



## Some Like It Hot

### Does heat really make a difference when cleaning carpet?

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A gentleman in Chicago had the carpets in his condominium cleaned two — sometimes three — times per year.

This might seem excessive; after all, he lived alone in a one-bedroom unit.

But, he was fussy about the carpets' appearance, and there were two other reasons he had the carpets cleaned so frequently.

First, they were white — not necessarily the best color choice for someone as fastidious as this fellow.

Second, and probably more to the heart of the matter, he had three cats.

Because of fur, occasional accidents and related animal problems, the carpets simply needed to be cleaned often.

The man was also fussy about the carpet cleaners hired to do the work, and he tried several different companies.

Never really satisfied, he looked for an established company and knew to ask if they had been certified by the [Institute of Inspection, Cleaning and Restoration Certification](#) (IICRC) and if they had experience working for owners with white carpets and cats.

Finally, someone suggested he should ask the carpet cleaning technicians whether they use hot water carpet extractors generating temperatures above 200 degrees Fahrenheit.

It had never occurred to him that this could be an issue, and sure enough, most of the companies he had worked with in the past used cold water machines.

Many of these technicians said hot water was not necessary to clean carpets; others disagreed.

The debate over whether or not heat is necessary spreads throughout the carpet cleaning industry.

It's time to find out who is right and put it to rest.

### The Fundamentals

The easiest way to answer this question is to look at the four essentials of soil suspension, also known as the fundamentals of cleaning:

1. Time
2. Agitation
3. Chemical
4. Heat.

Cleaning consultant and industry author Bill Griffin frequently uses the example of washing dishes as a reason for employing a hot water carpet extractor.

He asks, “Would you wash your dishes in cold water?”

Let’s face it: Dirty pots, pans and dishes can quickly become storehouses of bacteria and other contaminants.

Hot water, along with the other fundamentals necessary for cleaning, helps loosen, dissolve and remove soil.

### **How Heat Works**

This may be obvious when it comes to washing dishes, but to understand the value of heat when cleaning carpets, we have to dig deeper.

Heat speeds up the molecular activity of the chemicals used to clean carpets.

In fact, studies going back more than 100 years reveal that the chemical action of cleaning chemicals is increased by a factor of two for every 18 degrees of temperature above 118 degrees Fahrenheit, a phenomenon first identified by Swedish physicist and chemist Svante Arrhenius.

So, heat improves the effectiveness of the cleaning chemicals, but what else is happening?

According to Dr. Michael Berry, author of the book [\*Protecting the Built Environment: Cleaning for Health\*](#), “Heat also improves cleaning’s effectiveness. Even without soap, small amounts of grease will dissolve in water, [but] the amount increases in hot water, sometimes ten-fold.”

Berry goes on to say that, without heat, solubility — the ability of soils to dissolve — can remain in a state of stability.

However, heat essentially melts many of these soils, allowing “the soapy water to penetrate, detach and surround the unwanted matter.”

The cleaning solution suspends the soil, which is then removed by the extractor.

An additional benefit Berry notes is that, because of the improved effectiveness of the cleaning chemicals and heat’s ability to help dissolve soils, less chemical may be required.

This suggests that it can reduce cleaning’s impact on the environment.

But, technicians should take note: When talking about heat and using a portable carpet extractor, the temperature of the solution suggested by the manufacturer may not necessarily be the temperature of the solution when it reaches the carpet.

Variables such as the length of the hose and climate conditions can be factors.

Users should look for extractors that measure the heat at the wand tip, which is where the cleaning action is.

### **Is Heat the Way to Go?**

It appears that heat does improve cleaning, and for most customers, selecting a technician who uses a hot water extractor would prove beneficial.

Unfortunately, the case is not necessarily closed.

Sometimes it is advisable — even necessary — to use cold water to clean a carpet.

For instance, stains such as blood, eggs and gravy should be cleaned with cold water.

The high heat from a hot water extractor can actually “cook” these “protein stains” into the carpet, making them more difficult — if not impossible — to remove.

Similar problems can happen if the carpet is stained with crayons or candle wax, as their colors can spread, causing the stains to worsen.

However, once these stains have been removed, a heat generating extractor can be used.

Additionally, the type of carpet fiber can be a factor.

Although wool carpet is not as common as it once was, excessive heat may damage its appearance, according to some experts — damage that cannot be reversed.

However, “excessive” is the key word here, and many of these cautionary experts suggest that wool can be cleaned with hot water, but at a more moderate temperature — no hotter than 150 degrees Fahrenheit.

### **The Answer Is...**

In most cases, a hot water extractor generating heat more than 200 degrees Fahrenheit will improve the effectiveness of the cleaning chemicals and help suspend or dissolve soils, resulting in better cleaning results and happier customers.

However, technicians should make sure two issues are addressed before going forward:

- **Properly identify the type of carpeting installed.**

Most residential carpets today are made of nylon or other manmade materials, which can be cleaned with a hot water extractor.

However, and as referenced earlier, although wool is less popular today, it was the carpet of choice several years ago.

Because of this, technicians should watch for wool carpets, which they are more likely to encounter in older homes.

This is less of an issue in commercial facilities.

- **Properly identify stains.**

If the type of stain is not apparent by visual inspection, the easiest way to identify it is to simply ask the customer.

In most cases, the customer will know the source of the stain.

If this does not work, the IICRC teaches technicians several ways to identify carpet stains.

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