

TECHNICAL BULLETIN

Pan Coating Care & Cleaning for Bakeries Using Protein Washes

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The trend toward brioche-style buns and bread products has grown rapidly—with no signs of slowing down. Global QSR restaurants are quickly moving toward using brioche-style buns for many of their products. These new buns require a shiny appearance on the top of the bun. This appearance comes from a protein wash, sometimes referred to as an egg wash, applied to the buns before they are baked.

This new protein spray application presents a significant challenge to pan cleaning and care.

KEY TAKEAWAYS

- Prevent protein wash residue build-up to reduce production problems.
- Release agents should be avoided with protein-washed products.
- An effective thorough cleaning system is key.



The Protein Wash Challenge

Protein sprays build up quickly on baking pans because most bakeries do not have the proper systems in place to clean pans appropriately after a protein wash is applied. After several bakes, spray residue will build up on the top panel, rim, and bottom of the pan. This residue will then get baked into the coating surface and begin to degrade the coating.

When the surface of the pan begins to become covered with the protein after several cycles, bakeries will notice the following issues:

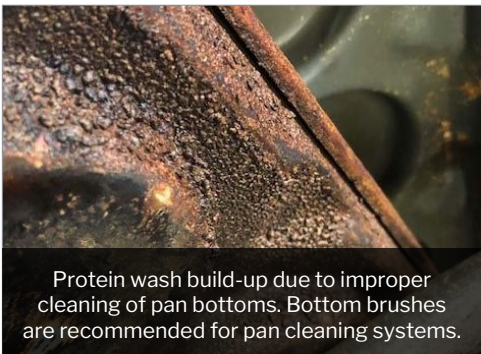
- Other residues such as seeds and flour will begin to attach to the baked-on residue.
- The residue will penetrate the mould areas and cause bun sticking issues.
- Residue can cause product contamination issues as it begins to build up and flakes off.

Preventing protein wash residue build-up is the most effective way to reduce production problems. An effective cleaning system is essential to maintain proper release and product integrity.

Baking Pan Cleaning & Care Recommendations

Combating protein wash build-up is a unique challenge. Your bakery will need to factor in your pan coating and available cleaning equipment and services when determining the proper cleaning system.

Let's look at cleaning recommendations based on the type of coating on your American Pan baking pans. Then we will look at each of the recommendations in more detail.



AMERICOAT® GLAZE In-Line Pan Cleaning	DURASHIELD® PAN COATING In-Line or Off-Line Pan Washing
The most effective way to combat protein wash build-up while maintaining glaze integrity is using an in-line pan cleaning system. The most effective system will use a combination of brushes, air knives, and vacuums. Pans should be cleaned after each use. Work closely with your Pan Glo representative to clean and reglaze at the right time. If too much protein wash build-up occurs, bakeries may be required to scrape pans prior to Pan Glo cleaning and reglazing.	The most effective method for cleaning DuraShield coated pans is in-line or off-line pan washing. Hot water, steam, and low-pH cleaning compounds will not harm DuraShield coated pans. If a pan washing system is not available, an in-line pan cleaning system consisting of brushes, air knives, and vacuums will be an acceptable substitute. Please contact American Pan in advance to get approval for the washing process and/or detergent.

What Not to Do

Release Agents Are Not Recommended for Protein-Washed Products

While a release agent may help in the immediate term, it will only exacerbate the problem. In combination with the protein wash, release agents only increase the build-up on pans, which can require pans to be cleaned and recoated to provide maximum life and release quality.

In-Line Pan Cleaning

Baking pans coated with AMERICOAT Glaze are not suitable for regular washing, therefore, an in-line pan cleaning system will need to be used. Due to the properties of protein washes, the most effective cleaning system involves a combination of brush cleaning, air blowing, and a vacuum system to collect debris. Bakeries without a pan washing system can also clean DuraShield pans using these methods.

Brush Cleaning	Air Blowing	Vacuum System
Both stationary and rotary in-line brushing systems are acceptable. Soft brushes are required to avoid scratching the coating. We recommend approximately half of an inch of contact with the pan surface. Brushes may need to be cleaned more frequently.	The safest cleaning method is “air blowing” using air knives. Make sure the air pressure is low and controlled so that it cleans the pan but does not blast seeds, crumbs, cornmeal, or other particles into the pan surface.	Both brushing and air blowing can result in loose debris. This debris should be captured using a dust collection or vacuum system to minimize debris spread and contamination.

We know that not every bakery will be able to immediately accommodate all three of these processes. Contact your Pan Glo representative if you have questions about implementing an effective cleaning system within your bakery.

In-Line or Off-Line Pan Washing

DuraShield® pan coating can withstand exposure to hot water, steam, and low-pH cleaning compounds. Coated pans should not be allowed to sit wet or be exposed to high-temperature water or steam for a prolonged length of time, so following proper washing protocols is essential.

Water Pressure	Steam Cleaning	Detergents	Drying
Water pressure must be below 20 psi.	Pans should not be washed with high-pressure steam and/or high pH chemical solutions when cleaning unless previously approved.	It is possible to use detergents in low concentrations if they do not contain aggressive substances. If detergents are used, the pans must be rinsed thoroughly with clean water after washing and dried completely by running through an empty oven for 10 minutes at 150° C/300° F.	Dry well or wash in such a way that liquids do not collect in seams and bar band area. An aluminum or stainless steel bar band prevents band corrosion.

Remember: Thorough Cleaning Is Key

Incomplete cleaning allows ingredients and products to gather on the coated surface and will cause a degradation of the non-stick properties. When it comes to addressing protein wash build-up, there is no one-size-fits-all solution. We're happy to work with you to determine the best approach for your bakery. Please contact your Bundy representative to discuss your unique circumstances.