



Improving Safety & Hygiene with Commercial Flooring

## Engineered Flooring Solutions for the Food and Beverage Industry

With over 25 years in the commercial and industrial flooring industry, Black Bear Coatings & Concrete is an expert in value-engineering and installing the appropriate floors for clients in the food and beverage industry. We have assembled a resource to better understand the needs of this vertical and how it can affect a business. The food and beverage industry accounts for one of the largest market shares for flooring contractors than any other industry. This is due to the strict health and safety implications that are imposed on businesses that reflect on the type of flooring that is chosen. Food and beverage businesses are required to analyze their environment and install the appropriate flooring to code.

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## Hygiene & Safety



Industrial flooring has critical implications on the food and beverage industry. It happens to be one of the most important considerations that business owners need to account for. Food and beverage companies tend to recoat flooring every seven to ten years to uphold safety regulations. Advancements in technology have resulted in flooring that lasts longer. While initial costs may increase at the onset, long-term, the flooring saves money and maintenance that makes it most cost-effective.





## Safety Considerations

### Food & Beverage Floor Coatings are **NOT** Considered Discretionary Funds

The food and beverage industry is one of the few segments where floor coating budget is NOT considered discretionary funds. This is due to the safety and regulatory implications a commercial or industrial flooring system has on this type of business. Selecting the appropriate flooring will improve workplace safety, and ensure that the general public is protected from potential infectious agents that can cause a massive contamination outbreak.

Food processing plants, grocers, restaurants, and food service establishments are held to rigid safety standards imposed by the USDA, FDA and local board of health departments. For this reason, it is not only imperative to select an appropriate floor that meets the required specifications, but also to vet a flooring contractor that has extensive experience installing for the industry, and is well-versed in the requirements that meet and exceed standards for regulatory agencies.

### Hygienic Conditions / VOCs

Commercial flooring in food and beverage industries should minimize the threat of microbiological contamination. Businesses from manufacturing plants to retail stores are at an increased risk of food byproducts infiltrating a flooring system and subsequently, becoming a breeding ground for bacteria. Cracks and buckles in flooring, seams, and gaps can pose a threat to the environment. If mold and mildew, or microorganisms do grow beneath the surface, it can impact air quality and taint the foodstuff on the premises. This can lead to foodborne illnesses such as e-coli, listeria and salmonella. In some cases, foodborne bacteria can lead to serious conditions and even fatalities, and result in legal action against the company.

### Excessive Moisture

Excessive moisture will deteriorate a floor, compromising the integrity of the system in place. As moisture builds up, the floor will begin to crack and buckle which can lead to bacterial growth and environmental concerns. Too much moisture can also lead to surface damage and unbond materials which can result in workplace hazards. A thorough assessment of the space and testing of the concrete will determine if high levels of moisture are detected. This will require a mitigation and waterproofing system be factored into a flooring solution.

### Chemical Resistance

Prior to any floor installation, a full site assessment should be completed to determine the level of chemical resistance needed for a solution. Depending on the business, elevated levels of acids, alkalis, grease, salts, oils, sugars, fats and even blood can seep into a floor and destroy the foundation. Corrosive materials such as these will erode floors quickly - increasing the risk of contamination and the need for immediate replacement. To engineer the appropriate solution, it is necessary to walk the jobsite and understand the substances and their quantities that could penetrate and impact the flooring.





## Safety Considerations

Understanding the conditions and potential impact will result in a more efficient flooring system.

### Wet Conditions

Wet spaces exist in every food and beverage business. From wash bays to oversized sinks, industrial flooring in food and beverage companies are accompanied by elevated risk of hazards. Water and liquids can damage floors by expediting wear and tear. Signs of deterioration should be a warning that there is a potential for bacterial growth. Wet spaces should be sloped or have appropriate drainage in place to prevent stagnant water from accumulating and reduce workplace slips. Wet conditions can put food and beverage businesses at an increased risk of violations imposed by strict health codes.

### Thermal Shock

From freezers to ovens, and steam cleanings to sanitization procedures, the thermal shock resistance of a floor is important to delineate for any food and beverage business. Thermal shock occurs when the flooring is subject to extreme fluctuations in temperature. This can cause cracking and blistering of a flooring system. Industrial flooring should be able to withstand sudden surges and decreases in temperature to avoid any damage that can lead to immediate health risks for both employees and customers. The thermal shock resistance will likely vary depending on whether there is food storage, production, and the type of wash down procedures the flooring will endure.


### Skid Resistance

Industrial flooring in food manufacturing plants endures constant stress. Motion from foot traffic and machinery tread are present around the clock. Engineering a seamless and durable solution will avoid buckling which can lead to dangerous working conditions. A skid-resistant surface will also prevent slips and falls in a commercial kitchen where wet spaces are prevalent. A skid-resistant floor will support productivity and reduce the risk of workplace dangers.



A photograph of a modern restaurant interior. The space is characterized by a curved bar area in the foreground where a man in a light blue shirt is working. The background features large windows with a view of trees, and the ceiling has a curved, recessed design with integrated lighting. A large, white, abstract sculpture is visible in the upper right corner. A semi-transparent dark red circle is overlaid on the image, containing the text 'Environmental Needs'.

## Environmental Needs



The variables that go into engineering the appropriate flooring solution for a food service business include environmental impact. It becomes necessary to consider how the floor system will be tested based on the movement, materials and climate in the space.





## Space Assessment

### Understanding the direct correlation between a floors durability and environmental impact

Every aspect of a food and beverage business has some impact on the durability and lifespan of industrial flooring. Prior to engineering any solution, it's important that contractors understand the environmental impact of a space and how it could compromise the efficacy and reliability of a selected floor system.

#### WET / DRY SERVICE AREAS

Wet areas of a food and beverage business may include bottling, washbays, and testing areas. Dry areas include shipping and receiving docks, office spaces, lobbies and breakrooms. Depending on the need, flooring should enhance safety and productivity.

#### TRAFFIC & TREAD

What is underfoot is usually determined by the level of stress a flooring is subjected to. Constant foot traffic, and 24/7 motion of tire treads, mobile equipment and heavy machinery will have a much greater impact on the lifespan of industrial flooring.

#### TEMPERATURE CONTROL

Temperature fluctuations increase the risk of thermal shock abrasion on a floor. Excessive heat from ovens, and fryers, and high-temp steam sanitizing, as well as cooler internal temps from freezers and refrigeration systems can lead to cracking and destruction of floors.

#### APPEARANCE & STYLE

In today's commercial flooring marketplace, each solution is accompanied by a variety of unique color and style options. It's important to consider how a specific product will enhance or detract from the overall aesthetics before making a final decision.





## Flooring Solutions

### Over 25 Years of Experience Providing the Right Solutions for Clients in the Food and Beverage Industries

#### EPOXY

Epoxy floors coatings are a popular choice for office spaces, break rooms, lobbies and shipping and receiving bays. It offers the strength and durability to withstand rugged impact in high-traffic spaces. Additional product can be added to epoxy floors to ensure the necessary protection against byproducts of food and beverage businesses.

#### URETHANE

Urethane flooring is ideal for stringent conditions found in food and beverage businesses such as wet processing, high temperature cleaning, sub-zero freezers, or to prevent byproduct contamination. The thermal shock resistance, along with a seamless, nonslip surface provides increased protection from safety risks associated with the food and beverage industry.

#### MMA

Methyl Methacrylate (MMA) flooring is known to cure quickly and offers the benefit of a quick installation. It offers a seamless, hygienic surface, and is available in an array of colors and finishes. MMA floors are an effective way to replace flooring in food and beverage businesses with minimal downtime.


#### METALLIC EPOXY

When the aesthetics of an environment plays a significant role in the design and development of a business, metallic epoxy floors combines durability with a unique flair. This system provides the same strength and resilience that is synonymous with epoxy floors, and offers an individualized look that makes a statement, and enhances the overall feel of a space.





## Case Studies

 The food and beverage industry is comprised of retail, manufacturing, restaurant, and catering services. Each business has a specific set of requirements and individual needs must be met. Value engineering the right solution requires a thorough understanding of a client's business and flooring needs.



## manufacturers

Food and beverage manufacturing spaces must comply with health and safety regulations set forth by the FDA, USDA, and local boards of health. Under constant stress from foot traffic and equipment, it is necessary to install durable, non-slip flooring that conforms to regulatory standards. Main production floors typically require trenching for drains that minimize buildup and accommodate frequent sanitization. Manufacturing areas that include wash bays and chemical storage are subject to runoff that can take its toll on the foundation. A commercial flooring system for a food and beverage manufacturing plant should be seamless and durable, to resist erosion from harsh chemicals, cleaning solvents, and byproducts, and include no VOC materials to avoid the growth and spread of bacteria.

## Black Bear Clients



## CASE STUDY

## Manufacturing & Processing Plants

### Vitasoy USA

Vitasoy USA Inc. is the soy foods pioneer - offering an array of products that promote health and wellbeing. Under the umbrella of the parent company are brands Nasoya® and Azumaya®, San Sui®, Vita® and Vitasoy® that manufacture premium tofu, Asian noodles, pasta wraps, vegan spreads, soymilks, juices and teas.



### Project Overview

Black Bear was required to repair the existing floors in the chemical storage room that were heavily damaged by chemical byproducts. When the tanks were removed, Black Bear needed to neutralize the area before starting the renovation.

### Black Bear Solution

Black Bear was able to salvage remnants of the existing floor and value engineer a cementitious urethane solution that would withstand the harsh chemicals in the storage facility. The flooring was more durable and the additional topcoat provided extra protection to prevent early decay.

A big challenge was the regular storage of Sodium Hydroxide at 85%. This corrosive compound and by-products of chemicals stored in the area deteriorated the existing floor. Black Bear needed to repair the heavily degraded floor that was exposing signs of ½ inch to ¾ inch aggregates.







## restaurants

Commercial flooring for restaurants has undergone a transformation in recent years. With the introduction of open concept kitchens and hibachi-style grills, restaurant flooring does double duty and needs to be both functional and fashionable. Estimated downtime is a consideration when resurfacing or selecting a new commercial flooring system in restaurants. To minimize disruption to the business, off hour installation, or a quick processing formula may be the solution.

## Black Bear Clients



## CASE STUDY

## Restaurants & Cafes

### Madison Brewing Company

The Madison Brewing Company and Restaurant is a fixture in Bennington, Vermont's historic downtown district. Home to more than seven unique brews on tap, including six regular beers and a seasonal brew, diners favor the lunch and dinner spot for original dishes, friendly service and its local flavor.

### Project Overview

Black Bear Coatings & Concrete spent three days at the Madison Brewery in Vermont to install a replacement system floor in the brewery room. As both a beverage manufacturing facility and restaurant, the Black Bear crew needed

to work in a tight space adjacent to the dining room while it was in service. To minimize disruption, Black Bear had to shield the work from public view and keep the space free of production debris and contaminants. This also kept the noise level to a minimum.

### Black Bear Solution

Black Bear needed to repair the substrate prior to installing a new system. Deep-fill patching was required to salvage existing slabs. The team used tarps and Hepa-filtered equipment on site to keep byproducts of the work from filtering into public spaces.





retail

Bakeries, supermarkets and specialty food stores have the typical intense foot traffic that is commonly found in the retail sector. However, they must also comply with health and safety standards set forth by the USDA, FDA, and local boards of health. Flooring for retail stores that offer food and beverage products must be durable and withstand the day-to-day wear and tear that accompanies high-traffic areas, resist contamination of byproducts, and withstand sanitization processes. Larger stores, such as grocers and multi-faceted superstore retailers that include food and beverage sections often require off-hour installation and repair. Experienced flooring contractors skilled in phased gondola moves involving aisles and equipment during off-business and evening hours are preferred for these complex projects.

## Black Bear Clients



## CASE STUDY

## Retail & Specialty Stores

### Shaw's Supermarket

Established in 1860, New England based Shaw's is one of the oldest operated supermarket chains in the United States. Shaw's Supermarket, and sister company Star Market, employs approximately 20,000 associates in 154 locations throughout the northeast.



### Project Overview

Shaw's Supermarket needed a cost-effective, longer lasting solution that would replace their VCT commercial flooring that was bubbling and had become a safety hazard. Shaw's had to replace the original manufactured floor three times in six years. Black

Bear agreed to evening and off-hour shifts. Relocating the aisles required gondola moves in the evenings and early morning hours while the store was closed; and returning the aisles to original positions prior to opening. The aisle relocation was completed in sections to demo and remove the VTC flooring.

### Black Bear Solution

Black Bear tested the existing concrete to analyze moisture, salt levels and the PH to value engineer the appropriate commercial concrete flooring solution. Two options were recommended - a hybrid epoxy and a polished concrete floor. Polished concrete was selected as the more cost-effective of the two approaches, and would provide the slip-resistance and long-term results they were looking for.



## cafeterias

Lodging and event facilities often have their own in-house dining services; while commercial properties and larger corporations offer cafeterias to employees. These spaces require industrial flooring similar to that of restaurants and retail stores. However, because these commercial kitchens occupy space in structures that aren't dedicated to food service, there is an inherent risk of wet runoff and food byproducts contaminating adjacent spaces. Water-proofing and mitigation systems are typically suggested to provide the extra protection from moisture to these dry areas. Commercial kitchens of this size tend to include multiple wash bays, prep areas, and service stations. Slip-resistant floors are necessary to improve the safety of employees moving swiftly through these spaces.

## Black Bear Clients



## CASE STUDY

## Cafeterias & Industrial Kitchens

### Hynes Convention Center

Located in Boston's historic Back Bay neighborhood, the Hynes Convention Center offers a state-of-the-art facility for holding meetings and events. With over 175,000 square feet of flexible exhibit space, including a 25,000+ square foot grand ballroom, the Hynes is a popular venue for both large and small events.



### Project Overview

Portions of the existing concrete in Hynes Convention Center's bi-level commercial kitchen were showing signs of wear and water was leaking through the foundation. Moisture caused problems for other areas of the facility. Black Bear evaluated the

space, and proposed solutions for both moisture control and easier maintenance. Portions of the concrete floor were prone to water seepage, and it was difficult to keep clean. With moisture the primary concern, Black Bear needed an industrial-grade solution before new concrete flooring was installed.

### Black Bear Solution

Black Bear value engineered a solution with two main components – water proofing and commercial flooring. The extra layer of water proofing in the base of the concrete provided the reassurance the client required to eliminate leakage and avoid costly repairs. The new industrial flooring proposed offered the durability and ease of maintenance needed for the large commercial kitchen.



## Partner with Us

### The Black Bear Process

A unique start-to-finish approach customized to each client's individual needs.

#### Testing

It is critical to understand any underlying issues that may present challenges. Black Bear experts conduct extensive testing of existing concrete surfaces to create the best approach for prep and resurfacing efforts.

#### Preparation

Existing concrete needs to be appropriately prepared before any resurfacing with coatings or polymers. Our experts meticulously clean, roughen/profile, and repair any defects to make sure your concrete is completely ready for resurfacing.

#### Coatings and Overlays

Black Bear can help you select and design the right coating to provide a stronger, longer-lasting concrete surface that really enhances your environment and complements the design.

#### Sealer and Maintenance

Proper protection and maintenance of a coating or new concrete will extend the life of your product. We will work with you to apply the appropriate sealant and help you to maintain the flooring for years to come.



**Experts with 30+ Years Providing Solutions  
to Clients in the Food and Beverage Industry**

### The Northeast's Leading Coatings and Concrete Company

Black Bear Coatings & Concrete is a partner you can trust. Our experts have over 30 years of experience designing, installing, repairing, and maintaining concrete floors.

Our comprehensive approach is all-encompassing. We know that selecting the correct resinous coating to install is defined by the performance of the material in a specific space. Black Bear takes the time to work with clients to understand the environmental conditions of a particular area - including substrate condition, chemical exposure, impact and wear resistance, thermal shock, and aesthetics.

Talk to us to learn more about successful projects in the food and beverage industry to learn how Black Bear Coatings & Concrete can help your company.



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