

Application of the Uniform Clean Surface Standard (UCSS) to Carpet Cleaning

Cleaning is properly and accurately defined as “the act of removing undesirable foreign substances from a surface”. When clearly identified unwanted substances are no longer present on a surface, that surface is clean, by dictionary definition (free from soil or filth).

The building services industry focuses on surfaces, not air or water, both of which also may be cleaned of what is undesirable. We don't wish to add to their pollution, but removing it from them is not our chief concern. We focus on the removal of specific foreign substances from surfaces, usually in-door. In the case of this discussion, let's examine textile floor coverings.

“Dirt” is too broad and unspecific a term to be used by cleaning professionals. “Soil”, a word also commonly used by carpet cleaners, is vague as well, the dictionary defining it as “the thin layer of earth's surface in which plants grow, ground or earth”, not as “pollutants commonly found in carpet and on other floor coverings”. Perhaps a term such as “carpet soils” should be introduced and defined for the industry.

The undesirable substances commonly found in carpet include unbonded materials such as dust, grit, litter (staples, for example), and wet spills, and bonded matter such as dried streaks and spots, grime, and adhesives such as chewing gum, tar, and tape residue. When present, these function as indicators that cleaning is needed. When absent, the carpet is clean.

The IICRC's S100 “Standard and Reference Guide for Professional Carpet Cleaning” follows good industry cleaning practice and recommends that unbonded substances (the undefined “dry soils”) first be removed by vacuuming. These may make up a substantial portion of the “carpet soils” and, except for staples, can be removed quite readily. They do not require solvent release from the surface (or surfaces, if you wish to consider the individual fibers).

In the next step, the bonded substances are released from their attachment to the fibers' surfaces by use of solvents such as water and detergent solutions. Some agitation is advised to assure that the chemical solution makes contact with the fibers, and dwell time is allowed to assist the process to completion.

We now, however, have two unwanted substances in the carpet. First, we have the now unbonded substances, and second, we have the detergent solutions that were necessary for the release, but are still undesirable as residue of the defloculation process.

The extraction method, now essential if we wish to claim that the carpet is clean, (free from unwanted substances), depends on the release method. A dry powder will be removed after it has done its job, by dry vacuuming, as will an encapsulant. Wet defloculation methods are usually followed by some sort of water rinse to flush released substances and detergents out of the fibers, leaving clean carpet as the result. This involves, of course, wet vacuuming.

There is no need for the outcome of carpet cleaning to be defined differently from the definition used for any other surface we may encounter. The surfaces change, but not the desired outcome of the cleaning attempt.

However, we do have a challenge with carpet in applying the “Universal Clean Surface Criterion”: *“A surface is judged clean if, upon examination soon after the cleaning effort is completed, no removable blemishes (indicators) are apparent.”*

Due to its three dimensional nature, carpet excels at hiding within its depths all manner of grit and fine soils, as well as grime on the fibers. In real life, carpets get cleaned when someone such as a homeowner or a building manager, notices the streaks and spots or a grimy traffic pattern and has the authority to order cleaning. In a home setting, the cleaner does not control when the visible indicators trigger the cleaning effort and probably never will. In an institution with on-site custodial personnel, excessive resoiling can be controlled.

Unfortunately, in both settings, remedial or corrective cleaning is far more common than basic maintenance restoration and it requires more intensive effort.

The end result of the cleaning effort is fully the responsibility the cleaner and the challenge is to determine whether it is simply the absence of visible indicators (immediate or, later after drying) that is sought for as the outcome of the cleaning attempt, or if more is involved.

Just as grit and grime are undesirable as part of a carpet’s makeup, so is water! It is not an integral part of what the mill produced. Its use will not hurt the carpet, but its presence is not desirable once it has done its job. A wet carpet is not, by definition, clean. Hence, drying times should be reduced as much as possible without adversely affecting the necessary rinsing of the fibers.

Here is where a simple, inexpensive on-site test to gauge residues would prove invaluable. We cannot realistically send carpet samples to NASA for testing no matter how wonderful their new technology is.

Installed carpet can never be 100% restored on-site to mill-clean standards, meaning absolutely no foreign materials present as when new. This can be achieved on flat or sealed surfaces, but not on multi-dimensional, open surfaces such as carpet and rugs.

Even so, standards for acceptable substance removal could be set and the cleaning process intensified to reach those goals. We can define “removable indicators” where carpet is concerned. And we can determine what constitutes adequate “examination” when carpeting is the surface involved.

Determining how to do this should be the focus of the carpet cleaning industry and its leaders. Promoting the emergence of the “examination” technology should be a pressing commitment for CIRI, CRI, and the carpet and fiber manufacturers.

I propose that acceptable residue and moisture levels for “clean” carpet be determined, and that test equipment be developed for field use to substantiate the claim that “We followed the Guidelines and the carpet is clean.”

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