CFFA CHEMICAL FABRICS & FILM ASSOCIATION, INC.
VINYL POOL LINERS

Tips on Avoiding Vinyl Liner Bleaching by Chlorine

Every vinyl pool liner is manufactured to withstand the extremes of the outdoors and typical fluctuations in water chemistry. Vinyl manufacturers make careful choice of colourants and materials that go into the liner to ensure a long lifetime, and eye-catching appearance. Vinyl liners are also specially coated with a colourless, transparent topcoat to protect their colour and print. However, this appearance can be compromised if the correct maintenance procedures are not followed.

The most common cause of liner fading is chemical attack from excessive levels of chlorine added to the water. Manufacturers and maintenance people recommend a chlorine concentration between 1.0 and 3.0 parts per million (ppm). This range is high enough to kill microorganisms, but low enough that it won't lead to rapid fading of a liner. 'All-over' fading may be observed if chlorine levels above this recommended range are maintained for a long period of time. This type of fading may be less recognizable than a second case, where localized fading occurs as a result of improper shocking of the pool. For example, if powdered pool shock is added directly to a pool that is not well-circulated - for example, just before closing for the season – it may accumulate on the liner in one area of the pool and cause localized fading.

In addition to concerns of liner longevity, chlorine concentrations higher than 10 ppm will irritate bathers' skin. For this reason, it's common practice to avoid swimming in one's pool after super chlorinating/shocking the due to the discomfort felt on the eyes and skin caused by the higher chlorine levels. It is tempting to think "there is no way that my chlorine levels are that high, I would feel it and I couldn't swim in my pool." However, there are levels of chlorine damaging to the liner that may not be easily felt by bathers. The only true way to know the level of chlorine is to check regularly. It is recommended that chlorine levels are checked at least once per week.

Tip: Make sure to measure and properly maintain chlorine levels

Tip: But the truth is, most fading is not homogeneous, but actually a spot fading.

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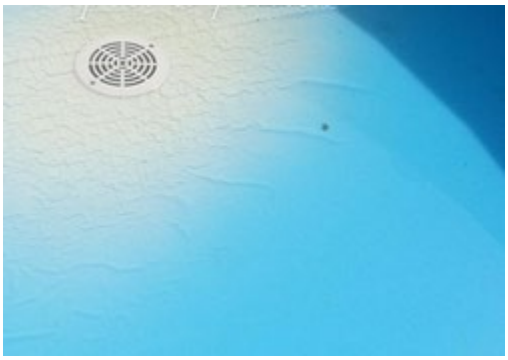
There are a handful of different chlorine sources used in residential pools. One of the most common is trichlorisocyanurate. Also called “Tri-Chlor”, it is known for its very high available chlorine content of approximately 90%. Despite its wide-spread use, tri-chlor can pose a risk to the appearance of vinyl pool liners if used improperly. Tri-chlor is highly acidic and slow to dissolve, and if it sits directly on a pool liner, it may cause spot bleaching in as few as 6 hours. Direct contact with the liner is particularly relevant to Tri-Chlor because it is typically used in puck form, can settle down to the bottom of the pool.

Other sanitizers – such as dichlor, sodium hypochlorite, or muriatic acid – pose a threat to liner appearance, as well. Undissolved quantities can “settle” in the pool, and if remaining there for an extended period, will bleach the liner. Whichever sanitization system is chosen, the pool owner must take care to avoid local accumulation of sanitizers in direct contact with the liner. The accumulations can create much higher chlorine levels than what exists in the rest of the pool. Typical affected areas are the floor, at the deep ends or corners of the pool.



Some possible causes for localized accumulation can be:

- Insufficient water circulation/dead spots
- Pump has been turned off for too long
- Chemical dispensing floaters containing sanitizer agents resting in one area
- Shock product hasn’t been pre dissolved prior to introduction to the pool
- Insufficient brushing after shock treatment, opening or closing the pool

This paper is intended to inform pool owners of common causes of liner stains. Experts working in the pool industry are a good resource for learning not only how to identify and treat liner stains, but in giving guidance toward preventing stains before they occur – saving you time and keeping your pool in top condition.

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