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EAST AFRICAN STANDARD

Quick frozen lobsters — Specification

EAST AFRICAN COMMUNITY

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Foreword

Development of the East African Standards has been necessitated by the need for harmonizing requirements governing quality of products and services in East Africa. It is envisaged that through harmonized standardization, trade barriers which are encountered when goods and services are exchanged within the Community will be removed.

In order to meet the above objectives, the EAC Partner States have enacted an East African Standardization, Quality Assurance, Metrology and Test Act, 2006 (EAC SQMT Act, 2006) to make provisions for ensuring standardization, quality assurance, metrology and testing of products produced or originating in a third country and traded in the Community in order to facilitate industrial development and trade as well as helping to protect the health and safety of society and the environment in the Community.

East African Standards are formulated in accordance with the procedures established by the East African Standards Committee. The East African Standards Committee is established under the provisions of Article 4 of the EAC SQMT Act, 2006. The Committee is composed of representatives of the National Standards Bodies in Partner States, together with the representatives from the private sectors and consumer organizations. Draft East African Standards are circulated to stakeholders through the National Standards Bodies in the Partner States. The comments received are discussed and incorporated before finalization of standards, in accordance with the procedures of the Community.

Article 15(1) of the EAC SQMT Act, 2006 provides that "Within six months of the declaration of an East African Standard, the Partner States shall adopt, without deviation from the approved text of the standard, the East African Standard as a national standard and withdraw any existing national standard with similar scope and purpose".

East African Standards are subject to review, to keep pace with technological advances. Users of the East African Standards are therefore expected to ensure that they always have the latest versions of the standards they are implementing.

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Introduction

In the preparation of this East African Standard, the following sources were consulted extensively:

KS 05-1486:1998, *Specification for frozen lobsters*

CODEX STAN 95:1981(Rev. 2:2004), *Standard for Quick Frozen Lobsters*

Codex Alimentarius website: http://www.codexalimentarius.net/mrls/vetdrugs/jsp/vetd_q-e.jsp

USDA Foreign Agricultural Service website: http://www.mrldatabase.com

USDA Agricultural Marketing Service website: http://www.ams.usda.gov/AMSv1.0/Standards

European Union: http://ec.europa.eu/enterprise/sectors/pharmaceuticals/veterinary-use/maximum-residue-limits/index_en.htm

Assistance derived from these sources is hereby acknowledged.

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Quick frozen lobsters — Specification

1 Scope

This standard applies to quick frozen raw or cooked lobsters, rock lobsters, spiny lobsters and slipper lobsters. Furthermore it applies to quick frozen raw or cooked squat lobsters (red and yellow).

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

CAC/GL 21, *Principles for the establishment and application of microbiological criteria for foods*

CAC/RCP 1, *Recommended international code of practice — General principles of food hygiene*

CAC/GL 30, *Principles and guidelines for the conduct of microbiological risk assessment*

CAC/GL 31, *Guidelines for the sensory evaluation of fish and shellfish in laboratories*

CD-K-572:2010, *Fish and fisheries products — Methods of sampling*

CAC/RCP 52[CD/K/521:2010], *Code of practice for fish and fishery products*

CAC/GL 53, *Guidelines on the judgement of equivalence of sanitary measures associated with food inspection and certification systems*

EAS 12, *Drinking (potable water) — Specification*

EAS 35, *Edible salt — Specification*

EAS 38, *Labelling of prepackaged foods — Specification*

EAS 41, *Fruits, vegetables and derived products — Sampling and methods of test*

EAS 103, *Schedule for permitted food additives*

EAS 123, *Distilled water — Specification*

ISO 4831, *Microbiology of food and animal feeding stuffs — Horizontal method for the detection and enumeration of coliforms — Most probable number technique*

ISO 4832, *Microbiology of food and animal feeding stuffs — Horizontal method for the enumeration of coliforms — Colony-count technique*

ISO 4833, *Microbiology of food and animal feeding stuffs — Horizontal method for the enumeration of microorganisms — Colony-count technique at 30 degrees C*

ISO 6579, *Microbiology of food and animal feeding stuffs — Horizontal method for the detection of Salmonella spp.*

ISO 6887-1, *Microbiology of food and animal feeding stuffs — Preparation of test samples, initial suspension and decimal dilutions for microbiological examination — Part 1: General rules for the preparation of the initial suspension and decimal dilutions*

ISO 6887-2, *Microbiology of food and animal feeding stuffs — Preparation of test samples, initial suspension and decimal dilutions for microbiological examination — Part 2: Specific rules for the preparation of meat and meat products*

ISO 6887-3, *Microbiology of food and animal feeding stuffs — Preparation of test samples, initial suspension and decimal dilutions for microbiological examination — Part 3: Specific rules for the preparation of fish and fishery products*

ISO 6888-1, *Microbiology of food and animal feeding stuffs — Horizontal method for the enumeration of coagulase-positive staphylococci (Staphylococcus aureus and other species) — Part 1: Technique using Baird-Parker agar medium*

ISO 6888-2, *Microbiology of food and animal feeding stuffs — Horizontal method for the enumeration of coagulase-positive staphylococci (Staphylococcus aureus and other species) — Part 2: Technique using rabbit plasma fibrinogen agar medium*

ISO 6888-3, *Microbiology of food and animal feeding stuffs — Horizontal method for the enumeration of coagulase-positive staphylococci (Staphylococcus aureus and other species) — Part 3: Detection and MPN technique for low numbers*

ISO 7251, *Microbiology of food and animal feeding stuffs — Horizontal method for the detection and enumeration of presumptive Escherichia coli — Most probable number technique*

ISO 7937, *Microbiology of food and animal feeding stuffs — Horizontal method for the enumeration of Clostridium perfringens — Colony-count technique*

ISO 13720, *Meat and meat products — Enumeration of Pseudomonas spp.*

ISO 16050, *Foodstuffs — Determination of aflatoxin B_1, and the total content of aflatoxin B_1, B_2, G_1 and G_2 in cereals, nuts and derived products — High performance liquid chromatographic method*

ISO 16654, *Microbiology of food and animal feeding stuffs — Horizontal method for the detection of Escherichia coli O157*

ISO 21567, *Microbiology of food and animal feeding stuffs — Horizontal method for the detection of Shigella spp.*

ISO/TS 21872-1, *Microbiology of food and animal feeding stuffs — Horizontal method for the detection of potentially enteropathogenic Vibrio spp. — Part 1: Detection of Vibrio parahaemolyticus and Vibrio cholerae*

ISO/TS 21872-2, *Microbiology of food and animal feeding stuffs — Horizontal method for the detection of potentially enteropathogenic Vibrio spp. — Part 2: Detection of species other than Vibrio parahaemolyticus and Vibrio cholerae*

3 Descriptions and definitions

3.1 Description

3.1.1 The product is prepared from lobsters from the genus *Homarus* of the family *Nephropidae* and from the families *Palinuridae* and *Scyllaridae*. It may also be prepared from *Nephrops norvegicus* provided it is presented as Norway lobster. For squat lobsters the product is prepared from species of *Cervimunida johnii, Pleuroncodes monodon* and *Pleuroncodes planipes* of the family *Galatheidae.*

3.1.2 The pack shall not contain a mixture of species.

3.2 Process definition

The water used for cooking shall be of potable quality or clean seawater.

The product, after any suitable preparation, shall be subjected to a freezing process and shall comply with the conditions laid down hereafter. The freezing process shall be carried out in appropriate equipment in such a way that the range of temperature of maximum crystallization is passed quickly. The quick freezing process shall not be regarded as complete unless and until the product temperature has reached -18°C or colder at the thermal centre after thermal stabilization. The product shall be kept deep frozen so as to maintain the quality during transportation, storage and distribution.

Quick frozen lobsters shall be processed and packaged so as to minimize dehydration and oxidation.

3.3 Presentation

3.3.1 Any presentation of the product shall be permitted provided that it:

3.3.1.1 meets all requirements of this standard;

3.3.1.2 is adequately described on the label to avoid confusing or misleading the consumer.

3.3.2 The lobster may be packed by count per unit of weight or per package or within a stated weight range.

3.3.3 Lobsters and lobster products shall be presented as follows:

3.3.3.1 Whole lobster

3.3.3.2 Half/split lobster — Whole, split with head on, into two approximate halves down the centre line of the back and cleaned with viscera removed.

3.3.3.3 Lobster tail — Tail shell on intestinal tract removed and the cavity cleaned.

3.3.3.4 Lobster tail meat — Tail with shell off intestinal tract removed. Each piece comprising

(a) Whole of the tail; or

(b) A piece obtained by cutting the meat in the tail longitudinally into two pieces; or

(c) A piece obtained by cutting the meat in the tail transversely into not more than four pieces.

3.3.3.5 Lobster meat — The meat of any part of the lobster without shell. The above product may be raw or cooked.

3.4 Definition of defects

The applicability of the defects below is stipulated in Table 2.

3.4.1 dehydration — Exposed surface areas of meat, which have a whitish appearance or dryness affecting the texture or palatability.

3.4.2 abnormal colouration — Colouration of meat or membrane on the underside of the tail that deviates from the characteristic colour of the species and habitat or area from which the lobster is harvested.

3.4.3 black spots — Darkened areas appearing opaque rather than translucent.

3.4.4 soft shell — Shell not firm and easily flexed by hand.

3.4.5 damage

(a) Cuts or scars penetrating the shell crushed or cracked shell;

(b) In the case of half/split lobster and lobster tail having less than five tail segments from the posterior.

3.4.6 incomplete removal of viscera — Portion of intestine or intestinal content remaining.

3.4.7 extraneous matter — Presence of insects, hair, sand, dirt, calcareous growth, algae and other foreign matter.

3.4.8 shell fragments — Perceptible pieces of shell.

4 Essential composition and quality factors

4.1 Lobsters

4.1.1 The frozen lobsters and lobster products shall be prepared from fresh, clean and sound lobsters of the designated families and shall be suitable for human consumption.

4.1.2 The lobsters and lobster products shall not show any visible signs of spoilage.

4.1.3 The colour shall be typical of freshly caught lobsters of the respective families.

4.1.4 The meat shall be firm and shall be typical of freshly caught lobsters.

4.2 Glazing

If glazed, the water used for glazing or preparing glazing solutions shall be of potable quality or shall be clean sea-water. Potable water is fresh-water fit for human consumption and shall comply with EAS 12. Clean sea-water is sea-water which meets the same microbiological standards as potable water and is free from objectionable substances.

4.3 Other ingredients

All other ingredients used shall be of food grade quality and conform to all applicable Codex standards.

4.4 Characteristics of the final product

4.4.1 The lobsters and lobster products shall have the following appearance and characteristics:

(i) Raw lobsters with shell on the colour of the shell shall generally be uniform and characteristic of the species and habitat or area from which it was harvested;

(ii) Raw product, the flesh shall be white or pink as appropriate and translucent;

(iii) The product shall be easily separated without the necessity of thawing when labelled as individually frozen;

(iv) Cooked products, the flesh shall be white or pink and opaque;

(v) The flesh shall be firm and unbroken and reasonably free from detached legs and antennae, as appropriate to the form of presentation;

(vi) Tail meat and lobster meat shall be practically free from alimentary tract, viscera and blood;

(vii) All types shall be reasonably free from extraneous matter, algae and calcareous growth;

(viii) All types shall be free from dehydration (freezer-burn) blackening or any other abnormal discolouration.

4.4.2 Odour/flavor

After thawing or cooking, the lobsters and lobster products shall have a good characteristic odour or flavour.

4.4.3 Texture

After thawing and cooking in accordance with Annex C, the flesh of lobsters and lobster products shall be firm. The flesh shall not be mushy or gelatinous.

5 Food additives

Only the use of the following additives is permitted.

Additive		Maximum level in the final product
Moisture/Water Retention Agents		
451(i)	Pentasodium triphosphate	10 g/kg expressed as P_2O_5, singly or in combination (includes natural phosphate)
451(ii)	Pentapotassium triphosphate	
452(i)	Sodium polyphosphate	
452(iv)	Calcium polyphosphates	
Preservatives		
221	Sodium sulphite	100 mg/kg in the edible part of the raw product, or 30 mg/kg in the edible part of the cooked product, singly or in combination, expressed as SO_2
223	Sodium metabisulphite	
224	Potassium metabisulphite	
225	Potassium sulphite	
228	Potassium bisulphite (for use in the raw product only)	
Antioxidants		
300	Ascorbic acid	GMP
301	Sodium ascorbate	
303	Potassium ascorbate	

6 Hygiene and handling

6.1 The final product shall be free from any foreign material that poses a threat to human health.

6.2 When tested by appropriate methods of sampling and examination prescribed by the Codex Alimentarius Commission, the product:

(i) shall be free from microorganisms or substances originating from microorganisms in amounts which may present a hazard to health in accordance with standards established by the Codex Alimentarius Commission;

(ii) shall not contain any other substance in amounts which may present a hazard to health in accordance with standards established by the Codex Alimentarius Commission.

6.3 It is recommended that the products covered by the provisions of this standard be prepared and handled in accordance with the appropriate sections of CAC/RCP 1 and the following relevant Codes:

(i) CAC/RCP 24, *The Recommended International Code of Practice for Lobsters*

(ii) CAC/RCP 8, *The Recommended International Code of Practice for the Processing and Handling of Quick Frozen Foods*;

(iii) CAC/RCP 52, The sections on the Products of Aquaculture in the *International Code of Practice for Fish and Fishery Products*

6.4 Microbiological and heavy metal contaminant limits

The material shall meet the microbiological and heavy metal requirements as given in Table 1 and Table 2.

Table 1 — Microbiological limits

S/No.	Type of microorganism	Maximum limit	Method of test
(i)	*Pseudomonas* species per gram	Absent	ISO 13720
(ii)	*Salmonella* in 30 g	Absent	ISO 6579
(iii)	*E. coli* per g	Absent	ISO 7251
(iv)	*Shigella* per g	Absent	ISO 21567
(v)	*Coliforms* g (per 100 g)	Absent	ISO 4832
(vi)	*Staphylococcus aureus* per 10 g	Nil/g	ISO 6888
(vii)	Total viable count	10^4/g	ISO 4833
(viii)	*Vibrio cholerae*	Absent	ISO/TS 21872
(ix)	Clostridium perfrigens	Absent	ISO 7937

Table 2 — Contaminant limits for quick frozen lobsters

Type of contaminant		Maximum limit (mg/kg)	Method of test
(i)	Arsenic	0.1	EAS 41
(ii)	Copper	0.4	EAS 41
(iii)	Iron	5.0	EAS 41
(iv)	Tin		
	(a) For product packed in tin plate	50.00	EAS 41
	(b) For product packed in other packing containers	250.00	EAS 41
(v)	Mercury	0.5	EAS 41
(vi)	Lead	0.3	EAS 41
(vii)	Cadmium	0.3	EAS 41
(viii)	Methylmercury	0.5	EAS 41
(ix)	Zinc	50.0	EAS 41

7 Packaging

7.1 The packaging of all types of lobsters and lobster products shall be done in packages that provide protection against mechanical damages, leakage and dehydration.

7.2 The materials used in packaging shall be new and shall not impart any injurious substances to the product.

7.3 Raw and cooked frozen lobsters and lobster products, when packed shall be individually wrapped in an immediate wrapper of polythene or other suitable material having similar moisture-proof characteristic such that all exposed meat is covered.

7.4 Material, which impart flavour or in any way causes discoloration of the product, or is itself discoloured by the contact with the product shall not be used as the immediate wrapper.

7.5 Raw and cooked frozen lobsters and lobster products shall be packed in a single service inner container (inner carton) manufactured from

(i) Cardboard with a waterproof liner;

(ii) Waxed cardboard with water-vapour-proof inner liner;

(iii) Welded polythene or other suitable plastic material.

7.6 All inner containers (inner cartons) shall be packed in an outer container (master carton). Outer containers shall be wire-bounded or strapped with any other suitable material.

8 Labelling

In addition to the provisions of EAS 38, the following specific provisions apply:

8.1 The name of the food

The product shall be designated:

(i) Lobster if derived from the genus *Homarus*;

(ii) Rock Lobster, Spiny Lobster or Crawfish if derived from species of the family *Palinuridae*;

(iii) Slipper Lobster, Bay Lobster or Sand Lobster if derived from species of the family *Scyllaridae*;

(iv) Norway Lobster if derived from the species *Nephrops norvegicus;*

(v) Squat Lobster if derived from the species *Cervimunida johnii, Pleuroncodes monodon* and *Pleuroncodes planipes.*

8.1.1 There shall appear on the label, reference to the form of presentation in close proximity to the name of the product in such descriptive terms that will adequately and fully describe the nature of the presentation of the product to avoid misleading or confusing the consumer.

8.1.2 In addition to the specified labelling designations above, the usual or common trade names of the variety may be added so long as it is not misleading to the consumer in the country in which the product will be distributed.

8.1.3 Products shall be designated as cooked or raw as appropriate.

8.1.4 If the product has been glazed with sea-water, a statement to this effect shall be made.

8.1.5 The term "quick frozen", shall also appear on the label, except that the term "frozen" may be applied in countries where this term is customarily used for describing the product processed in accordance with 3.2 of this standard.

8.1.6 The label shall state that the product should be maintained under conditions that will maintain the quality during transportation, storage and distribution.

8.2 Net contents (glazed products)

Where the food has been glazed the declaration of net contents of the food shall be exclusive of the glaze.

8.3 Storage instructions

The label shall include terms to indicate that the product shall be stored at a temperature of -18°C or colder.

8.4 Labelling of non-retail containers

Information specified above shall be given either on the container or in accompanying documents, except that the name of the food, lot identification, and the name and address of the manufacturer or packer as well as storage instructions shall always appear on the container.

However, lot identification, and the name and address may be replaced by an identification mark, provided that such a mark is clearly identifiable with the accompanying documents.

9 Sampling, examination and analyses

9.1 Sampling

(i) Sampling of lots for examination of the product shall be in accordance with CODEX STAN 233, *Sampling Plans for Prepackaged Foods (AQL - 6.5)*. In the case of shell on lobster the sample unit is an individual lobster. In the case of shell-off lobster the sample unit shall be at least a 1 kg portion of lobster from the primary container. In the case of squat lobster the sampling unit shall be at least 1 kg portion.

(ii) Sampling of lots for examination of net weight shall be carried out in accordance with an appropriate sampling plan meeting the criteria established by the Codex Alimentarius Commission.

9.2 Sensory and physical examination

Samples taken for sensory and physical examination shall be assessed by persons trained in such examination and using procedures elaborated in Sections 9.3 through 9.6, Annex A and *CAC/GL 31, Guidelines for the Sensory Evaluation of Fish and Shellfish in Laboratories.*

9.3 Determination of net weight

9.3.1 Determination of net weight of products not covered by glaze

The net weight (exclusive of packaging material) of each sample unit representing a lot shall be determined in the frozen state.

9.3.2 Determination of net weight of products covered by glaze

(Alternate Methods)

(1) As soon as the package is removed from frozen temperature storage, open immediately and place the contents under a gentle spray of cold water until all ice glaze that can be seen or felt is removed. Remove adhering water by the use of paper towel and weigh the product.

(2) The pre-weighed glazed sample is immersed into a water bath by hand, until all glaze is removed, which preferably can be felt by the fingers. As soon as the surface becomes rough, the still frozen sample is removed from the water bath and dried by use of a paper towel before estimating the net product content by second weighing. By this procedure thaw drip losses and/or re-freezing of adhering moisture can be avoided.

(3) (i) As soon as the package is removed from frozen temperature storage, place the product in a container containing an amount of fresh potable water of 27°C (80°F) equal to 8 times the declared weight of the product. Leave the product in the water until all ice is melted. If the product is block frozen, turn block over several time during thawing. The point at which thawing is complete can be determined by gently probing the block.

(ii) Weigh a dry clean sieve with woven wire cloth with nominal size of the square aperture 2.8 mm (ISO 565) or alternatively 2.38 mm (U.S. No. 8 Standard Screen.)

(a) If the quantity of the total contents of the package is 500 g (1.1 lbs) or less, use a sieve with a diameter of 20 cm (8 inches).

(b) If the quantity of the total contents of the package is more than 500 g (1.1 lbs) use a sieve with a diameter of 30 cm (12 inches).

(iii) After all glaze that can be seen or felt has been removed and the lobsters separate easily, empty the contents of the container on the previously weighed sieve. Incline the sieve at an angle of about 20° and drain for two minutes.

(iv) Weigh the sieve containing the drained product. Subtract the mass of the sieve; the resultant figure shall be considered to be part of the net content of the package.

9.4 Determination of count

When declared on the label, the count shall be determined by counting all lobsters or tails in the primary container and dividing the count of lobster by the average deglazed weight to determine the count per unit weight**.**

9.5 Procedure for thawing

The sample unit is thawed by enclosing it in a film type bag and immersing in water at room temperature (not greater than 35 °C). The complete thawing of the product is determined by gently squeezing the bag occasionally so as not to damage the texture of the lobster, until no hard core or ice crystals are left.

9.6 Cooking methods

The following procedures are based on heating the product to an internal temperature of 65-70 °C. The product must not be overcooked. Cooking times vary according to the size of the product and the temperature used. The exact times and conditions of cooking for the product should be determined by prior experimentation.

Baking Procedure: Wrap the product in aluminum foil and place it evenly on a flat cookie sheet or shallow flat pan.

Steaming Procedure: Wrap the product in aluminum foil and place it on a wire rack suspended over boiling water in a covered container.

Boil-in-Bag Procedure: Place the product into a boilable film-type pouch and seal. Immerse the pouch into boiling water and cook.

Microwave Procedure: Enclose the product in a container suitable for microwave cooking. If plastic bags are used check to ensure that no odour is imparted from the plastic bags. Cook according to equipment specifications.

10 Definition of defectives

The sample unit shall be considered as defective when it exhibits any of the properties defined below.

10.1 Deep dehydration

Greater than 10% of the weight of the lobster in the sample unit or greater than 10% of the surface area of the block exhibits excessive loss of moisture clearly shown as white or yellow abnormality on the surface which masks the colour of the flesh and penetrates below the surface, and cannot be easily removed by scraping with a knife or other sharp instrument without unduly affecting the appearance of the lobster.

10.2 Foreign matter

The presence in the sample unit of any matter which has not been derived from lobster, does not pose a threat to human health, and is readily recognized without magnification or is present at a level

determined by any method including magnification that indicates non-compliance with good manufacturing and sanitation practices.

10.3 Odour/Flavour

Lobster affected by persistent and distinct objectionable odours or flavours indicative of decomposition or rancidity, or feed.

10.4 Discolouration

Distinct blackening of more than 10% of the surface area of the shell of individual whole or half lobster, or in the case of tail meat and meat presentations distinct black, brown, green or yellow discolourations singly or in combination, of the meat affecting more than 10% of the declared weight.

11 Lot acceptance

A lot shall be considered as meeting the requirements of this standard when:

(i) not any single instance of critical foreign matter occurs; or

(ii) the total number of sample units found defective for taint, decomposition or unwholesomeness, individually or in combination, does not exceed the acceptance number for the sample size designated in the sampling plans in CD-K-572:2010; or

(iii) the total number of sample units found defective for decomposition does not exceed the acceptance number (c) shown in parentheses for the sample size designated in the sampling plans in CD-K-572:2010; or

(iv) the total number of sample units found defective for standards of identity (style of presentation) and size designation or count range (if a size designation or count range is declared), exceeds the acceptance number for the sample size designated in the sampling plans.

(v) the Food Additives, Hygiene and Labelling requirements of Sections 5, 6, 7 and are met.

Frozen lobsters in retail packs

Whole cooked lobsters

Lobster tails

Frozen lobster tails

Frozen rock lobster

Annex A
(normative)

Sensory and physical examination

1. Complete net weight determination, according to defined procedures in Section 9.3 (de-glaze as required).

2. Examine the frozen lobster for the presence of deep dehydration. Determine the percentage of lobster affected.

3. Thaw using the procedure described in Section 9.5 and individually examine each sample unit for the presence of foreign and objectionable matter.

4. Examine product count and weight declarations in accordance with procedures in Section 9.4.

5. Assess the lobster for odour and discolouration as required.

6. In cases where a final decision regarding the odour/flavour cannot be made in the thawed state, a small portion of the sample unit (100 to 200 g) is prepared without delay for cooking and the odour/flavour confirmed by using one of the cooking methods defined in Section 9.6.

Annex B
(normative)

Applicability of defects

Defects	Raw white lobster	Cooked white lobster	Raw lobster, tail half/split lobster	Lobster tail meat and lobster meat
Dehydration	—	—	X	X
Abnormal colouration	X	X	X	X
Black spot	X	X	X	X
Opacity	X	—	X	X
Damage (a) (b)	X —	X —	X X	— —
Incomplete removal of intestines	—	—	X	—
Soft shell	X	X	X	X
Shell segments	—	—	—	X

KEY
X Means applicable
— Means not applicable

Annex C
(normative)

Evaluation of physical requirements

All lobster products shall be physically examined either non-destructively (without thawing) or destructively (after thawing) for defects listed in Table 2.

Points shall be added for each defect and the sum total shall be added per sample unit. A sample unit shall be considered defective if it exceeds the permissible number of points as given in C.1.2, C.2.1.1, C.2.2.1 and C.3.1.1.

C.1 Examination of whole lobster

C.1.1 Whole lobsters shall be subjected to destructive physical examination for defects listed in Table 3.

C.1.2 A sample unit shall be considered defective if it has

(i) more than 4 points for defects classified as serious defect;

(ii) more than a total of 6 points in combination for defects classified as serious and major defects;

(iii) more than a total of 8 points in combination for defects classified as serious, major and minor defects.

C.2 Examination of half/split lobsters and lobster tails

C.2.1 Half lobsters and lobster tails shall be initially subjected to non-destructive physical examination for defects listed in Table 3.

C.2.1.1 A sample unit shall be considered defective if it has

(a) more than 4 points for defects classified as serious defects; or

(b) more than a total of 6 points in combination for defects classified as serious and major defects; or

(c) more than a total of 8 points in combination for defects classified as serious, major and minor defects.

C.2.2 A sample unit, which obtains more than 2 points for defects, classified as major and minor defects singly or in combination according to Table 2 but is not a defective as defined in C.2.2.1 shall be destructively examined for physical defects listed in Table 2.

C.2.2.1 The sample unit shall be considered defective if it has

(a) more than 4 points for defects classified as serious defects;

(b) more than a total of 6 points in combination for defects classified as serious and major defects;

(c) more than a total of 8 points in combination for defects classified as serious, major and minor defects.

C.3 Examination of lobster tail meat and lobster meat

C.3.1 Lobster tail meat and lobster meat shall be subjected to destructive physical examination for defects listed in Table 3.

C.3.1.1 A sample unit shall be considered a defective if it has

(a) more than 4 points for defects classified as serious,

(b) more than a total of 6 points in combination for defects classified as serious and major defects;

(c) more than a total of 8 points in combination for defects classified as serious, major and minor defects.

Table 3 — Physical examination for all forms of presentations both destructive (examination in the thawed state) and non-destructive (examination without thawing)

Defects	Minor	Major	Serious
Dehydration			
(a) 10 % to 20 % of exposed surface area	—	2	—
(b) More than 20 % of exposed surface area	—	—	4
Abnormal colour (area affected)			
(a) Whole lobster up to 900 g or lobster over 300 g or lobster over 450 g			
(b)Split lobster up to 450 g or tail units up to 300 g			
(i) 100 mm sq to 225 mm sq	—	2	—
(ii) More than 225 mm sq	—	—	6
Black spot			
(applicable to split lobster and lobster tail meat)	—	—	4
Damages			
(a) Less than 5 tail segments	1		—
(b) Cut/scars	1	-2	—
(c) Cracked or crushed shell	—		—
Incomplete removal of intestine			
(applicable only to lobster tail)	—	—	4
Soft shell (applicable to split lobster and lobster tail)	—	2	—
Opacity (applicable to raw products)	—	2	—
Texture (cooked state)			
(a) Tough or fibrous	—	2	
(b) Mushy or gelatinous	—	—	-6
Objectionable odour - raw state Objectionable odour/flavour - cooked state	—	—	4
	—	—	6

Annex D
(normative)

Thawing and cooking

D.1 Thawing

A sample is thawed by enclosing it in a film-type bag immersed in an agitated water bath held at ambient temperature. If lobster products are individually frozen, complete thawing of the product is determined by gently squeezing the bag occasionally so as not to damage the texture of the lobster products, and until no hard core or ice crystals are felt. If the product is block frozen, turn the block over several times during thawing. The point at which thawing is complete can be determined by gently probing the block apart and until no hard core or ice crystals are felt.

D.2 Cooking

The raw frozen lobsters and lobster products shall first be thawed as described in D.1.

Cut from the lobster or lobster products, pieces of lobster meat 10 mm to 20 mm thick and place about 75 g of this, after rinsing in water, in a low density polythene bag of thickness 50 mm to 80 mm. Into the bag, add 100 ml of 1per cent common salt solution and tie the bag so that water will not get into the bag when cooking. The bag shall be such a size that the lobster meat is completely covered by the salt solution.

The bag is then suspended in boiling water and the part of the bag containing lobster meat shall be kept well beneath the level of water to a boil cook for 9 minutes (more than one sample may be cooked at a time, provided the water returns to boil within 2 minutes).

Remove the bag, drain and cool approximately to room temperature (do not refrigerate). Evaluate odour, flavour and texture.