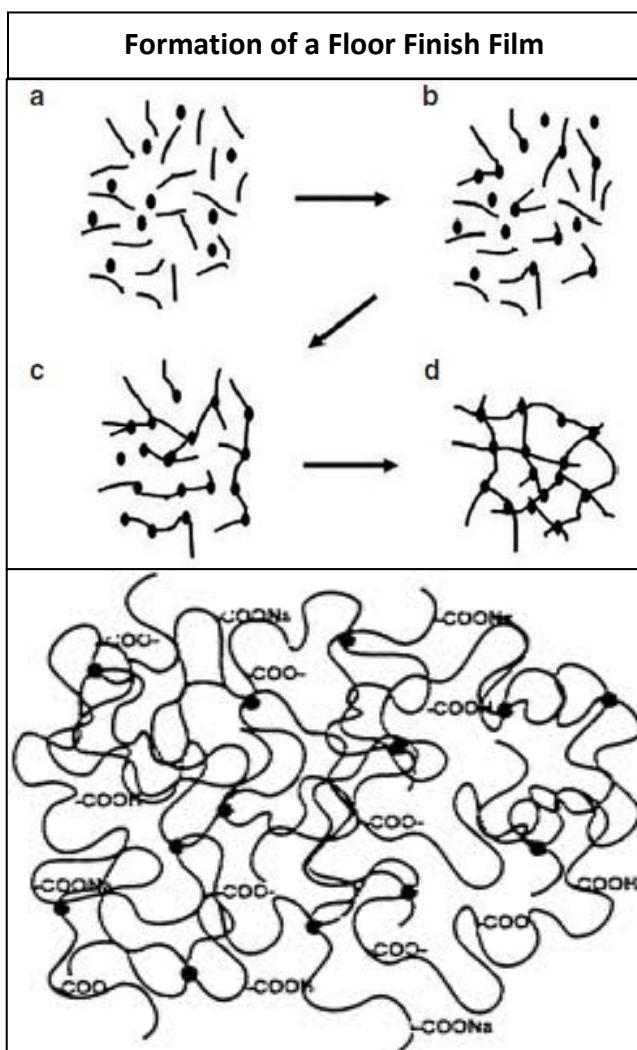




GREEN FLOOR STRIPPERS: DO THEY REALLY WORK?

Floor strippers have historically been some of the most dangerous cleaning chemicals to work with. They can cause skin, eye, and respiratory irritation, and they can emit hazardous and irritating fumes. End users have begun to push for safer and more environmentally friendly strippers in order to create a healthier work environment. New technology has introduced strippers that are more environmentally friendly and even green-certified. The question is: do these green strippers work as well as their hazardous counterparts?

Before we can examine how conventional and green strippers work and compare to one another, we need to understand how floor finishes themselves work. A floor finish is essentially made up of polymers, long chains of molecules that coat the floor and provide protection and durability. As the floor finish is applied and dries, the polymers become intertwined with one another by “cross-linking.” This means that multiple polymer molecules attach to one another through metal zinc molecules. Cross-linking dramatically increases the durability of the polymer and is the reason floor finishes function as we want them to. In order to remove the floor finish, we need to perform this process in reverse. This is where floor strippers come in.





Conventional Strippers

Conventional floor strippers work by a combination of three factors: solvents, to coalesce or liquefy the polymers; amines, to break the zinc cross-links between the polymers; and high caustic, to break up the polymers and make them more easily removable. While this system is highly effective at removing large buildups of floor finish, there are various problems when it comes to safety and environmental concerns.

The solvents used in conventional strippers are often considered harmful to human health, as many are considered to be reproductive toxicants or have target organ effects. They also contribute to the pungent odor of floor strippers.

Traditionally, floor strippers would always use ammonia to break the zinc floor finish cross-links. The large amount of ammonia used would make the odor of the product almost unbearable, not to mention harmful to inhale in any amount, as well as being corrosive to skin and eyes. As stripper technology progressed, the ammonia was replaced with amines in many conventional strippers, which are low-odor and work just as effectively.



The concerns of using high caustic materials are well known, as they can cause damage to skin and eyes, and also to metals and textiles. High caustic materials also need to be monitored before being sewered, so as not to damage aquatic environments.

With all of the health and environmental concerns revolving around the use of conventional strippers, it is clear that a green approach to floor stripping is welcome in the industry. The only concern with this is the sacrifice of performance.



Green Strippers

Green floor strippers are formulated to deal with the health and environmental concerns involving conventional strippers. Green strippers do not contain any ammonia. They can still contain amines to break the zinc cross-links in floor finishes, but they often contain other chemicals that are designed to break calcium cross-links that are present in many green floor finishes.



As opposed to the sometimes dangerous solvents used in conventional strippers that can cause health issues, green strippers use safer solvents, such as benzyl alcohol. Benzyl alcohol is produced naturally, is not toxic, and is not flammable. It also has low volatility, which means there are fewer concerns about inhalation and it is much lower odor.

Green strippers are also non-corrosive, and do not contain high caustic materials. They have a pH higher than neutral, but not high enough to be considered corrosive to skin, eyes, or metals. This eliminates many of the health and environmental concerns about coming in contact with the stripper and disposing of the used product.

Certified Green

Floor strippers can even be certified and proven green by outside organizations such as Green Seal® or Ecologo®. There are various requirements for a stripper to meet green standards and become certified. Here are some of the requirements for Green Seal® certification of a floor stripper:

1. The stripper must achieve a removal ease rating of “good” when paired with a green floor finish.
2. The stripper must be non-toxic to humans.
3. The stripper cannot contain any carcinogens, mutagens, or reproductive toxicants.
4. The stripper must not be corrosive to skin or eyes.



5. The stripper must not be a skin sensitizer.
6. The stripper must not be flammable.
7. The volatile organic compound (VOC) content must be below 3% for light stripping dilution, and below 7% for heavy stripping dilution.
8. The stripper must not be toxic to aquatic life.
9. The stripper must be readily biodegradable.

Green Performance Concerns

Although green strippers are proven to be safer for human and environmental health, many users have concerns about their performance compared to conventional strippers. The most common complaints are that green strippers are not effective against traditional (non-green) floor finishes, and that they are not useful in removing multiple layers of finish.

The truthfulness of these issues depends upon the chemistry of the green stripper being used. Some green strippers are made to work in a green maintenance program with a green floor finish. These strippers contain chemistry to break the calcium cross-links of green floor finishes, not the zinc cross-links of traditional floor finishes. In this case, green strippers may not work as effectively as conventional strippers at removing multiple layers of traditional finishes.

However, green stripper technology is changing and improving in such a way that green strippers can be even more effective than conventional strippers at removing any finish. These strippers can be used in regular maintenance programs as well as green programs. Many green strippers contain the amine-based ammonia replacement, meaning they can effectively break the zinc cross-links of traditional floor finishes. Effective green strippers contain larger amounts of safe solvents rather than large amounts of high caustic materials. The increased solvent content allows the stripper to effectively penetrate and loosen multiple layers of finish. Green strippers are improving their technology to use safer solvents and chemicals to work more effectively specifically against floor finishes, rather than using a large amount of caustic and hazardous materials to “bombard” the floor and break down the finish.

While some green stripper technology is made specifically for green floor finish technology and does not work as effectively against traditional finishes and heavy build-up, many new green



strippers have much improved technology that will work as effectively as or better than conventional strippers. As with many other products, a green stripper does not necessarily mean a less effective stripper. New technology has allowed users to find safer, environmentally friendly products without sacrificing performance.

Multi-Clean offers a complete line of strippers, including low-odor, high productivity conventional strippers and a Green Seal® certified stripper, [Ultra Stripper](#), in addition to a full line of floor finishes, restorers and floor care products. For more information, visit [Multi-Clean's floor care product page](#) or see our [Certified Floor Care Program](#).

