# Understanding the Bare Metal Standard for Fire-Safe Commercial Kitchens

Early one morning, I stood next to a line cook as he scraped carbonized grease off a hood canopy. He said, "We clean this every month, but the fire marshal still flags us." That moment taught me something that many restaurant operators learn the hard way: a visible clean is not the same as a compliant clean. The difference comes down to what the industry calls the bare metal standard.

The concept is simple. After a professional hood cleaning, every interior surface of the commercial kitchen exhaust system should be brought down to bare metal. No residue. No baked-on film. No slick of grease hiding in a corner. The National Fire Protection Association codifies this in NFPA 96, the standard for fire safety in commercial cooking operations. When a certified technician finishes a job, the ductwork, exhaust fan housing, and hood canopy must look like new metal. That is the benchmark. That is the bare metal standard.

## Why Bare Metal Matters More Than You Think

Grease buildup is the primary fuel for kitchen fires. A layer of grease just a few millimeters thick can sustain a flame long enough to ignite adjacent surfaces. In a busy restaurant, the exhaust system runs for ten, twelve, sometimes sixteen hours a day. Cooking vapors rise, cool, and condense inside the hood canopy and ductwork. Over weeks, that condensation turns into a sticky, flammable coating. If a grease fire starts on the cook line, the flames can pull fresh oxygen from the exhaust fan and travel up the ductwork, feeding on the accumulated grease. A fire that begins on the stove can become a structure fire in seconds.

The bare metal standard directly addresses this risk. By requiring that every interior surface be stripped to base metal, NFPA 96 eliminates the fuel source. No grease means no sustained flame inside the duct. It is a straightforward engineering principle, but applying it in the field takes skill and judgment.

## What Compliance Looks Like Under the Hood

A proper cleaning under NFPA 96 involves far more than wiping the visible surfaces. The hood canopy must be opened and scrubbed inside and out. The grease filters come out and go through a hot wash. The ductwork, often running several stories through the building, needs mechanical scraping and pressure washing. The exhaust fan blades must be cleaned to bare metal on both sides. The plenum, the space between the filters and the duct connection, also must be spotless.



Many operators assume that a monthly wipe-down meets the kitchen fire code. It does not. The fire marshal looks for evidence that the entire system has been cleaned to bare metal. They check the fan housing. They run a hand along the inside of the duct. They shine a light up the hood canopy. If they find any residue, the restaurant faces a citation, a fine, or even a shutdown order.

That is why professional hood cleaning companies exist. They have the tools: hot water units, specialized scrapers, degreasers rated for food environments, and the experience to reach every inch of the system. They also know the local amendments to NFPA 96, because some jurisdictions add their own requirements. A good technician does not just clean; they document the work with before and after photos to prove compliance.

## The Role of the Hood Suppression System

Cleaning to bare metal works hand in hand with the hood suppression system. Most commercial kitchens use a system that meets UL 300, a standard for wet chemical fire extinguishing. When a fire starts on the cooking surface, the suppression system discharges a chemical agent that smothers the flames. But the system only protects the cook line. If grease inside the duct ignites before the system activates, or if the fire travels beyond the hood canopy, the suppression system cannot stop it. That is where the cleaning matters.

A clean duct gives the suppression system a fair chance. It also ensures that the system's detection components, such as fusible links, are free from grease buildup. A link coated in

grease may not respond quickly enough to a temperature spike. Regular ventilation cleaning keeps those components functional.

## Frequency: How Often Is Enough?

NFPA 96 does not prescribe a one-size-fits-all exhaust cleaning schedule. Instead, it bases the frequency on the volume and type of cooking. A fast-food restaurant that fries chicken all day will need cleaning more often than a bakery that bakes bread. Typical intervals range from monthly for high-volume fryers to quarterly for moderate use and yearly for low-volume operations like church kitchens.

But the standard itself does not change. No matter how often you clean, the result must be the same: bare metal. A technician cannot leave a thin layer of grease and call it good. If the cleaning company leaves any residue, the restaurant is still noncompliant. I have seen kitchens cleaned every two weeks that still failed inspection because the crew missed the exhaust fan housing. I have also seen kitchens cleaned quarterly that passed easily because the technician took the time to do it right.



## Common Pitfalls in Kitchen Exhaust Cleaning

Even experienced cleaning crews sometimes cut corners. Here are a few areas where the bare metal standard often gets missed:

- The top of the hood canopy. Grease accumulates on the top exterior surface where it meets the duct. Many crews wash the bottom but skip the top.
- The interior of the exhaust fan. The fan blades and housing must be cleaned on both sides. A fan with grease on the back side can still ignite.
- The ductwork at every joint. Grease seeps into gaps and builds up in hard-to-reach corners. A full ductwork inspection after cleaning is essential.
- The grease filters. Filters must be washed thoroughly, not just sprayed down. A clogged filter reduces airflow and increases fire risk.
- The hood suppression system components. Fusible links, nozzles, and piping should be cleaned and checked for damage.

Each of these areas requires a deliberate approach. A rushed job might look clean from the floor but fail a close inspection.

## Balancing Cost and Safety

Restaurant compliance with NFPA 96 involves a trade-off. Regular professional cleaning costs money. A busy kitchen might pay several hundred dollars per visit, and the frequency adds up. Some operators try to stretch the schedule or hire cheaper crews that do not meet the bare metal standard. That is a gamble. One grease fire can cost tens of thousands of dollars in damage, lost revenue, and increased insurance premiums. Worse, it can injure employees or customers.

On the other side, an overcleaned system is not a problem. There is no downside to having a spotless duct. The only downside is the cost, and that cost is small compared to the risk. I have advised restaurant owners to view the cleaning expense as fire insurance, not as a maintenance burden. It protects the business, the staff, and the building.

## The Bigger Picture: Fire Safety Culture

Meeting the bare metal standard requires more than a once-a-month visit. It requires a culture of fire safety in the kitchen. Line cooks should wipe down the hood canopy daily. The manager should check the grease filters weekly and replace them when they show wear. The exhaust fan should run during all cooking hours and for a period after shutdown to clear residual heat and vapor. And the cleaning schedule should be posted and followed without exception.

When the fire marshal arrives, the entire system should pass inspection. That means the hood canopy is clean, the ductwork is clean, the exhaust fan is clean, and the grease containment is properly managed. It also means the documentation is in order. NFPA 96 requires that the cleaning company provide a certificate of inspection after each service. That certificate proves that the system was cleaned to the bare metal standard on a specific date.



I once watched a fire marshal walk through a kitchen and stop at the fan housing. He ran his finger along the seam. It came back clean. He nodded and moved on. That is the moment every restaurant manager wants. It comes from doing the work, not just paying for it.

## Final Thoughts on the Bare Metal Standard

The bare metal standard is not a suggestion. It is the foundation of commercial kitchen fire safety. NFPA 96 exists because grease fires are predictable and preventable. When you strip the system to bare metal, you remove the fuel. When you remove the fuel, you stop the fire before it starts. That is the whole point.

Whether you run a diner, a pizza joint, or a high-volume steakhouse, the same principle applies. The standard does not vary by cuisine or by budget. It is the same for every kitchen that cooks with grease. And it is the single most effective step you can take to protect your people and your property.