

Detection of foreign bodies in meat

Emerging technologies and the ever increasing level of computing power have improved performance in detection of foreign and unwanted material in meat and meat products.

Moving the x-ray systems to new positions in the production plant reveals new levels of information about the production flow and the quality of the products.

The metal detectors increase versatility of detection to wider ranges of metals by applying multi frequency schemes thus optimizing the performance with different metals simultaneously.

Demonstrated by:



danish meat association

DMRI

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Detection of foreign bodies in meat

X-ray

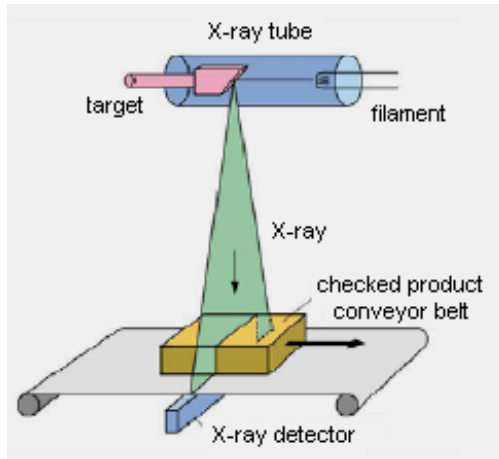
Metal detector



This technology has been demonstrated in the framework of the ProSafeBeef project (FOOD-CT-2006-36241, Integrated Project in FP6) on 3rd March 2009 at Roskilde, Denmark.
The following information was provided by the DMRI.

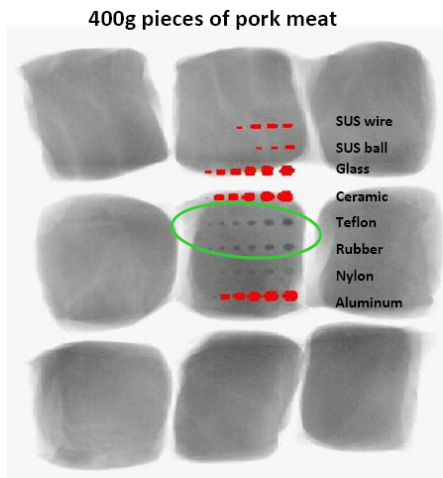
X-ray

Process



Purposes

- To detect SUS wires and balls, glass, ceramic, teflon, rubber, nylon, aluminium, fish bones, metal, stone, bones and cartilage.



Other functions

- Relative mass measuring function
- Missing product detection
- Topping control

Value added to the products

- The absence of foreign materials/bodies in the meat products.
- The possibility of monitoring important quality parameters of the product: shape, weight, missing product, etc.



Contrast in X-ray image

Benefits

- The production can be documented 100 % with respect to consistency.
- It is a non destructive testing method.
- Both packaging and contents are inspected.
- It guarantees products' quality.

Low energy x-ray

- Low energy x-ray enables the detection of new features related to the packaging, sealing, etc.
- Some new plastic materials can be detected.

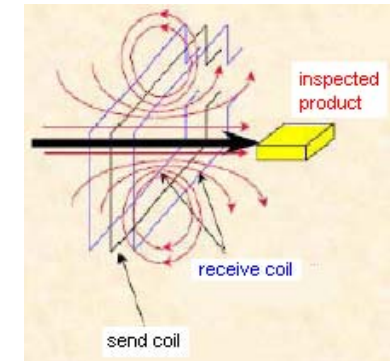
Reasons to choose x-ray detection

- It gives the most versatile detection.
- It adds value to the products by guaranteeing its quality.



Metal detector

Process



Purpose

- To detect metal.

Value added to the products

The metal detector can only detect Fe and stainless steel, so it adds very little value to the products.



Benefits

- It is a non destructive testing method.
- The purchase and maintenance costs of the equipment are very low.

Limit

Detection of metal only, no other type of foreign bodies.

Multi-frequency schemes

Multi-frequency schemes optimizes the sensitivity to Fe and SUS metals at the same time.

Reasons to choose a metal detector

- The costs are lower than an x-ray detector.
- But the versatility is rather limited.