Product Specific Specifications for Straight Cut (SC-9mm)

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1. Introduction

This document outlines the detailed specifications, procedures, and protocols for the production and quality assurance of the SKUs labeled as **SC-9mm**. It is intended for use by production operators, quality assurance personnel, and maintenance teams to ensure consistent product quality in accordance with company standards and industry best practices.

2. Product Overview

The **SC-9mm** SKU is a specialized cut product designed for specific market applications requiring uniform slice thickness. The product's key characteristics include targeted dry matter content, defect levels, and fry color parameters with defined tolerances to ensure quality and processing efficiency.

Description: This specification defines the target dry matter %, defect %, and fry color for the SKUs labeled SC-9mm, including tolerances of ±0.3

percentage points for dry matter, defect thresholds at 2%, and fry color range median class 2-3. Downgrading protocols are detailed for quality deviations to facilitate proper segregation and corrective actions.

3. Equipment Overview

3.1 Line Equipment and Throughput Capacities

The following equipment commonly utilized in the production process includes:

- **CUT-2000**: Rated throughput of 8.5 tonnes per hour (t/h). Designed for high-precision slicing with optimized blade configurations for SC-9mm specifications.
- **FRY-XL**: Rated throughput of 6.0 t/h. Utilized in fry color and defect inspections post-processing.

3.2 Equipment Efficiency and Maintenance

Efficiency thresholds for equipment operation should not fall below 85%. Regular maintenance includes blade sharpening, calibration, and cleaning schedules specified in the equipment manual.

3.3 Error Codes

Common error codes include **DOW-PI-45xx**, indicating downgrading or equipment parameter anomalies. Refer to section 7 for troubleshooting procedures related to error codes.

4. Target Specifications

Parameter	Target Value	Tolerance / Range	Description
Dry Matter Percentage (DM%)	21.8%	±0.3pp	Represents the moisture content in the product. Critical for texture and shelf life.

Defect Level	< 2%	N/A	Percentage of defective slices or chips per batch, including visual deformities and broken slices.
Fry Color Median Class	Classes 2-3	N/A	Color rating based on standardized fry color chart, median class for quality control.

4.1 Additional Quality Parameters

- **Fry Color Range**: The acceptable fry color spans median classes 2 to 3, which corresponds to a specific colorimetric range (see appendix A for detailed colorimetric standards).
- **Downgrade Criteria**: Deviations beyond tolerances result in product downgrades or batch segregation for reprocessing or disposal.

5. Tolerance and Downgrading Protocols

5.1 Tolerance Bands

Parameters must adhere to the following tolerance bands to qualify for standard classification:

- **Dry Matter %**: 21.5% – 22.1%
- **Defect %**: 0% – 2%
- **Fry Color Median Class**: 2 – 3

5.2 Downgrade Procedures

If any parameter exceeds its specified tolerance, respective downgrade actions must be initiated:

- **Dry Matter & Defect %**: Product designated as *Downgrade Class B* if defect percentage exceeds 2% or dry matter deviates by more than ±0.3pp.
- **Fry Color**: Marked for reprocessing if fry color median class exceeds 3 or drops below 2. by standard colorimetric analysis.

All downgraded batches must be recorded, segregated from standard

batches, and subjected to root cause analysis before reprocessing or disposal as per quality policy.

6. Measurement Procedures

6.1 Dry Matter Content Measurement

1. Sample preparation: Collect 500g of product from production batch.
2. Drying: Weigh the sample, dry in a convection oven at 105°C for 16 hours.
3. Weigh dried sample and calculate % dry matter:

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Dry Matter % = (Dried Sample Weight / Original Sample Weight)
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6.2 Defect Level Assessment

Visual inspection and manual counting of defective slices or chips per batch. Use standardized defect scoring forms.

6.3 Fry Color Measurement

Use a calibrated colorimeter to evaluate the median fry color class following the company color chart. Record median class; target is 2-3.

7. Maintenance and Error Codes

7.1 Routine Maintenance

- Blade sharpening every 250 operational hours or weekly, whichever occurs first.
- Calibration of slicing thickness every 30 days or after significant machine downtime.
- Cleaning schedules: daily cleaning of blades and conveyors.

7.2 Error Code Investigation

Common error code: **DOW-PI-45xx** — indicates a downgrading parameter flag or sensor malfunction. Troubleshooting steps include:

- Check error logs for specific code details.
- Verify sensor calibration and connections.

- Inspect mechanical components for wear or misalignment.
- Reset error codes after resolution and verify correct operation.

8. Quality Control and Monitoring

8.1 Batch Inspection

Implement sampling protocols with statistical relevance; minimum of 20 samples per batch to assess parameter compliance.

8.2 Continuous Monitoring

Automated sensors monitor dry matter content and fry color in real-time. Alarm systems trigger if parameters breach set thresholds.

8.3 Documentation and Record Keeping

Maintain detailed logs of measurements, maintenance, error incidents, and corrective actions. Use standardized forms and digital systems for record accuracy and traceability.

9. Appendices

9.1 Appendix A: Colorimetric Standards

Standardized fry color classes are defined according to the company's color chart:

- Class 1: Light Pale
- Class 2: Golden Brown
- Class 3: Deep Amber
- Class 4: Dark Brown

9.2 Appendix B: References

- Equipment manuals for CUT-2000 and FRY-XL models.
- Company quality standards and procedure manuals.
- Latest calibration and maintenance schedules.

9.3 Appendix C: Error Code Troubleshooting Flowchart

Refer to the attached flowchart diagram for systematic troubleshooting of common error codes. (Note: diagrams to be inserted during document finalization)