CureTrack

Advanced Temperature Monitoring for Mass Concreting

Background

A crucial step that influences the material's ultimate strength and longevity is concrete curing. To guarantee adequate cure and avoid thermal cracking, particularly in mass concrete constructions, it is crucial to monitor the heat of hydration.

Challenges in Mass Concreting

a)Heat Generation

Hydration process releases significant heat, leading to high core temperatures.

b) Temperature Differential

A high difference between core and surface temperature increases cracking risk.

Why is Temperature Monitoring Critical?

High internal temperatures cause expansion and rapid cooling leads to thermal cracks, reducing structural integrity.

What is CureTrack?

A wireless temperature monitoring system designed for real-time concrete curing analysis.

How CureTrack Helps?

Real-time temperature tracking to ensure safe curing and prevent cracks.

How CureTracK Works?

Step 1: Install CureTrack application in your smartphone from play store.

Step 2: Scan QR code in the device and placed at different depths in the concrete pour.

Step 3: Wireless transmitters send temperature readings.

Step 4: Data collected in real-time on your smartphone through Bluetooth.

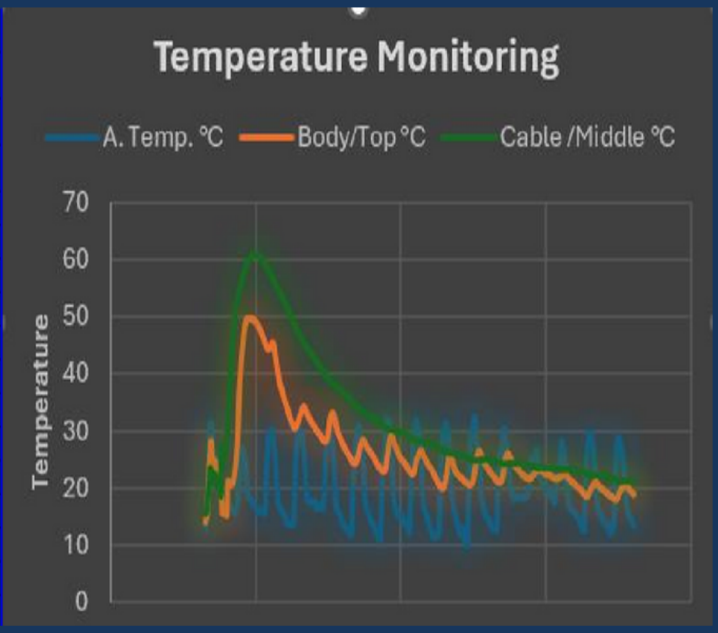
Step 5: Engineers analyze trends to adjust curing strategies.

Step 6: Export and share reports for quality control.

Date of test started	:	26-Jan-25
Date of test completed	:	10-Feb-25
Location	:	Foundation
RFI NO	:	Internal

Side Portion

Date Time	A. Temp. °C	Top °C	Middle °C	Difference °C
26/01/2025 06:29	13.2	14.2	15.6	1.4
26/01/2025 06:49	12.9	14.4	15.8	1.4
26/01/2025 07:09	13.2	14.8	15.8	1
26/01/2025 07:29	14.5	15	15.8	0.8
26/01/2025 07:49	15.7	15.4	16.4	1
26/01/2025 08:09	17.1	16.4	17.3	0.9
26/01/2025 08:29	20.9	19.1	18.3	0.8
26/01/2025 08:49	24.7	19.4	19.1	0.3
26/01/2025 09:09	27	20.6	19.9	0.7
26/01/2025 09:29	27.7	23.6	20.5	3.1
26/01/2025 09:49	27.6	25	21.3	3.7



CureTrack Implementation

There will be an initial survey.

Sensors will be placed in key areas, such as the ambient, the concrete pour's surface, and the core. To guarantee correct location, installation will take place prior to concrete pouring.

The on-site staff will receive instruction on how to operate the monitoring system, analyze the data, and take remedial action if required.

We can offer field and technical support, fix common problems, and guidance how to manage the heat of hydration.

CureTrack Specification

Temperature accuracy: ±0.3° C Temperature resolution: 0.1° C

Temperature range: -80°C to +200°C Data storage capacity: 20000 readings

Logging interval: 1 minute to 99 minutes (configurable)

Temperature Sensor Cable length: User- defined.

Data Format: PDF/ CSV

Compliance Standards: ACI 301, CE, EN12830, FCC, RoHS

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