditor

摘自于环境保护局（EPA-USA）文章-1994年5月

Indoor Air Quality

those exposed, it is fatal in approximately 10 to 15 percent of cases. Since cooling towers and water distribution systems are implicated as sources of air-borne spread, this places a burden on designers, engineers, and operators. Proper maintenance of cooling towers and other hot water service systems is essential.

Fungi

Some fungi cause infectious diseases, while others cause allergies or irritations. Fungi include diverse organisms. Hyphae, or a mass of hyphae called a mycellium, constitutes the vegetated body of the fungus which carries on the activities that allow growth and reproduction. All fungi spores found indoors are derived from outdoor sources. Humidity is a key factor if allowed to rise indoors, as fungi tend to grow on damp surfaces. Some will grow in standing water, such as a humidifier reservoir or HVAC system drain pans. Fungi can produce VOC (volatile organic compounds) that cause the typical moldy odor—these substances can be irritating to the mucous membranes and may cause headaches.

Biological Contaminants

There is a definite need for accelerating research on the occurrence, health effects, environmental conditions, and control of biological contaminants in our indoor environment. All buildings can potentially cause related illness or reactions from biological contaminants. The Environmental Protection Agency already recognizes over 500 organic compounds adverse to our health that potentially can be found indoors, such as benzene, chloroform, carbon, stryene, PC-4, bacterias, spores, and viruses. The EPA has also concluded that carpeting and fabrics not cleaned and properly maintained have the potential to cause a variety of health problems inside the building environment, while typical vacuuming does not reduce fine particle levels (less than 7 microns) indoors. These particles tend to build-up and have the potential to cause harm to the human lung.

Some of the sources of health issues related to atmospheric dust and unhealthy air consisting of particulate matter, 1 to 10 microns, include: lung damaging dust from combustion by-products or building materials, such as asbestos and fiberglass; fungi plant spores, such as mildew and Legionella; bacteria and related spores; skin flakes (slough), dander and hair follicles; insects and insect feces; and paper shreds.

The Building As Biosphere

A building undergoes constant change as it goes through its life cycle, manifesting microbial contamination in varied but inevitable ways at different stages. The building can be thought of as a biosphere. Within this biosphere the organisms are in constant flux. Nutrient and humidity changes and alteration of life-limiting (toxic) surfaces allow microbes to adjust and often adapt to the ever-changing conditions in their environment.

For example, a freshly painted surface contains a variety of microbial nutrients from the paint. These include the thickeners, surfactants, dispersing agents, coalescing agents, unreacted

Carpet Care: Key To Good Air Quality

By Allen L. South, SCS Associates

The importance of carpet maintenance is just beginning to be recognized as key to good air quality. Cleaning for health isn't for everyone, but for those who expect to be in business in the 21st century—it will be a fundamental upon which you do business.

Carpet acts as a filter to capture and hold airborne particulates—the biggest contributor to poor indoor air quality. The challenge for suppliers and carpet cleaners is how best to empty the carpet of the collected contaminants. Take vacuuming, for example, where filtration systems allow 40 to 60 percent of the fine dust picked up from the carpet to be recirculated back into the air.

Recent tests by several carpet fiber manufacturers show that many of the detergents used in commercial carpet cleaning leave sticky residues. This causes a Catch 22 situation where rapid resoiling leads to more frequent cleaning, adding additional levels of sticky detergent—and shorter and shorter intervals between cleanings. The result is a build up of hard mineral scale and sticky soil—and, more importantly, contaminants which are difficult to remove.

But these problems have led to the development of several new products: non-sticky detergents and a detergent which will remove mineral deposits and strip out detergent residues. Also, specific products and systems have been developed to address the severity of soiling at different levels ranging from regular or moderate to heavy. Commercial carpet protector is also recommended.

In a recent test using these products, a carpet in a very heavy traffic area of a Chicago retail headquarters was being extraction cleaned nightly due to resoiling and general poor appearance—although it was only one year old. Using a three step process to strip out the detergent residue and mineral