1. **Introduction**

The ***US Grade Standard for Fish Fillets*** stipulates the *NOAA Seafood Inspection Program (SIP) Requirements* and *Quality Assessment Criteria* that must be met by designated lots to meet eligibility requirements for use of NOAA SIP Insignia.

1. **Scope**

The US Grade Standard for Fish Fillets applies to fish and fishery products that meet the following Product Definition and Product Description.

**§2.1 - Product Definition**

Fish fillets (fillets) are derived from finfish species, processed by cutting the fish parallel to the axial length or backbone, and can be cut crosswise or lengthwise.

**§2.2 - Product Description**

This standard applies to raw, partially cooked, or cooked fillets presented to the buyer or consumer in any combination of the following **types**, **styles**,and **forms**.

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| **Types** | **Styles** | **Forms** |
| * Chilled
* Frozen, Glazed
* Frozen, Unglazed
 | * Butterfly Fillet
* Single Fillet
 | * Bone In
	+ Skin-On, Scale-On
	+ Skin-On, Scaleless
	+ Skinless
* Boneless
* Skin-On, Scale-On
* Skin-On, Scaleless
* Skinless
* Practically Boneless
* Skin-On, Scale-On
* Skin-On, Scaleless
* Skinless
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1. **Sampling**

Lot size, number of sample units, and acceptance numbers will be selected in accordance with 50 CFR Part 260.61 or as otherwise approved or directed by the Agency for each designated lot.

1. **Product Inspection**

Fish and fishery products covered by this US Grade Standard must meet Regulatory Requirements, NOAA SIP Product Requirements, and specified Quality Assessment Criteria to bear NOAA SIP insignia.

**§4.1 - Regulatory Requirements**

Per the[*NOAA SIP Compliance Standard*](https://docs.google.com/document/d/1fDooXwaDJhRAAEtJU059qx0p9yHHFucW/edit), in order to enter commerce, designated lots:

4.1.1 - Must meet label and any applicable standard of identity regulations, and

4.1.2 - May not be adulterated.

**§4.2 - NOAA SIP Product Requirements**

Designated lots must meet applicable NOAA SIP Product Requirements.

4.2.1 - None applicable for this US Grade Standard.

**§4.3 - Quality Assessment Criteria**

Designated lots shall be deemed high, medium or acceptable quality based on the following quality assessment criteria:

**4.3.1 - Workmanship Quality Attributes**

4.3.1.1 - Unusable fish material, and

4.3.1.2 - Fillets that are atypical, damaged, dehydrated, discolored, improperly cleaned, and improperly cut and/or trimmed.

**4.3.2 - Sensory Quality Attributes**

4.3.2.1 - Odor/Flavor, and

4.3.2.2 - Texture.

1. **Eligibility Requirements for Use of NOAA SIP Insignia**

Designated lots must meet the eligibility provisions associated with the specific NOAA SIP Insignia requested for use.

**§5.1 - Quality Requirements for Use of the US Grade A Shield**

To meet eligibility requirements for use of the US Grade A Shield, designated lots must:

5.1.1 - Meet applicable NOAA SIP Requirements, and

5.1.2 - Meet the criteria for the High Quality Category.

**§5.2 - Quality Requirements for Use of the USDC Processed Under Federal Inspection (PUFI) Mark**

To meet eligibility requirements for use of the PUFI Mark, designated lots must:

5.2.1 - Meet applicable NOAA SIP Requirements, and

5.2.2 - Meet the criteria for the Medium Quality Category.

1. **Sample Unit Quality Assessment**

Based on *Quality Assessment Criteria*, each sample unit shall be assessed for *Workmanship Quality Attributes* and *Sensory Quality Attributes*.

**§6.1 - Workmanship Quality Attributes** - For each *Workmanship Quality Attribute,* a sample unit may be assessed nonconformance points by using a combination of a (1) numerical value for a percent by weight or percent by count; and (2) multiplication factor as outlined in the Appendices A-C.

The *Sample Unit Quality Assessment* for *Workmanship Quality Attributes* is designated *High*, *Medium,* or *Acceptable* based on the total nonconformance points for the sample unit.

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| **Workmanship Quality Attributes** |
| **Total Points** | **Sample Unit Quality Assessment** |
| ≤ 20 | High |
| >20 - ≤ 50 | Medium |
| > 50 | Acceptable |

**§6.2 - Sensory Quality Attributes** *-* For *Sensory Quality Attributes*, each sample unit shall be evaluated for (1) *Odor/Flavor* and (2) *Texture.*  The *Sample Unit Quality Assessment* for *Sensory Quality Attributes* is designated (1) *High or* *Acceptable* based on the lowest quality category for the sample unit or (2) *Unacceptable* based on the presence of adulteration (decomposition and/or taint).

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| **Sensory Quality Attributes** |
|  **Odor/Flavor** | **Texture** | **Sample Unit****Quality Assessment** |
| High | High | High |
| Acceptable | Acceptable |
| High | Acceptable | Acceptable |
| Acceptable |
| Unacceptable\* | High | Unacceptable\* |
| Acceptable |
| \*Unacceptable renders the sample unit noncompliant due to presence ofadulteration (decomposition and/or taint). |

1. **Lot Quality Assessment**

Lot Quality Assessment is determined by combining the lot quality assessment results for Workmanship Quality Attributes and Sensory Quality Attributes.

Lot Quality Assessment for *Workmanship Quality Attributes* and *Sensory Quality Attributes* is determinedas follows:

**§7.1** - **Workmanship Quality Attributes** - The Lot Quality Assessment for *Workmanship Quality Attributes* is the lowest quality category assigned to a sample unit.

**§7.2** - **Sensory Quality Attributes** - The Lot Quality Assessment for *Sensory Quality Attributes* is (1) the lowest quality category assigned to a sample unit or (2) Unacceptable due to the presence of adulteration (decomposition and/or taint).

The overall **Lot Quality Assessmen**t is (1) the lowest quality category assigned to either Workmanship Quality Attributes or Sensory Quality Attributes or (2) Unacceptable due to the presence of adulteration (decomposition and/or taint).

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| **Lot Quality Determination**  |
| **Lot Quality Assessment** | **Lot Quality**  |
| **Workmanship****Quality Attributes** | **Sensory****Quality Attributes** |
| High | High  | High |
| Medium | High  | Medium |
| Acceptable | High | Acceptable |
| HighMediumAcceptable | Acceptable  | Acceptable |
| Unacceptable\* | Unacceptable\* |
| \*Unacceptable renders the sample unit non-compliant due to presence ofadulteration (decomposition and/or taint). |

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| **Appendix A****Workmanship Quality Attributes - Assessments and Multiplication Factors** |
| **Workmanship Quality Attributes** | **Assessments** | **Multiplication Factors** |
| **Chilled or Thawed State** |
| Unusable Fish Material | Percent by Weight | 4.00 |
| Atypical Fillets | Percent by Count | 2.10 |
| Damaged Fillets | Percent by Count | 0.80 |
| Dehydrated Fillets - Slight | Percent by Count | 0.25 |
| Dehydrated Fillets – Moderate to Excessive | Percent by Count | 1.75 |
| Discolored Fillets | Percent by Count | 1.10 |
| Improperly Cleaned Fillets | Percent by Count | 0.50 |
| Improperly Cut and/or Trimmed Fillets | Percent by Count | 0.27 |

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| **Appendix B****Workmanship Quality Attributes - Definitions, Assessments and Multiplication Factors** |
| **Chilled or Thawed State** |
| **Definitions[[1]](#footnote-1)** | **Assessments** | **Multiplication Factors** |
| **Unusable Fish Material:** any material that derived from the fillets, including, but not limited to, detached bones, detached fins, detached girdles, detached parasites, detached scales, detached skins, and loose fish flesh particles. | **Percent by Weight** | **4.00** |
| **Atypical Fillets:** pronounced deviations from the normal appearance of freshly caught, healthy finfish including, but not limited to, abnormal conditions and diseased conditions.* **Abnormal conditions:** unusual flesh conditions such as a (1) chalky, dry, fiber-less, granular appearance; (2) jellied, gelatinous, glossy, slimy, translucent appearance; and (3) milky white, mushy, pasty or fluidized appearance.
* **Diseased conditions:** unusual flesh and/or skin conditions such as (1) melanin (dark brown to black) flesh spots and/or skin marks; (2) sandy flesh (myofibrogranuloma) in walleye; and (3) strawberry skin marks (cold water strawberry disease or red mark syndrome) in rainbow trout.
 | **Percent by Count** | **2.10** |
| **Damaged Fillets:** crushed or mangled which materially affects its usability, including, but not limited to, distortion, honeycombing, and holes.* **Distortion**: visible appearance of flesh being distorted or twisted.
* **Honeycombing**: visible appearance of discrete holes or openings of varying size on the flesh’s surface, that results in an overall sponge-like or honeycomb appearance.
* **Holes:** perforations in the flesh.
 | **Percent by Count** | **0.80** |
| **Dehydrated Fillets:** noticeable dry, white fibrous appearance on the surface of the flesh, and classified as either slight or moderate to excessive. * **Slight:** minimally noticeable dehydrated flesh areas that slightly affect the individual fillet’s appearance.
* **Moderate to Excessive:** readily noticeable dehydrated flesh areas that moderately or excessively affect the individual fillet’s appearance.
 | **Percent by Count** | **0.25**  |
| **1.75** |
| **Discolored Fillets:** discolored flesh or skin including, but not limited to, belly burn, blood spots, bruises, and discolored fish flesh or surface fat.* **Belly burn:** yellowish to brownish spots in the flesh of the belly cavity.
* **Blood spots:** red, brownish red or dark spots in the flesh.
* **Bruises:** localized, darkened (reddish-brown) blood-filled areas in the flesh.
* **Discolored fish flesh or surface fat:** darkened or lightened areas of the light meat or increased yellowing or rusting of the dark meat surface fat.
 | **Percent by Count** | **1.10** |
| **Appendix B (continued)****Workmanship Quality Attributes - Definitions, Assessments and Multiplication Factors** |
| **Chilled or Thawed State** |
| **Definitions[[2]](#footnote-2)** | **Assessments** | **Multiplication Factors** |
| **Improperly Cleaned Fillets:** inadequate removal of undesirable fish material during the cleaning process, including, but not limited to, the presence of attached belly lining, attached scales, visceral material, and parasites (5 or more).* **Attached belly lining**: thin grayish to black belly membrane that lines the stomach cavity.
* **Attached scales:** rigid plates that grow out of a fish's skin to provide protection and assessed only if product form is scaleless.
* **Visceral material**: inadequate removal of internal viscera from the cavity such as the air bladder, blood, digestive tube and its accessory glands, gonads, roe and soft internal organs.
* **Parasites**: organisms present in or on the fish such as but not limited to nematodes, roundworms, cestodes, tapeworms, trematodes and flukes and are assessed only if the fillet has 5 or more visible parasites.
 | **Percent by Count** | **0.50** |
| **Improperly Cut and/or Trimmed Fillets:** irregular, inadequate, unnecessary, or improper knife or blade cuts or trimmings present, including, but not limited to, the presence of attached collarbone, attached fins, attached girdles, attached lace (frill); attached or detached skin; embedded bones, ragged edges and tears.* **Attached collarbone**: inedible curved linear bony appendage (large white, circular-shaped bone) at the anterior end of fillet.
* **Attached fins:** organs of locomotion consisting of thin tissue supported by cartilaginous or bony rays.
* **Attached girdles:** inedible bony and cartilaginous structures at the base of the pectoral and pelvic fins.
* **Attached lace (frill)**: fleshy fin tissue adhering to the edge of a flatfish.
* **Bones:** bones embedded in the flesh are assessed in (1) boneless and (2) practically boneless fillets when the fillet contains 5 or more bones.
* **Ragged edges**: irregular or shredded appearances of the fillet or fillet edge.
* **Skin**: thin layer of tissue forming the natural outer covering of the body of a fish.
	+ Attached or partially attached skin is nonconforming when the product form is skinless.
	+ Detached or partially detached skin is nonconforming when the product form is skin-on.
* **Tears:** lacerations in the flesh.
 | **Percent by Count** | **0.27** |

**Introduction**

For each *Workmanship Quality Attribute,* a sample unit is assessed nonconformance points by determining the percent by weight or percent by count and then multiplying the numerical value by the multiplication factor. For example: A sample unit has 13 fillets and 3 fillets are damaged fillets. The percent by count is 23.08%. Since the numerical value is 23.08 and the multiplication factor is 0.80, the sample unit is assessed 18.46 points.

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| **Appendix C****Workmanship Quality Attributes – Quality Assessment Calculations** (Please note:calculations are rounded to the nearest hundredths.) |
| **Percent by Weight** | **Points** |
| **Unusable Material** |
| $$Round\left[\left(\frac{Weight of Unusable Fish Material}{Net Weight of Sample Unit}\right) X 100\right]$$ | $$Round (\% by Weight's Numerical Value X 4.00)$$ |
| **Percent by Count** | **Points** |
| **Atypical Fillets** |
| $$Round\left[\left(\frac{Number of Atypical Fillets}{Number of Fillets}\right) X 100\right]$$ | $$Round (\% by Count^{'}s Numerical Value X 2.10)$$ |
| **Damaged Fillets** |
| $$Round\left[\left(\frac{Number of Damaged Fillets}{Number of Fillets}\right) X 100\right]$$ | $$Round (\% by Count^{'}s Numerical Value X 0.80)$$ |
| **Dehydrated Fillets (Slight)** |
| $$Round\left[\left(\frac{Number of Dehydrated Fillets}{Number of Fillets}\right) X 100\right]$$ | $$Round (\% by Count^{'}s Numerical Value X 0.25)$$ |
| **Dehydrated Fillets (Moderate to Excessive)** |
| $$Round\left[\left(\frac{Number of Dehydrated Fillets}{Number of Fillets}\right) X 100\right]$$ | $$Round (\% by Count^{'}s Numerical Value X 1.75)$$ |
| **Discolored Fillets** |
| $$Round\left[\left(\frac{Number of Discolored Fillets }{Number of Fillets}\right) X 100\right]$$ | $$Round (\% by Count^{'}s Numerical Value X 1.10)$$ |
| **Improperly Cleaned Fillets** |
| $$Round\left[\left(\frac{Number of Improperly Cleaned Fillets}{Number of Fillets}\right) X 100\right]$$ | $$Round (\% by Count^{'}s Numerical Value X 0.50)$$ |
| **Improperly Cut and/or Trimmed Fillets** |
| $$Round\left[\left(\frac{Number of Improperly Cut/Trimmed Fillets}{Number of Fillets}\right) X 100\right]$$ | $$Round (\% by Count^{'}s Numerical Value X 0.27)$$ |

1. Attributes that are described in the plural apply to one or more instances (e.g., a single bruise or multiple bruises are covered by the Workmanship Attribute “Bruises”). [↑](#footnote-ref-1)
2. Attributes that are described in the plural apply to one or more instances (e.g., a single bruise or multiple bruises are covered by the Workmanship Attribute “Bruises”). [↑](#footnote-ref-2)