

# BVPPH Newsletter to our Food Establishments

## **BVPPH – Blackstone Valley Partnership for Public Health**

Representing the Towns of Blackstone, Douglas, Hopedale, Mendon, Millville, Northbridge, Upton and Uxbridge

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Dear Newsletter Recipient,

Welcome to the 4<sup>th</sup> Quarterly Newsletter from the Blackstone Valley Partnership for Public Health! This month's topic regards equipment. Namely, what sort of equipment is appropriate in a food establishment, and how to determine if the equipment you're ready to buy meets those standards. The newsletter will discuss what the code expects, it will talk about what you as a restaurant owner need to do before you purchase new equipment, and how to determine you've done everything you need to do prior to installing that equipment.

## Overview

Part of managing a restaurant is providing the necessary tools for that restaurant to run. From the humble spatula to the most expensive and top of the line dishwashing units, it's safe to say that your equipment will help make or break your business. So, it stands to reason that you don't want equipment that is easy to break!

As for most components of running a food establishment, 105 CMR 590 (otherwise known as the "Food Code") defines what sort of characteristics are expected from equipment that is used in a food establishment. And not just equipment, but everything from the materials used for the walls and floors, and even the plumbing. Some of these standards are intended for safety. For example, a plate that must be in contact with food whose material constantly corrodes and leaches into the food is a clear hazard that might lead to getting your customers sick. But other standards are intended to make sure your operation runs smoothly and reduces the likelihood of other problems forming down the line, such as having smooth and easy to clean surfaces to avoid buildup of dirt and food debris that might attract pests.

Below, we'll be discussing three things you need to know. First, we'll discuss what exactly the Food Code expects of your equipment. What materials are and are not allowed in an establishment, and under what contexts can the ones that *are* allowed be used. Next, we'll discuss how you can tell if your equipment meets those standards before you buy it. Finally, we'll discuss your responsibilities as a food establishment owner to notify your local Board of Health about any new equipment, and how to work with them to ensure the smoothest process.

# What the Code Requires

For most equipment, at least the sort that will be coming into direct or proximate contact with your food, Section 4 of the 2013 federal food code (which was adopted as the standard for the state of Massachusetts by 105 CMR 590, with some additions), titled “Equipment, Utensils, and Linens,” covers the rules for what sort of equipment a food establishment can and cannot use.

The code, for the most part, divides equipment and utensils into two types. The first, and the one we’ll be focusing on, is multi-use equipment. These are your stoves, your countertops, your sinks, your dishwashers, and your more durable, reusable utensils. The other are single-use products, such as paper plates, cheesecloth, plastic wrap, and various other disposable tools that are frequently used in a food establishment.

For multi-use products, the code requires a few important characteristics. Regardless of the material the equipment/utensil is made from, any material that comes into contact with food must be constructed in such a way that it won’t cause “the migration of deleterious substances or impart colors, odors, or tastes to food under normal use conditions” (FC 4-101.11). In other words, your equipment shouldn’t leach, chip, or otherwise affect the food that touches it. For example, copper reacts strongly with highly acidic foods (like tomatoes, citrus, and vinegar), and exposure to those substances can cause the copper to degrade into the food products. This leads to contamination of the food with trace amounts of metal, which can lead to metal poisoning and other health effects. Therefore, make sure your equipment is made of materials that don’t degrade on contact with food products.

But it’s more than just contaminating food. Your equipment should also be “safe, durable, corrosion-resistant, and nonabsorbent” (FC 4-101.11). Exposure to liquids of all kinds are common in a food establishment, and materials that don’t survive prolonged exposure to moisture are not appropriate for a food contact surface. Likewise, the materials should be able to withstand the cleaning process repeatedly, since food contact surfaces must be washed, rinsed, and sanitized frequently to avoid contaminating food products. The equipment should also have a smooth surface that’s easy to clean. If the equipment has too many gaps or cracks that can cause dirt and bacteria to build up, it increases the likelihood that it will contaminate your food. Finally, the equipment should be tough enough to withstand physical duress. In other words, it should be “resistant to pitting, chipping, crazing, scratching, scoring, distortion, and decomposition” (FC 4-101.11). It’s no accident that this durability will help reduce the likelihood that bits of equipment will contaminate the food, and also make the surface easy to clean.

For the purposes of future-proofing (since it’s uncertain what types of new technologies could come up down the line), the code doesn’t explicitly call out which types of materials meet this criteria. So long as your equipment meets the above requirements, it can be made out of anything. However, what the code *does* specify are the materials that are not appropriate for a food establishment. FC sections 4-101.12 to 4-101.19 detail these materials, and under what conditions they are and are not appropriate for use. Most of these substances lack one of the characteristics listed above. They might not be durable enough to withstand repeated washings, capable of reacting with certain food products in a way that contaminates the food, or otherwise

are difficult to clean or maintain. In the interests of space, we won't discuss these in detail (as each one does have specific use cases and exceptions). However, we will note that cast iron, copper, lead, galvanized metal, and wood can only be used under certain circumstances, and are usually inappropriate materials for food contact surfaces. In addition, non-stick coatings require specialized care when used as food-contact surfaces, and there are limits to when sponges can be used on food-contact surfaces. For more information, please refer to FC 4-101.12 to 4-101.19.

For more specific equipment, particularly those that connect to plumbing or require electrical wiring during installation, the code typically defers to local, state, and federal standards relating to plumbing, electrical work, or fire codes. When purchasing and installing equipment, always make sure that they are installed by a licensed professional, and that they meet both the standards above, but also are capable of meeting the requirements for that type of equipment.

To describe the requirements for each individual type of equipment would take considerable time and space, and it is outside the scope of this newsletter. However, below are listed some (but not all) basic requirements in addition to the requirements outlined in Section 4:

- Items intended to cook, reheat, or hot-hold food should be capable of achieving the minimum temperatures required to properly cook food items.
- Items intended to hold food at colder temperatures should be capable of consistently remaining at 41 F (5 C) or below.
- Items intended to keep foods frozen should be capable of consistently maintaining temperatures needed to keep foods frozen.
- Handwash sinks should be capable of running hot water at 100 F at the minimum. They should be constructed to all applicable plumbing codes and standards.
- Any equipment that could generate grease-laden vapors (such as stove-tops or fryolators) should have a properly constructed vent hood that is regularly inspected by a 3<sup>rd</sup> party company for compliance with fire code.
- Any equipment that dispenses chemicals at certain concentrations (such as chemical dishwashers) should be able to meet the minimum required concentrations of those chemicals as listed in the code. Any equipment that warewashes using high temperatures must be able to meet the minimum temperature and pressure requirements listed in the code.

## How to Ensure Items Meet These Standards

The above requirements can be a headache to assess on your own, especially when first opening a full-service food establishment that might need a diverse array of equipment. However, it is important that your equipment meets these standards, as otherwise you may not be granted a permit to operate by the regulating authority (such as the Board of Health). And if you purchase equipment or renovate existing equipment after the fact without consulting with the regulating authority, you may even be subject to fines and be forced to remove the equipment.

Fortunately, there is a reliable way of knowing ahead of time whether a piece of equipment meets the standards required by the code. A number of 3<sup>rd</sup> party organizations have been accredited by

the American National Standards Institute (ANSI) to be able to assess the design and construction of pieces of equipment and verify that it meets the standards of the various local, state, and federal regulations to which they apply.

Some examples of ANSI accredited organizations that assess equipment designed to be used in a food establishment include NSF International, UL EPH, and ETL, although this is far from a comprehensive list. Look for the marks of these organizations either on the equipment itself and/or on its specification (“spec”) sheets. These signs indicate that this equipment meets the standards required to be safe to use in a food establishment.

However, just because these marks exist on the equipment does not mean your job is entirely finished! These organizations will classify equipment based on what it was designed to do, and assess its conformance to standards accordingly. Make sure that the equipment you’re purchasing meets the standards for the type of equipment you intend to use. For example, many corporations sell or provide branded refrigeration units. While many of these units are approved by an ANSI-accredited organization, closer inspection reveals that they are only approved for the storage and refrigeration of soft drinks, and that they are *not* guaranteed to be capable of storing time-temperature control food, such as dairy products or other perishables. Always be sure to check what your equipment is intended for, and do not use the equipment outside of the context for which its manufacturer intended.

## What Do You Need to Send the Board of Health?

Once you’re confident what sort of equipment you wish to buy (but before you buy it!), you’ll need to seek the approval of your regulatory authority. For most food establishments, that’s your local Board of Health. And while all Boards of Health differ in their specific requirements for their food establishment applications, the following information is typically required.

First, whether you’re constructing your establishment from scratch, renovating, or just providing new equipment, it’s important to communicate the layout of your kitchen space to your Board of Health. This means that you need an, at minimum, to-scale outline of your kitchen and prep area spaces, with your proposed equipment identified and in the proposed locations. This will allow the Board to review your proposed flow of food and verify that you’ve placed your equipment properly, so as to avoid any potential cross-contamination or other impending violations (such as keeping an open line-fridge next to high-intensity cooking surfaces, which might negatively impact the former’s ability to keep cold food cold).

You’ll also need to provide the Board with a complete copy of your menu. This is not only to help the Board determine whether the menu meets all of the local regulatory requirements, but also gives them a sense of what sorts of food processes you’ll be operating with, and thus to what standards your equipment must be held. For example, if you’re proposing a retail store-front where most products are pre-packaged and do not require refrigeration, then perhaps a brand-name, glass front refrigerator just to maintain food quality is sufficient. But if you proposed said

equipment for a full-service operation with heavy need for commercial refrigeration of time-temperature control products? That would not be approved.

If your equipment requires the involvement of other municipal departments (such as Building or Fire), make sure all appropriate paperwork has been processed and is provided to the Board of Health. For example, the installation of sinks can only be done by a licensed plumber. In addition, a plumbing permit must be submitted to the Building Department, so that the local plumbing inspector can verify that the equipment was installed correctly and meets the requirements of the Plumbing Code.

Finally, you must provide the specification sheets for all equipment. This document is produced by the manufacturer and provides safety and operation instructions for all equipment. It will also provide its dimensions, composition, voltage requirements, and very importantly, whether it has been certified by any accredited organizations. Some companies will provide this all in one document, but others might separate out maintenance instructions into a separate document, with dimensions and materials in another. In that case, you should provide absolutely everything you can that the manufacturer has provided on that equipment. It is always better to have too much than not enough, as the latter could extend the length of time it takes to have your permit approved, and depending on what you're missing, may even jeopardize the approval process entirely.

## Conclusion

When running a food establishment, your tools of the trade are just as if not more important than the food itself. Without proper equipment, food cannot be properly prepared or stored. As a result, you should put a lot of care and attention into selecting the right equipment for your establishment, and make sure to follow all local, state, and federal requirements when installing and maintaining your equipment. And remember to always keep your local Board of Health in the loop. This is not only because it's a requirement to obtain or renew your permit, but because they can provide valuable insight and information *before* you spend a large sum of money on a piece of equipment that may not even be appropriate for your establishment.

### **Blackstone Valley Partnership for Public Health - BVPPH**

Blackstone Board of Health (508-883-1500 x129)  
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Douglas Board of Health (508-476-4000 x252)  
Mendon Board of Health (508-634-2656)

Millville Board of Health (508-883-5041)  
Northbridge Board of Health (508-234-3272)  
Upton Board of Health (508-529-6813)  
Uxbridge Board of Health (508-278-8600 x8)