

White Paper

The Need To Let Air In, Keep Nature Out.

Food Storage Facilities Including Plant Warehouses and Distribution Centers

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Many food plant warehouses and distribution centers need to let fresh air in while preventing contamination of food products and property. Providing an automated exterior mesh screen door with a 100% seal, including tops, sides and bottoms, of a tear resistant material mounted on a rigid frame is critical to keep birds, insects, rodents and airborne foreign material outside with nature. Why are open or poorly screened doors a leading pest exclusion problem in the food industry?

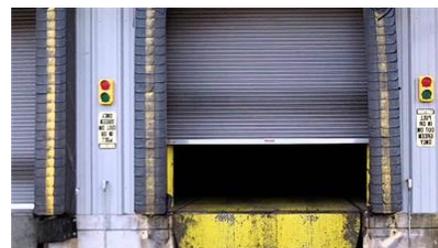
Let The Air In

Many food storage facilities including food plant warehouses and distribution centers do not have adequate air flow, exchange and ventilation thereby becoming uncomfortable for workers during hot weather. Although OSHA does not have specific indoor temperature regulations, the agency does recommend temperature control in the range of 68-76 degrees Fahrenheit and humidity control in the range of 20 percent to 60 percent. Letting clean fresh air in is a must and should be done in a manner to protect workers, food and property.



Food Safety Is At Risk

With the likely arrival of the FDA or third party food safety auditors, food plant warehouses and distribution centers must not have any evidence of birds, insects or rodents. One bird dropping can create unimaginable consequences. Most stored product insects are good fliers searching for food. A rodent urinates during travel and can produce 50 to 100 fecal droppings daily. Airborne foreign material on food products is an indication of other contaminants. As birds, insects and rodents are known to carry food borne pathogens such as *Salmonella* and *E.coli*, their prevention is a pre-requisite for a successful food safety program. A bird can enter a building with an opening of 2 inches, a rat 1 inch, a mouse ¼ inch and an insect 0.033 inches. Inadequate prevention can create an out of control food plant warehouse and distribution in a few days leading to issues ranging from food contamination to failed inspections. Why are open or poorly screened doors a problem in food storage areas?



Unusual Food Industry Circumstance

The 2011 Food Safety Modernization Act (FSMA) enables the FDA to focus more on preventing food safety problems rather than reacting to problems after they occur. FSMA gives FDA unprecedented power to hold companies accountable for preventive controls, primarily through inspection, and gives the FDA the right to issue a mandatory recall. There are an estimated 3,000 food borne deaths annually in the USA and 420,000 worldwide. FSMA and the Foreign Supplier Verification Program (FSVP), now required for USA imports, is transforming food safety globally. The Food Drug and Cosmetic Act states in Section 402 - “A food shall be deemed adulterated: (4) if it has been prepared, packed or held under unsanitary conditions whereby it may have become contaminated with filth, or whereby it may have been render injurious to health” and has been law for over a century. Although food companies are taking proactive measures, open or poorly screened doors is a pest exclusion problem in many food plant warehouses and distribution centers. Here are two examples.

1. **A medium sized food processing and storage facility** was scheduled for an announced third party food safety audit. A few days prior red flour beetles flew in from a nearby crop harvest. Outside temperatures were hot and these insects were on the move toward entry points of this food processing and storage facility. The need for air was paramount and some warehouse dock doors were left open. During the audit red flour beetles were observed on food products inside the warehouse. As a condition was observed where food was held under unsanitary conditions whereby it may have become contaminated, the audit was rated unsatisfactory. Consequences consisted of product loss, shutdown for deep cleaning, pest control treatment and another audit.

2. **A large sized food distribution center** was visited by the FDA, unannounced, for a “for-cause” inspection to investigate a specific problem that had come to the FDA's attention. This distribution center held damaged food goods in a designated rework area. The FDA investigator observed open food packages, rodent droppings and filth in the rework area with a trash compactor and screened dock door nearby. During closer inspection 1 inch floor openings were observed on each side of the screen and a small rat found in a rodent catch device along the wall. The manually operated screen was open and air borne foreign material flew into the building and nearby rework area. At the conclusion of inspection a FDA Form 483 was issued to senior management noting these conditions that in investigator judgment may constitute violations of the Food Drug and Cosmetic (FD&C) Act. Consequences consisted of corrective action of concerning conditions, lawyer prepared response to the court, visit from a local news channel investigative reporter, replacing the pest control company and another FDA visit.



Stop Pest Entry

These are just two examples highlighting the need for better exclusion of birds, insects, rodents and airborne foreign material. There are circumstances in the food industry where pest activity is not being totally controlled. These facilities tend not to deny access 100% of the time. Any food storage facility must understand one bird, one insect or one rodent is one too many, dead or alive. Letting pests enter for capture inside is not acceptable. The best integrated pest management (IPM) approach is to stop pest entry. Yet, screened doors positioned inside the building are another pest exclusion problem in food plant warehouses and distribution centers.

Screen

In many food plant warehouses and distribution centers a screen door tends to be utilized as an air intake filtration device. A screen door is not designed to be an air filter. The optimal screen opening is the size allowing a majority of air in, keeping the highest majority of pests and foreign material out without creating an impractical cleaning activity. Regular cleaning of a screen door is expected and should be done by vacuuming from the outside. The screen material itself must be durable to withstand any cleaning activity.



The Best Approach

Why are screens positioned on the inside of a door? Stopping nature inside allows parts of nature inside. Why do screens not seal all the way around? Small openings will be found by birds, insects and rodents. Why are screens susceptible to puncture/tear? These openings will be found by pests. Rodents are excellent climbers and will find their way through small openings. Why don't screens rapidly go up and down? Many screens are not closed properly because of inconvenience to workers. Why don't screens last over time? Screens and framework are susceptible to damage. An optimal approach to keep nature out is an automated exterior mesh screen door with a 100% seal, including tops, sides and bottoms, of a tear resistant material mounted on a rigid frame.



Summary

A critical food safety and integrated pest management tactic is keeping pests out of any food plant warehouse and distribution center. This consists of screening doors to let air in, keep nature out while preventing contamination of food and property. One bag of infested food can ruin tons of good food. Numerous food borne diseases are caused due to pest activity in food processing and storage facilities. To prevent pests carrying food borne pathogens such as *Salmonella* and *E.coli* into processing and storage operations, they must be stopped before entry. Denial of pest entry is a pre-requisite for food safety and integrated pest management programs.

Open or poorly screen doors have been a problem in the food industry for years leading to food contamination, failed inspections, damaged reputation and loss of profit. It is critical all food storage facilities in the food, pet food and feed industries to keep doors closed or screened properly to let air in, keep nature out.

It is a matter of time all food storage facilities in the food, pet food and feed industries, including food plant warehouses and distribution centers, will be visited by the FDA. Many are not ready for this visit and might face consequences. Open or poorly screened doors can lead to big consequences. It doesn't have to be this way.

Before



After



The Bug Shelter is a patent pending design that incorporates a standard L Pad Dock Seal or a Rigid Frame Shelter with an automatic Bug Screen Door. 100 % seal at your door and ideal for Industrial, Food Grade or Distribution facilities that either need bug abatement solutions or just airflow throughout their warehouse. The bug screen door is outside, out of the way without invasive stand-off brackets minimizing damage. The Bug Shelter was started in the fall of 2016 to fill a glaring need in the Food Plant Warehouse and Distribution Center Industry.



Ole Dosland, President of Quality Centered Consulting Services, Kansas City, MO has 40 + years' experience in the quality assurance, food safety and pest control aspects of the food industry. Uniquely credentialed by working the education, pet food, human food and pest control industries, he offers practical solutions with a long term impact. He is a columnist (Practical QA Solutions) since 2006 for the Quality Assurance & Food Safety www.qualityassurancemag.com magazine and along with PCT articles has written over 100 publications.