

Eagle™ Pack 430

Johnsonville Sausage



Case Study



Johnsonville Sausage, North America's largest fresh sausage manufacturer, initiated a group-wide x-ray project in 2003 with several goals in mind. The first goal: to ensure that the meats were inspected with a high level of detection and a low false reject rate (FRR). The second goal: to have the ability to match a rejected product with its specific x-ray image to allow the rework of the rejected product. Finally, Johnsonville wanted to find a product inspection machine that provided the "basics" - reliability, clean-ability and ease of usage.

Experiment

Johnsonville started the x-ray project with a six month long test using a competitor's product inspection machine. This test process resulted in a higher than normal reject rate that came with the first x-ray scan. When rejected products were x-rayed for a second time the results determined that only 1/3 of the initial rejects were true rejects (contained a contaminant).

Johnsonville's greatest concern with the competitor's machine was the large number of false rejects which meant a slower production time and profit loss. The competitor's machine was also unable to successfully match the reject computer scanned image with the product or container as it was rejected. This was also a concern because Johnsonville wanted the capability of reworking any rejected product.

Results and Discussion

Johnsonville brought in the Eagle Pack 430 x-ray system from Eagle and machines from two other direct competitors in the x-ray inspection industry for an in-house side by side comparison to find the machine that would best suit the needs of the company. The Eagle x-ray system is large enough to inspect two lanes running side by side through the machine. By configuring the system for dual-lane inspection, one lane could be running primary product constantly while the other lane could take the rejected product and could be used as a "rework" lane. The x-ray system's display was modified to show only the rejected images from both lanes on the screen in a split screen display. Once the product is sent back through the rework lane, the SimulTask™ Image Analysis Software holds a picture of the scanned product so that the product can be retrieved

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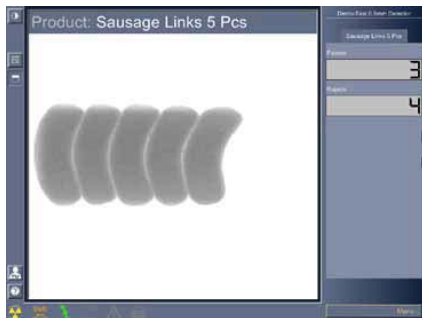
from the reject bin, and the contaminated piece can be removed and replaced without affecting production.

Eagle won the in-plant trial because of the SimulTask™ Software and the ability to rework rejected products through the rework conveyor lane. Due to the success of this application, Johnsonville has since purchased many more Eagle X-ray Inspection systems.



“We are constantly amazed by the consistency and reliability in the Eagle product line to detect and reject small contaminants. The equipment purchases continually pay for themselves as our contaminant complaints have been significantly reduced with Eagle x-ray equipment.”

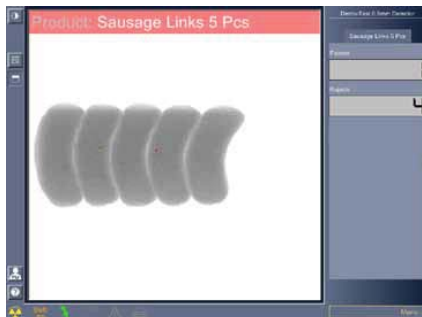
Erik Larson, Johnsonville Sausage Project Engineer.



The image to the left shows a good 5-count “Big Link” product passing through the Eagle Pack 430. The product was examined for dense contaminants: bone, stone, metal, and glass while simultaneously checked to ensure each link was the proper size.



The primary product being produced is the Johnsonville 5 count “big link” or bratwurst over wrapped trays. Having the ability to know which bratwurst had the contaminant provided the opportunity to pull the contaminated bratwurst and repack the tray and then re-inspect without affecting production.



The image to the left shows the Eagle Pack 430 has detected a 0.8mm piece of stainless steel and a 2.5mm piece of calcified bone. The contaminants are highlighted by the proprietary system software, SimulTask, and recorded in the onboard statistics system with separate identification for contaminants and weight variation.

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