PDR-OPS-041 EXTREME COLD PACKAGING REQUIREMENTS

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Document Version: 3.2

Effective Date: January 15, 2024

Document Owner: Operations Department

Last Review: December 12, 2023

Next Review: December 12, 2024

1. PURPOSE AND SCOPE

1. This document establishes mandatory packaging requirements for

2. These requirements apply to all PDR products incorporating BlueC

2. DEFINITIONS

1. "Extreme Cold Environment" means any operating environment wit

2. "Primary Packaging" refers to the immediate container or wrapper i

3. "Secondary Packaging" refers to the outer packaging providing add

4. "BlueCore(TM) Components" means any proprietary cold-resistant

3. GENERAL REQUIREMENTS

1. All packaging materials must maintain structural integrity and prote

2. Packaging must provide protection against:

a) Moisture ingress and condensation

b) Static electricity discharge

c) Physical shock and vibration

d) Temperature fluctuations

e) UV exposure during transportation

3. All packaging must display appropriate temperature-sensitive indica

4. PRIMARY PACKAGING SPECIFICATIONS

1. BlueCore(TM) Components

a) Vacuum-sealed anti-static bags with moisture barrier properties

b) Minimum thickness of 100 microns

c) Temperature-resistant adhesive seals rated to -40 C

d) Integrated humidity indicators

2. Sensor Arrays and Navigation Systems

a) Custom-molded foam inserts with static-dissipative properties

b) Shock-absorption rating of minimum 40G

c) Vapor-corrosion inhibitor (VCI) technology integration

3. Chassis and Structural Components

a) Heavy-duty polyethylene wrapping with minimum 150-micron thickn

b) Corner protection rated for 50kg impact resistance

c) Reinforced edge protectors with temperature-stable adhesive

5. SECONDARY PACKAGING REQUIREMENTS

1. Outer Container Specifications

a) Double-wall corrugated containers with minimum ECT value of 48

b) Water-resistant coating on all exterior surfaces

c) Reinforced stress points with cold-temperature stable materials

d) Interlocking design for secure stacking

2. Cushioning and Void Fill

a) Temperature-stable foam with minimum density of 2.2 pcf

b) Minimum 2-inch cushioning on all sides

c) Anti-static properties for electronic components

d) Non-hygroscopic materials only

6. LABELING AND DOCUMENTATION

1. Each package must include:

a) Temperature range indicators

b) Humidity exposure monitors

c) Shock watch sensors

d) Tilt indicators

e) Product identification and traceability codes

2. Required Documentation

a) Temperature exposure history

b) Handling instructions in multiple languages

c) Emergency contact information

d) Product-specific unpacking procedures

7. QUALITY CONTROL AND TESTING

1. All packaging solutions must pass:

a) 24-hour extreme temperature cycling test

b) Drop testing at -30 C

c) Vibration testing under temperature stress

d) Moisture penetration resistance testing

2. Documentation of test results must be maintained for a minimum of

8. COMPLIANCE AND RESPONSIBILITY

1. The Operations Department is responsible for ensuring compliance

2. Deviations from these requirements must be approved in writing by

9. REVISION HISTORY

Version 3.2 - January 15, 2024: Updated temperature cycling test req

Version 3.1 - July 1, 2023: Added BlueCore(TM) specific requirements

Version 3.0 - January 15, 2023: Major revision of packaging specificat

10. AUTHORIZATION

This document is authorized and maintained by:

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Date: January 15, 2024