GIRI
Get It Right Initiative

GIRI QUALITY ALERT

CONCRETING IN HOT WEATHER

QUALITY ALERT: 001
ISSUE DATE: 31.01.22
RISK LEVEL: MEDIUM

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ABOUT GIRI QUALITY ALERTS

GIRI's Quality Alert scheme enables members to share knowledge of quality issues to assist other teams in eliminating error.

Member companies are invited to use the Quality Alert Proforma to submit details of quality issues online.

Submissions are assessed, anonymised, compiled, and shared with other GIRI members to assist knowledge transfer within the organisation and support our zero-error quest.

Issues will be logged by GIRI so that any trends can be identified and used to pinpoint future priorities for research and development.

THE PROBLEM:

Hot weather in the summer can affect the quality of in-situ concrete and it is important to monitor the temperature of concrete during pours.

WHO IS THIS GUIDANCE FOR:

Site engineers and foremen, concrete subcontractors.

THE RISKS:

- Higher concrete temperatures mean a faster setting time, reducing the time to place, compact, and finish concrete.
- Concrete is at risk of thermal cracking when it is placed and the heat of hydration raises the internal temperature of the concrete. Concrete is also at greater risk of cracking when subject to changes in temperature, for example, when it is placed on a hot day following a cool night.
- The concrete surface will dry faster as the rate of hydration increases, which can lead to a premature finish being applied. The bleed water that is trapped can cause de-bonding of the top surface and delamination/flaking.
- The risk of cold joints increases in hot weather.

POTENTIAL IMPACT:

Depends on size of pour. Even with small pours, if concrete does not reach the required strength or suffers excessive cracking, the time, cost and effort required to break it out and recast is considerable and can seriously impact the programme.

PREVENTATIVE MEASURES:

- Consider whether pours can be delayed until temperatures drop, or rescheduled to cooler periods of the day.
- Take extra cube samples.
- Plan the pour carefully to minimise waiting time on site.
- Prepare well for curing, with adequate supplies of straw/ hessian/chemical agents, etc.