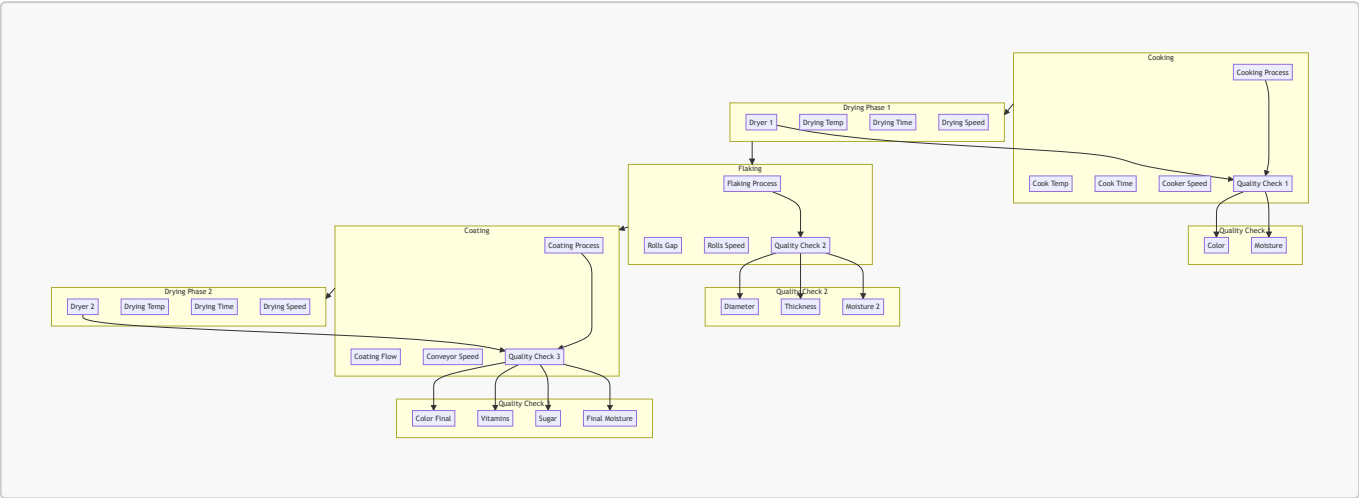


Cereal Manufacturing Process Documentation

Process Overview



Process Parameters and Specifications

1. Cooking Process

- **Cook Temperature**
 - Range: 450°F ± 10°F
 - Relations: High correlation with Color
- **Cook Time**
 - Range: 20-30 minutes
- **Cooker Speed**
 - Range: 50 rpm ± 5 rpm

2. Dryer 1

- **Drying Temperature**
 - Range: 250°F ± 10°F
 - Relations: High correlation with Moisture
- **Drying Time**
 - Range: 10 minutes ± 1 minute
- **Drying Speed**
 - Range: 400 ft/min ± 20 ft/min

3. Quality Checks 1

- **Moisture**
 - Range: 0-100%
 - Target: 20% ± 2%
 - Critical: High relation to flaking quality
- **Color**
 - Range: 1-10

- Target: 6-8
- Note: Marketing requirement, no downstream impact

4. Flaking Process

- **Flaking Rolls Gap**
 - Range: 2mm \pm 0.1mm
 - Critical: High relation to Thickness and Diameter
- **Flaking Rolls Speed**
 - Range: 300 rpm \pm 10 rpm

5. Quality Checks 2

- **Moisture 2**
 - Range: 0-100%
 - Target: 20% \pm 2%
- **Thickness**
 - Range: 0-1mm
 - Target: 0.5-0.9mm
 - Critical: Direct impact on First-Pass Quality
- **Diameter**
 - Range: 2-10mm
 - Target: 4-8mm
 - Critical: Direct impact on First-Pass Quality

6. Coating Process

- **Coating Flow**
 - Range: 2 gal/min \pm 0.1 gal/min
 - Relations: High correlation with Sugar and Vitamins content
- **Conveyor Speed**
 - Range: 400 ft/min \pm 10 ft/min

7. Dryer 2

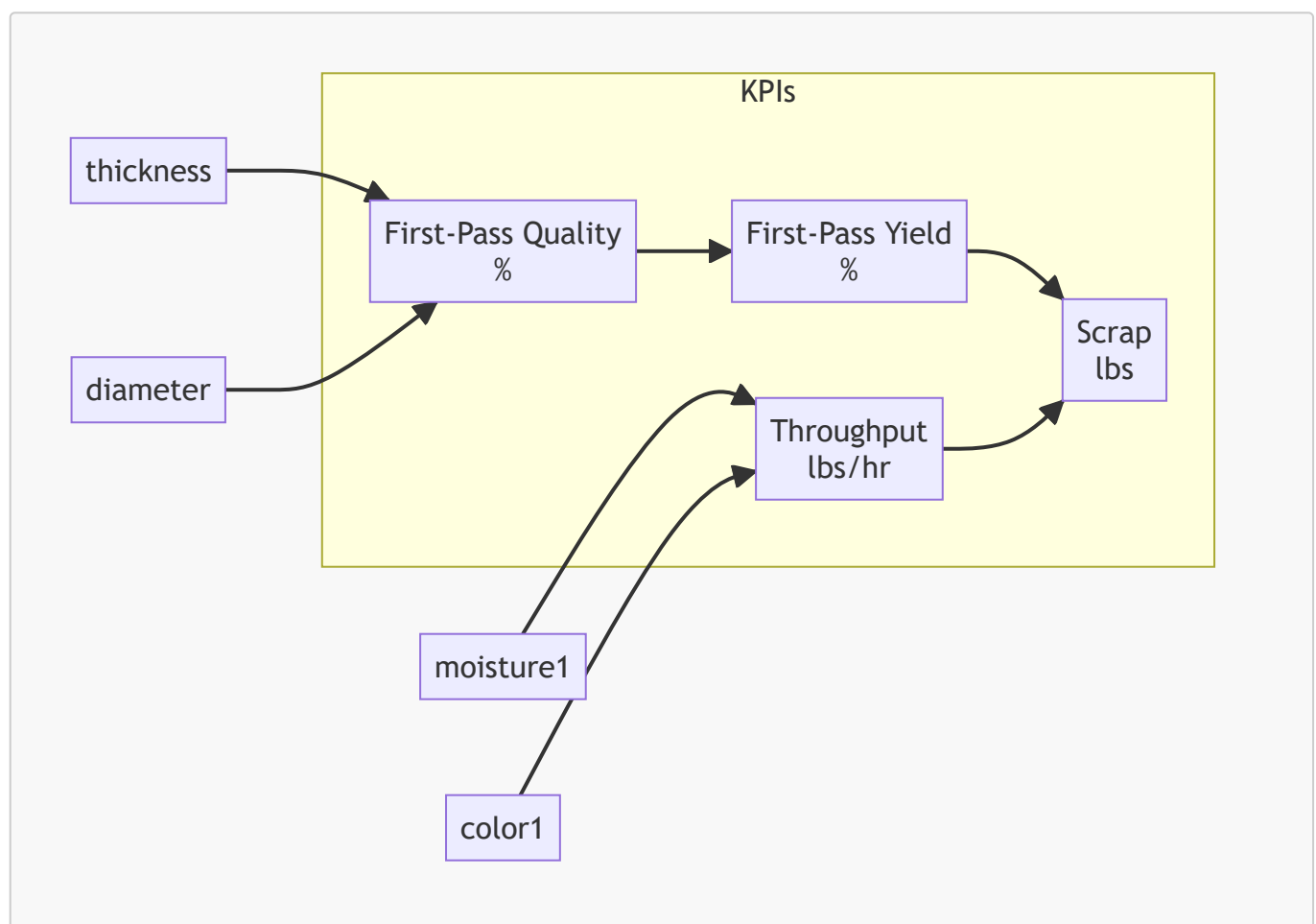
- **Drying Temperature**
 - Range: 250°F \pm 10°F
 - Relations: High correlation with Final Moisture
- **Drying Time**
 - Range: 10 minutes \pm 1 minute
- **Drying Speed**
 - Range: 400 ft/min \pm 20 ft/min

8. Quality Checks 3

- **Final Moisture**
 - Range: 0-100%
 - Target: 20% \pm 2%
 - Critical: Out of spec requires scrapping

- **Sugar**
 - Range: 0-100%
 - Target: 40% \pm 5%
 - Critical: Out of spec requires scrapping
- **Vitamins**
 - Range: 0-100%
 - Target: 10% \pm 2%
 - Critical: Out of spec requires scrapping
- **Color Final**
 - Range: 1-10
 - Target: 6-8
 - Note: Marketing requirement

Key Performance Indicators (KPIs)



Critical Relationships

1. First-Pass Quality

- Primarily determined by Thickness and Diameter specifications
- Must meet all quality parameters to achieve 100%

2. First-Pass Yield

- Directly influenced by First-Pass Quality
- Represents actual production efficiency

3. **Scrap**

- Generated from:
 - Out-of-spec thickness/diameter
 - Moisture content deviation
 - Sugar/Vitamin content deviation
- Inversely related to First-Pass Yield

4. **Throughput**

- Influenced by:
 - Cooker Speed
 - Drying Speeds
 - Moisture Content