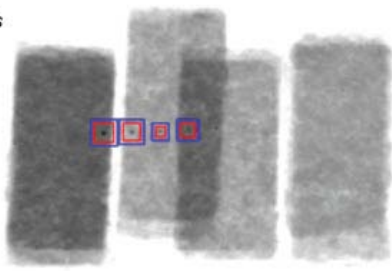


# 10 Factors Food Processors Should Consider in Selecting an X-ray System

X-Ray Contaminants Detected



Finding contaminants and inspecting products is critical to the general health of the public. There are X-ray detection technologies designed specifically to meet the rigors of today's innovative packaging. Here are the key features to consider when selecting an X-ray inspection system for your food processing business.

## 1 MEETS SAFETY STANDARDS

X-ray units should meet or exceed safety standards such as the U.S. FDA Code of Federal Regulation 21 Part 1020.40 and the more stringent United Kingdom IRR 1999 limits.

## 6 INCLUDES TRAINING

While using X-ray technology is intuitive, it's important to understand the basic principles of using it from inspection triggering to detection algorithm setup to calibration and rejection reviews, among others.

## 2 MAINTENANCE SCHEDULES

Proper maintenance is key. Heat, friction and water are your enemies. Preventative maintenance every 6-12 months by your manufacturer's X-ray system technician is recommended, including: cooling air filters, conveyor bearings, rollers and belts, door gaskets and locks, gland fittings for wires, safety switches and radiation shielding curtains, detector diagnostic screens and run-time hours for X-ray source.

## 7 COMPONENT LIFETIME

Several components have a limited lifetime. X-ray tubes have filaments and vacuums similar to light bulbs. Overheating can limit life, which is typically 10,000 hours, depending on power settings and on/off cycling. Detectors degrade from constant X-ray exposure which is also dependant on power setting and use. A system that warns when a source or detector is nearing its lifetime enables you to schedule its replacement and avoid surprise downtime.

## 3 SUFFICIENT X-RAY POWER AND BEAM SIZE

Sufficient X-ray power helps ensure precision and minimizes false rejects. Source and detector selection is critical to ensure the X-ray beam is wide enough to pass through all portions of your largest product.

## 8 CLEAR VISUALS

Make sure the product and the contaminant or other anomaly are visible on the screen. The ability to save rejected product images facilitates record keeping, system adjustment and fine tuning.

## 4 SOPHISTICATED, EASY-TO-USE SOFTWARE

Multiple algorithms enable you to find anomalies that are dense, sharp or have a certain shape or contrast, providing the best detection performance in all scenarios. Make sure that the reports the system generates are understandable and that remote support tools are available to support PC/Windows-based systems

## 9 LOW TOTAL COST OF OWNERSHIP

Look for a system with the best value, not the lowest price. Consider all of the projected costs over a 5-10 year timeframe, including: purchase and installation, preventative maintenance and wear items, possible repairs and associated downtime, source and detector replacement, and redeployment to another line or factory location.

## 5 POSITIONING FLEXIBILITY

X-ray performance is affected by product density/texture changes, line speed, contaminant type/position/density, packaging variations and more. When testing systems, test multiple packages of each type and vary the contaminant type and position. If possible, also vary the product position inside the package and its position on the conveyor belt.

## 10 REPUTABLE VENDOR

Consider the vendor's experience in X-ray equipment for the food processing industry and their commitment to customer satisfaction. Can they point to several generations of continual improvement. Are they national or international? Remember, they are not only a vendor, but they are also a partner in protecting your brand.