Customer Temperature Benchmark Specification

Customer Information

Customer Name: Precision Automotive Components

Customer ID: CUST-AU-5614

Industry: Automotive Parts Manufacturing

Location: Detroit, Michigan

Facility Overview

Precision Automotive Components manufactures high-tolerance engine components and transmission parts for domestic and international automotive manufacturers. The 120,000 square foot facility operates 24/7 production with CNC machining centers and automated assembly lines.

Temperature Benchmarks

Normal Operating Range

Manufacturing Floor Temperature: 21°C - 24°C (70°F - 75°F)

Machine tool accuracy and metal part dimensions are directly affected by ambient temperature. The facility maintains controlled temperature to ensure parts meet tolerance specifications of ±0.001 inches.

Critical Thresholds

- **Lower Warning Threshold:** Below 20°C (68°F)
- **Upper Warning Threshold:** Above 25°C (77°F)
- **Quality Hold Required:** Outside 19°C - 26°C (66°F - 79°F)

Monitoring Requirements

Temperature sensors deployed across:

- CNC machine work zones
- Assembly line stations
- Metrology inspection rooms

- Tool crib storage areas

Data collection intervals are set to 120 seconds. Trending analysis is performed hourly to detect gradual drift before parts fall out of specification.

Production Impact

Temperature variations affect:

- Metal thermal expansion during machining
- Hydraulic fluid viscosity in automated equipment
- Dimensional stability during quality inspection
- Coating and finishing processes

When temperature exceeds thresholds, first article inspection frequency increases from every 50 parts to every 10 parts until conditions stabilize.

Maintenance Schedule

HVAC systems undergo preventive maintenance quarterly with load testing performed before summer and winter seasons to ensure capacity meets production demands.