



METAL DETECTION

Purpose

This instruction defines policies and procedures associated with testing products for metal contamination.

Policy

When specified by the purchaser, products will be examined for the presence of metal in accordance with the provisions of this instruction. Metal detection devices must be approved by Food Safety and Inspection Service (FSIS) and be capable of detecting metallic contaminants including, but not limited to, stainless steel shavings, pieces of metal from processing equipment, metal fragments from cutting knives, metal staples, and packaging fasteners. Depending upon the specification and contractual requirements, metal detection may be required prior to or after packaging and/or packing. Unless otherwise specified, products are examined after final mechanical processing (e.g., grinding, blending, dicing, patty formation).

Metal Detection Equipment

Metal detection equipment is tested for proper functioning at least once every hour. Graders may perform more frequent tests if they suspect equipment is unreliable for any reason. Official detection test standards (encased in tamper-proof Plexiglas) designed to test the applicable sensitivity level are provided by the Meat Grading and Certification (MGC) Branch. Records of the hourly checks and related results are recorded by the grader at each establishment on Form Metal Detection-1.

Graders ensure metal detectors with automatic diverters are working properly. Graders, supervisors, and applicants work together to develop appropriate test procedures to ensure proper diverter function when initially approving operations. These procedures, once developed and approved, are maintained in the local and area office quality plans.

Sensitivity Levels

Contractor's metal detection equipment will be verified as capable of detecting metal contamination at the sensitivity level prescribed in contractual documents.

Procedures

Equipment Test Procedures

1. Insert the appropriate test standard at the approximate center of the aperture of the metal

detector from the same direction as the flow of the product. When testing boxes of product, enclose the test standard between layers or pieces of product inside the box so that the standard will pass through the approximate center of the aperture.

2. If the alarm system activates, the metal detector is considered to be functioning properly.
3. If the alarm system fails to activate, pass the appropriate test standard through nine more times. If the alarm system fails on any additional test, the equipment is not functioning properly. Resume production when the testing equipment is either repaired or replaced with a properly functioning unit.
4. If a malfunction is detected, use the U.S. Department of Agriculture (USDA) Product Control Tag (Form LS-10) to identify and retain any product examined since the last acceptable check.
5. Retest retained products after system is functioning properly.

Special instructions for in-line, closed systems

Plants utilizing in-line, closed metal detection systems submit procedures for testing and verifying the sensitivity and function of the system. Some metal detection systems may have to be modified to accommodate testing procedures. Applicants are responsible for ensuring all test procedures can be performed accurately.

Contaminated Product

1. Products identified by a metal detection system as contaminated are controlled by the use of a **USDA Product Control Tag**. Contaminated products may be reworked in accordance with an FSIS-approved quality assurance program or equivalent procedure to isolate and remove the metal contaminants. Initial procedures for reworking boxed products should include examining fiberboard containers for metal contamination before reworking product. Applicants may choose to condemn or otherwise destroy products identified by a metal detection system as contaminated rather than rework the product.

Graders report product contamination due to a serious equipment malfunction to FSIS. When extensive contamination is discovered, use the **USDA Rejected/ USDA Retained Tag** (Form MP35) to identify the involved product and promptly notify an FSIS representative.

Product Retesting

Products that require retesting are examined as follows:

1. Products controlled due to a detection equipment malfunction.

These products are retested in a manner that ensures compliance with the designated sensitivity level. This examination may be accomplished by the original equipment after it is repaired or any other equipment that can ensure compliance. Products may have to be removed from packaging material for reexamination, depending on the style of packaging and the sensitivity of available metal detection equipment.

2. Rework of end-item and other products prior to final packaging or packing.

Rework products and other products not immediately packaged after processing (i.e., disruption in normal product flow may have resulted in contamination) must be subjected to retesting for the presence of metal. For example, ground beef removed from defective chub packages must be retested for metal contamination before final acceptance.

Rework and retesting are accomplished according to FSIS regulations and in a manner that ensures all products are examined for metal contamination and promptly repackaged.

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