



FROZEN PRODUCT EXAMINATION

Purpose

This instruction defines policies and procedures for examining and accepting products for specification and contractual freezing requirements where products are to be at a specified temperature within a given timeframe.

Policy

When specified in contractual documents, the USDA grader will examine products or production lots for temperature requirements within required timeframes. When product is scheduled for further processing or shipment prior to the specified time, the vendor must request a temperature examination. Vendors are responsible for making necessary arrangements to have freezers readily available during weekdays, weekends, and holidays for temperature examinations. If products are examined early and the temperature requirements are not in compliance, vendors may return the product to the freezer and reschedule the temperature check at the required time.

I. Timeframes

Unless otherwise specified in contractual documents, timeframes are established below. Meat and Poultry ready-to cook products must be frozen to 0 °F or less. Meat and Poultry ready-to eat products must be frozen to 10 °F or less.

Requirement	Time Begins
"Product placed in freezer within 4 hours of production."	At the end of the production shift.
"Product frozen within 24 hours."	4 hours after the end of the production shift.
"Product frozen within 72 hours."	4 hours after the end of the production shift.

A. Off-Premise Freezing of Poultry Products

Poultry products must be placed in a freezer to be frozen within 48 hours after initially chilled. If the chilled products are not placed in a freezer immediately after packaging or packing, the products must be held at a temperature not higher than 36°F (2.2°C) and not lower than 26°F (-2.2°C). The packaged or packed ready-to cook products must be frozen in accordance with 9 C.F.R. Part 381 (internal temperature lowered to 0°F (-17.8°C) or lower within 72 hours from the time of entering the freezer). When packaged or packed products are held at a temperature below 26°F (-2.2°C) the products will be considered to be in a freezer and subject to the 72 hour freezing requirement which begins when the products enter the freezer.



II. Freezer Capability

Cold storage warehouses must demonstrate the capability of freezing product to the required temperature or lower internally within the required time after placement into the freezer. Initially, every production lot is checked for compliance with time and temperature requirements. Once the freezer has established a satisfactory record (level II freezer history, referenced below), sampling may be reduced to at least one randomly selected lot out of every ten lots. All other allowances provided for by Level II freezer history still apply (delaying examination of lots that fall on non-scheduled workdays and sample size reduction). For predetermination of lots refer to the sample selection paragraph in QAD 615: *Lot Definition*.

Procedures

- 1) Before examining any product, make sure the thermometer is properly calibrated.
- 2) Minimum sample size shall be based on QAD 615: *Lot Definition* for the lot.
- 3) Remove packaging material to expose the meat. For ground products in chubs, cut away a small portion of the film to expose the product. Do not drill through the packaging material or pierce with the thermometer.
- 4) Drill a hole in the product slightly larger than the diameter of the thermometer. Sanitize the drill bit before each use.
- 5) Allow adequate time for the thermometer reading to stabilize.
- 6) A thermometer tolerance of +/- 2 degrees is permitted.
- 7) If any one sample does not meet specified temperature requirements, the lot is rejected.
- 8) Maintain complete records of temperature verification.

A. Freezing History

For contract acceptance type certifications that have specific frozen temperature requirements, graders are required to check a full size sample and at the frequencies specified until a satisfactory history of the freezing facility has been established. Freezing histories shall be documented and evaluated for blast freezers independently from holding freezers in plants where both are used. In order to establish freezing history for new freezers or older facilities which have undergone equipment or design changes, freezer checks shall be completed as follows:

Level I - A full-size sample of seven consecutive lots shall be examined for compliance within the specified time and temperature requirements. If all seven lots are satisfactory, use Level II criteria for further time and temperature checks (see below). If any of the seven lots is found unsatisfactory, Level I frequency shall be maintained until seven consecutive lots are found satisfactory.



Level II - All lots shall be examined within the specified time except when the timeframe falls on a nonscheduled workday. In these instances, the examination may be delayed until the next scheduled workday. A minimum of 1 in every 10 lots must be sampled and the sample size may also be reduced to a minimum of one-third of the sample size specified in QAD 615: *Lot Definition*. On lots failing to meet requirements at Level II, sample frequency immediately reverts to Level I unless the problem can be traced to a nonrecurring-type mechanical breakdown, power outage, etc. In these cases, contact the supervisor to determine if the sample frequency may remain at Level II.

For freezers with a pre-established history, graders may start at Level II until freezing problems are detected. Once a satisfactory freezing history has been established, multiple lot shipments may be consolidated into one lot for temperature and condition checks according to the following procedures:

1. Minimum sample size shall be based on QAD 615: *Lot Definition* for the regulations for the consolidated lot.
2. Samples shall be selected proportionately from each subplot based on number of cases in each subplot.
3. No subplot shall have less than two samples selected. In some instances, this may require additional sampling to maintain proportionality.
4. Any out of compliance sample shall result in rejection of the entire consolidated lot. Additionally, sampling shall revert to full sampling of each subplot until a satisfactory product history can be re-establish.

Sample size may not be reduced when the specification lists specific sample sizes for these checks. If necessary, the Federal-State supervisor may require additional checks to verify the accuracy of the reduced sample procedures.

B. Optional Temperature Verification

As an option to verifying frozen temperatures at time of shipment and upon review and approval by the Federal-State supervisor, the following sampling procedures may be used for monitoring product temperature during storage. This sampling option may be utilized for all products and certifications provided the criteria below are met.

1. Plants wishing to utilize the alternate sampling procedures must have established an acceptable Level II freezing history.
2. Establishments must provide chart-recording thermometers to measure ambient temperatures in freezers where product is stored. Recording thermometers shall be installed in each freezer in close proximity to where product is stored. The recording charts from each thermometer must be provided to the grader for review. The charts shall be initialed, dated, and filed with other certification worksheets for a period of one year.



3. Resident graders will review the temperature recording chart(s) on a daily basis to verify holding temperatures. Off-premise locations shall be verified each day a grader is present at the facility. Temperature data shall be recorded on the graders' worksheets. Graders shall verify the accuracy of the recording thermometers on a periodic basis using test thermometers provided by the plant or using other methods as outlined in this handbook. Results of these verification checks shall be recorded on the graders' worksheets.
4. When freezer temperatures are continuously maintained at 0 °F or below as determined by the recorder controller charts, product is eligible for shipment without further checking. If the ambient temperature exceeds 0 °F, all production lots in the freezer must be checked at time of shipment. Also, any unique circumstances that may potentially influence product temperature will require additional product temperature verification or checking at time of shipping. Since holding freezers operate independently from blast freezers, product exceeding holding temperature parameters will not affect the blast freezing history or sampling level.
5. If the temperature routinely exceeds 0 °F during a defrost cycle, the plant may elect to demonstrate the product remains below 0 °F during the duration of the cycle. Otherwise, the product must be checked at time of shipment when the temperature exceeds 0 °F during defrost cycles as noted above. Prior to approval, the defrost time and temperatures must be determined as follows:
 - a. Review completed recorder controller charts with management to determine the frequency and ambient temperatures normally reached during defrost cycles. If more than one freezer is used, a separate review and evaluation must be completed for each freezer prior to approval.
 - b. The product temperature shall be measured using probe thermometers during 5 defrost cycles. If more than one commodity is produced, graders shall select the product that is considered most difficult to freeze. Thermometers should be placed in product stored in the warmest locations of the freezer (i.e., near doors and areas of poor air circulation). Alternatively, when the defrost cycle is predictable, graders may be present (time permitting) to drill and measure the product temperature once the ambient temperature reaches its peak. The product must be selected from the warmest location of the freezer.
 - c. The maximum time and highest ambient temperature measured during the defrost cycles shall be used to establish the maximum time and temperature parameters. For example, if the peak time and ambient temperature during 5 cycles is 20 °F for 15 minutes and the product does not exceed 0 °F, these parameters may not be exceeded after approval.



- d. Once approved, the product may be shipped without further checking provided compliance with the approved parameters is maintained. This will include product stored during freezer malfunctions or failures that are repaired within the established time and temperature. If the time or ambient temperature exceeds the approved parameters during storage, each lot in the freezer must be checked at the time of shipment.
- e. The data and established procedures shall be documented and placed in the relief grader's file. Upon completion, the supervisor shall review all data and recording charts to verify the results.

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