

Document Purpose

This document outlines the functionalities and features of the mobile application for the Foam Block Temperature Monitoring System utilizing Wireless Sensor Network (WSN) technology.

Target Users

- Production Managers
- Quality Control Personnel
- Operations Team

App Functionalities

- **Foam Block Monitoring:**
 - View real-time temperature data for individual foam blocks.
 - Access historical temperature data with customizable timeframes (e.g., hourly, daily, weekly).
 - Visualize temperature trends through graphs and charts.
- **Alert Management:**
 - Receive push notifications for critical temperature deviations exceeding pre-defined thresholds.
 - View a log of past alerts with timestamps and details.
 - Option to customize notification preferences (sound, vibration).
- **Foam Block Management:**
 - Search for specific foam blocks by ID or location.
 - View additional information about foam blocks (e.g., curing stage, production date).
- **Settings:**
 - Manage user profile and preferences.
 - Set notification preferences (sound, vibration).
 - Update app settings (language, units).

App User Interface (UI) Design Considerations

- **Intuitive and User-Friendly:** The UI should be easy to navigate and understand, even for users with limited technical experience.
- **Clear Data Visualization:** Temperature data should be presented clearly through easy-to-read gauges, graphs, and charts.
- **Customization Options:** Users should be able to customize data views, timeframes, and notification preferences to suit their needs.
- **Offline Functionality:** Allow users to view the most recent downloaded data even without an internet connection (limited functionality).

Technical Stack (placeholder, for reference only)

- Programming Language: Flutter (or Native platforms – Android)
- Operating Systems: Android

Future Enhancements (placeholder)

- Implement map integration to visualize the location of foam blocks.
- Integrate camera functionality for capturing images of foam blocks with temperature data.
- Allow users to add notes or comments to specific foam block data points.
- Enable generation of reports directly from the mobile app.

This mobile application provides a convenient and efficient way to monitor foam block temperatures remotely, ensuring real-time data access, improved process control, and informed decision-making for production personnel.