PROWASH

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Modern Carwash Chemistry

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Advancements in modern chemistry have led to improved wash performances in our carwashes. Early day carwashing applied the theory of ‘a little bit of soap and a large amount of friction’ which served as the most common approach for decades. Today, greater consideration is taken into account for the interaction between chemicals, equipment and vehicle surfaces as carwash chemistry continues to evolve. This caters for improved performance, with minimal use of chemicals and reduced need for friction. This has proven to be integral in the popular and highly advanced wash tunnels and bays around the globe.

At Prowash, and as fellow carwash owners, we have worked hard to educate ourselves and learn the intricacies of updated carwash chemistry. We want to provide our customers with the best knowledge and chemicals available. Carwashes that overlook the importance of modern chemistry and fine-tuned application can expect diminished results along with increased customer dissatisfaction. Prowash aims to be a reliable customer resource to assist operators with the most up-to-date technical information on carwash chemicals and equipment.

Getting the chemistry right

Showcasing advances in modern chemistry, concentrates and building agents have become popular allowing for more bang for your buck. To ensure peak chemical performance, the most important step is making sure wash chemistry is balanced. Essentially more product doesn't necessarily equal better cleaning. Manufacturers design and label products for optimum results in the wash, and chemical overuse may cause numerous problems. Thus, being balanced means that the proper cleaning and finishing products are utilized in their respective steps of the wash process and follow the manufacturers recommended usage.

Another area of chemical importance is water usage. Often, we observe that simple adjustments to the water flow, not the chemical, can significantly enhance performance and chemical usage. Most operators keep a close eye on the dosing and usage of their carwashing chemicals, but sometimes they pay little attention to their water. Proper chemical dosing depends upon water quality, pressure and flow.

When considering water dosing with respect to pressure and flow, there are a few water factors owners should consider.

- First, as nozzles wear from use, water flow will increase and chemical concentration will fall below recommended levels.

- If a water softener is present but not producing water with zero grain hardness, foam levels may fall and cleaning will suffer.
- Finally, if high pressure spray nozzles are worn, pressure drops may result in reduced cleaning.

To affirm that the injection equipment is functioning as designed, operators should also establish weekly checks of all chemical usage. We suggest even a simple procedure such as marking container levels on a weekly basis. This will allow the operator to easily recognize unexpected changes in dosing and allow them to resolve any chemistry problems swiftly.

There are also several other factors that can mess with your chemistry, but one of the biggest ones is Hard water (water that has a high mineral content). This hard water will impact the function of your chemistry and your chosen chemical products will not work as intended. Much of your water quality can also be impacted by the area of the country you're in (i.e. some locations have inherently hard water). If you aren't sure whether or not you have hard water, perform a water analysis. Water quality, along with titrations and various other factors, will affect the number of cars you can wash with a standard 6-gallon drum of chemical along with the end result of a clean and shiny vehicle.

Also keep in mind the type of dirt and grime you encounter at your site. There are two types of soils that you are trying to clean, the first is water loving soils (pollens, dust, salts) and the second is oily soils (tree sap, tar, road oil). To clean these two types of soils there are three types of cleaning agents. The first is reactive type cleaners (acids and alkaline) the second is bonders (phosphates) and the third is associators (surfactants and solvents). The reactive cleaners are the low and high pH products that most touchless washes use to hit the widest range of soils. Low and high pH reactive cleaners clean by exerting their energy on the soils, causing the soil to leave the surface of the vehicle and the energy for removal always increases with the addition of heat. Bonders or phosphates work by changing the positive charged soil to a negative charge and pulling it off the surface with help from the flow of water. And the third type, associators (surfactants, solvents, terpenes) are best at cleaning heavy oily soils by convincing the oil that it would rather leave the surface on its own accord (the energy comes from within the soil).

Another example of chemistry balance includes the order in which the chemicals are used. The wash menu board is arranged in order for a particular reason. Educating owner/operators and your customers on the correct order to wash their vehicles in the self serve bay or the correct application in automatics helps get the best results and finish. Thus, providing owners with return customers as a shiny car equals happy customers.

To avoid the problem of having to alternate between high and low pH chemicals, Prowash recommends a two-step clean in a Touchless automatic. This style of cleaning refers to the use of two pH extremes in presoak application, typically, an acid presoak followed by the application

of an alkaline presoak over two passes. The most common way to apply a low pH presoak is to apply it first. The reason behind this is that the cost and strength of an acid presoak dictates that you must put it on first. It is cheaper to have the alkaline presoak cover over the acid and move the pH all the way from low to high. There are many car washes operating today who have inadequate levels of these opposite chemistries, and their cleaning performance is paying the price. The operator is also paying the price as they may be spending their monies simply neutralizing the first presoak without ever entering the alkaline stage of cleaning. Be sure you are dealing with an expert who understands and is measuring the relative strengths of both followed by comparing to some manufacturer recommended setting. A small difference in the case of two step cleaning can make a huge difference.

Common overuse issues examples

Excessive foaming detergent may look great to the customer, but it may ultimately prove difficult to rinse away. This situation can leave white streaks or spots on vehicles and reduce the ability of the drying agent to shed water. Another overuse example is excessive dosing of a drying agent which can slow drying rather than improving it. If vehicles are exiting a tunnel and they are not bone-dry, many operators tend to increase the dose of the drying agent. This change may have the opposite effect desired and may produce wetter vehicle output. Often streaks, spots and run-out trails will be visible if too much chemistry is applied. Overuse results in poor rinsing that leaves detergent residue and foam on vehicle surfaces.

Evolving chemistry

One area that showcases chemistry advances in today's carwash tunnels is surface protection. The most effective vehicle protectants in the current marketplace offer customized product program lines for enhanced efficiency and results. These new combinations of chemistry significantly improve vehicle appearance, surface protection and treatment via full lines of polishes, protectants and waxes.

Chemicals are also becoming more environmentally friendly. These products have enabled manufacturers to produce chemistry that foams better and cleans deeper than the previous generation's offerings while being kinder to the environment. Most of these new chemical components break down rapidly in water treatment and septic systems and allow carwash facilities to meet tough new waste water regulations as well.

Most popular protectants

Protectants come in a range of products including clearcoats and waxes. Not only do they provide a great show in the carwash experience but they also offer valuable protection to vehicle surfaces that can last up to several weeks. The basis of the active chemical ingredients in protectants bond to the surface and provide a hard, resistant finish. This finish provides a sacrificial surface that

prevents environmental contaminants from reaching the vehicle's external paint coat and degrading it. Applied regularly, the effectiveness of the chemistry will actually increase.

The important aspect of these protectants and/or waxes are new chemistry blends which produce appealing visual foam but still break very quickly. These chemistries actually facilitate the beading and drying process of the vehicle. Most common protectant treatments include: triple foam polish, triple foam conditioners, total body protectants/sealants, deep shine carnauba waxes and drying agents that contain polymer, silicone and/or carnauba. Keep in mind if your site uses reclaim water to rinse and apply the wax immediately after, without a further freshwater rinse, it can have an adverse effect on the waxing. Prowash thus recommends to make a conscious effort to include an additional freshwater rinse where reclaim water is being used.

Our recommendation

Prowash's most popular protectant range from Blendco Systems Inc. is Splatter Wax. Splatter Wax is a high foaming polish with Carnauba wax that give vehicles a hand waxed softness and shine. You can actually “feel” the difference!! Splatter Wax with Carnauba offers a protective layer to the vehicle’s surface while providing a softness and shine like nothing else. Splatter Wax provides exceptional foam and show and not only that, it smells great too!!

Splatter Wax is made from Carnauba wax, a product crafted straight from Brazilian palm trees. The most highly regarded vehicle waxes are crafted with some level of Carnauba in the formula. Carnauba wax is also the choice material among professionals and enthusiasts alike in automatic and self serve car washes. Carnauba wax produces an unmistakable shine with incredible depth that synthetic waxes just can't match. In general, natural waxes provide the deepest, most desirable shine enthusiasts crave. So, don’t go for any secondary waxes, true Splatter Wax with Carnauba leaves a soft and shiny vehicle that customers will keep coming back for.

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