



## United States Standards for Grades of Frozen Raw Fish Portions

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### Description of the product

The product described in this part consists of clean, wholesome, shaped masses of cohering pieces (not ground) of fish flesh. The fish portions are cut from frozen fish blocks, and are packaged in accordance with good manufacturing practice. They are maintained at temperatures necessary for the preservation of the product. All fish portions in an individual package are prepared from the flesh of one species of fish.

### Style

- (a) *Style I - Skinless portions.* Portions prepared from fish blocks which have been made with skinless fillets.
- (b) *Style II - Skin-on portions.* Portions prepared from fish blocks which have been made from demonstrably acceptable skin-on fillets.

### Types

- (a) *Type I-Uniform shaped.* All portions in the sample are uniformly shaped.
- (b) *Type II-Specialty cut.* All portions not covered in Type I.

### Grades

- (a) “U.S. Grade A” is the quality of frozen raw fish portions that:
  - (1) Possess a good flavor and odor and that
  - (2) for those factors that are rated in accordance with the scoring system outlined in this part, have a total score of 85 to 100 points.
- (b) “U.S. Grade B” is the quality of frozen raw fish portions that: (1) Possess at least reasonably good flavor and odor, and that (2) rate a total score of not less than 70 points for those factors of quality that are rated in accordance with the scoring system outlined in this part.
- (c) “Substandard” or “Utility” is the quality of frozen raw fish portions that meet the requirements of Description of the Product but that otherwise fail to meet the requirements of “U.S. Grade B.”

### Labeling requirements for styles of frozen fish portions

Section 260.86 (a), (b), and (c) of this chapter state the requirements for the use of approved grade marks, inspection marks and combined grade and inspection marks on processed fishery products. When an approved inspection mark is used on Style II (Style) of frozen raw fish portions, that style shall be conspicuously revealed on the label as having been made from “skin-on fillets.”



## Determination of the grade.

The grade is determined by examining the product for factors 1-8 in the frozen state and factors 9-11 in the cooked state.

(a) *Factors rated by score points.* Points are deducted for variations in the quality of each factor in accordance with the schedule in Table I. The total of points deducted is subtracted from 100 to obtain the score. The maximum score is 100, the minimum score is 0.

(b) *Factors not rated by score points.* The factor of “flavor and odor” is evaluated organoleptically by smelling and tasting after the product has been cooked in accordance with Definitions and Methods (c).

- (1) Good flavor and odor (essential requirements for U.S. Grade A product) means that the cooked product has the typical flavor and odor of the indicated species and is free from rancidity, bitterness, staleness, and other off-flavor and odors of any kind.
- (2) Reasonably good flavor and odor (minimum requirements of a U.S. Grade B product) means that the cooked product is lacking in good flavor and odor, but is free from objectionable off-flavors and off-odors of any kind.

## Definitions and methods.

(a) *Selection of the sample unit.* The sample unit shall consist of 10 frozen raw fish portions taken at random from one or more packages as required. The fish portions for examination in the frozen and cooked state are spread out on a flat pan or sheet and are examined according to Table 1. Definition of factors for point deductions are as follows:

(b) *Examination of sample, frozen state.*

- (1) “Ease of separation” refers to the difficulty of separating the portions from each other or from the packaging material.
- (2) “Broken portion” means a portion with a break or cut equal to or greater than one-half the width or length of the portion.
- (3) “Damaged portion” means a physically or mechanically injured, misshaped or mutilated to the extent that its appearance is materially affected. The amount of damage is determined by using a grid composed of squares  $\frac{1}{4}$  inch x  $\frac{1}{4}$  inch to measure the area of the portion affected. No deductions are made for damage of less than  $\frac{1}{4}$  inch x  $\frac{1}{4}$  inch.
- (4) “Voids” refer to objectionable holes, spaces, or depressions in the fish flesh. Instances of voids refer to each occurrence measured by placing a plastic grid marked of in  $\frac{1}{4}$  inch squares at least  $\frac{1}{8}$  inch in depth over the affected area. Each square counted as one whether it is full or fractional. No deductions are made for voids of less than  $\frac{1}{4}$  inch x  $\frac{1}{4}$  inch.
- (5) “Discoloration” is considered as a deviation in color from that normal to the species present in the portions.
- (6) “Dehydration” refers to the presence of dehydrated (water-removed) tissue in the portions. Slight dehydration is surface dehydration which is not colormasking. Deep dehydration is colormasking and cannot be removed by scraping with a blunt instrument.



- (7) “Uniformity of size” refers to the degree of uniformity in length and width of the frozen portions. Deviations are measured from the combined lengths of the two shortest and/or the combined widths of the two widest minus the combined widths of the two narrowest in the sample. Deductions are not made for overall deviations in length or width up to ¼ inch.
- (8) “Uniformity of weight” refers to the degree of uniformity of the weights of portions. Uniformity is measured by the combined weight of the two heaviest portions divided by the combined weight of the two lightest portions in the sample. No deductions are made for weight ratios less than 1.2 for Type I.

(c) *Examination of sample, cooked state.* Cooked state means the state of the sample after cooking in accordance with instructions accompanying the product. However, if specific instructions are lacking, cooking is accomplished by:

- (1) *Boil in bag method.* Insert the sample of frozen portions into a boilable film-type pouch; fold the open end of the pouch over a suspension bar and clamp in place to provide a loose seal after evacuating the air by immersing the pouch into boiling water. Cook the contents for 20 minutes (until the internal temperature of the portions reaches 160°F.).
- (2) *Steam method.* Use 10 frozen portions, wrap them individually or in a single layer in aluminum foil, and place the packaged portions on a wire rack suspended over boiling water in a covered container. Steam the packaged portions for 20 minutes.
- (3) *Bake method.* Package the 10 frozen portions as previously described. Place the packaged portions on a flat cookie sheet or shallow flatbottom pan of sufficient size so that the packages can be evenly spread on the sheet or pan. Place the pan and frozen contents in a properly ventilated oven preheated to 400°F. for 20 minutes.

(d) *Factors examined in cooked state.*

- (1) “Blemishes” refers to skin (except for Style II), blood spots or bruises, objectionable dark fatty flesh, or extraneous material. Instances of blemishes refer to each occurrence measured by placing a plastic grid marked off in ¼ inch squares 1/16 square inch) over the defect area. Each square is counted as 1 whether it is full or fractional.
- (2) “Bones” means the presence of potentially harmful bones in a portion. A potentially harmful bone is one that after being cooked is capable of piercing or hurting the palate.
- (3) “Texture defects of the fish flesh and texture of skin in Style II” refers to the absence of the normal textural properties of the cooked fish flesh and to the absence of tenderness of the cooked skin in Style II. Normal textural properties of cooked fish flesh are tenderness, firmness, and moistness without excess water. Texture defects of the cooked flesh are dryness, mushiness, toughness, and rubberiness. Texture defects of the cooked skin in Style II are mushiness, rubberiness, toughness, and stringiness.

(e) *General definitions.*

- (1) “Small” (overall assessment) refers to a condition that is noticeable but is only slightly objectionable.
- (2) “Large” (overall assessment) refers to a condition that not only is noticeable but is seriously objectionable.



- (3) “Minor” (individual assessment) refers to a defect that slightly affects the appearance and/or utility of the product.
- (4) “Major” (individual assessment) refers to a defect that seriously affects the appearance and/or utility of the product.
- (5) “Net weight”: The net weight of the portions if glazed shall be determined by the following method:
  - (i) Weigh the portions with the glaze intact, which gives the gross weight.
  - (ii) Thaw the glaze from the surfaces of the product with flowing tap water.
  - (iii) Gently wipe off the excess water from the surfaces with a single water saturated paper towel.
  - (iv) Weigh the deglazed portions, which gives the net weight.

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### Tolerances for certification of officially drawn samples

The sample rate and grades of specific lots shall be certified in accordance with Part 260 of this chapter (Regulations Governing Processed Fishery Products).

**TABLE 1 - SCHEDULE OF POINT DEDUCTIONS PER SAMPLE**

Factors Scored	Method of determining score	Deduct
	<b>Frozen State</b>	
1. Ease of separation	Minor: Hand separated with difficulty. Each affected Major: Separated only by knife or other instrument. Each affected	3 6
2. Broken portion	Break or cut greater than 1/2 width or length. Each affected	10
3. Damaged portion	Mashed, mechanically and/or physically injured, misshaped or mutilated Minor: 1 to 5 instances <sup>1</sup> . Each affected Major: Over 5 instances. Each affected	2 4
4. Voids	Holes, spaces or depressions: Minor: 1 to 5 instances. Each affected Major: Over 5 instances. Each affected	1 2
5. Discoloration (overall assessment)	Small degree: Slight yellowing or rusting Large degree: Excessive yellowing or rusting	16 31
6. Dehydration (overall assessment)	Surface dehydration: Small degree: Easily scraped off with fingernail. Each affected Large degree: Deep dehydration not easily scraped off, affecting over 10 percent of surface area. Each affected	5 10
7. Uniformity of size	Deviation in length or width between the 2 largest and 2 smallest portions that are similarly shaped Up to 1/4 inch Over 1/4 inch and up to 1/2 inch Over 1/2 inch	0 3 10



8. Uniformity of weight	Weight ration of 2 heaviest divided by the 2 lightest Over 1.0 but not over 1.2 Over 1.2 but not over 1.3 Over 1.3 but not over 1.4 Over 1.4	0 2 5 10
9. Blemishes	Skin (except for Style II) blood spots, bruises and discolorations: Minor: 1 to 6 instances <sup>1</sup> . Each affected Major: Over 6 instances. Each affected	2 4
10. Bones	Portions containing bones (potentially harmful). Each affected	10
11. Texture	Small degree: Moderately dry, soggy, or tough Large degree: Dry to the point of fibrousness, very mushy, tough, or rubbery skin (Style II)	5 15

<sup>1</sup>An instance = each 1/4 - inch square.