

SEPTEMBER 2013

OPERATIONS • MARKET DEVELOPMENT • PRACTICE

Concrete[®]

PRODUCTS

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CROWN JEWEL PLANT

Coreslab Structures' new flagship

SYSTEM MEASURES AIR CONTENT ACROSS MIXING WINDOW



The AIRtrac is mounted to the mixer wall, its probe measuring air content and temperature characteristics during the mixing phases. The probe relays real-time measurements to the batch control operator, who has full insight into the effects of mixing time, batch sequencing, and mix design materials on form- or bed-bound concrete.

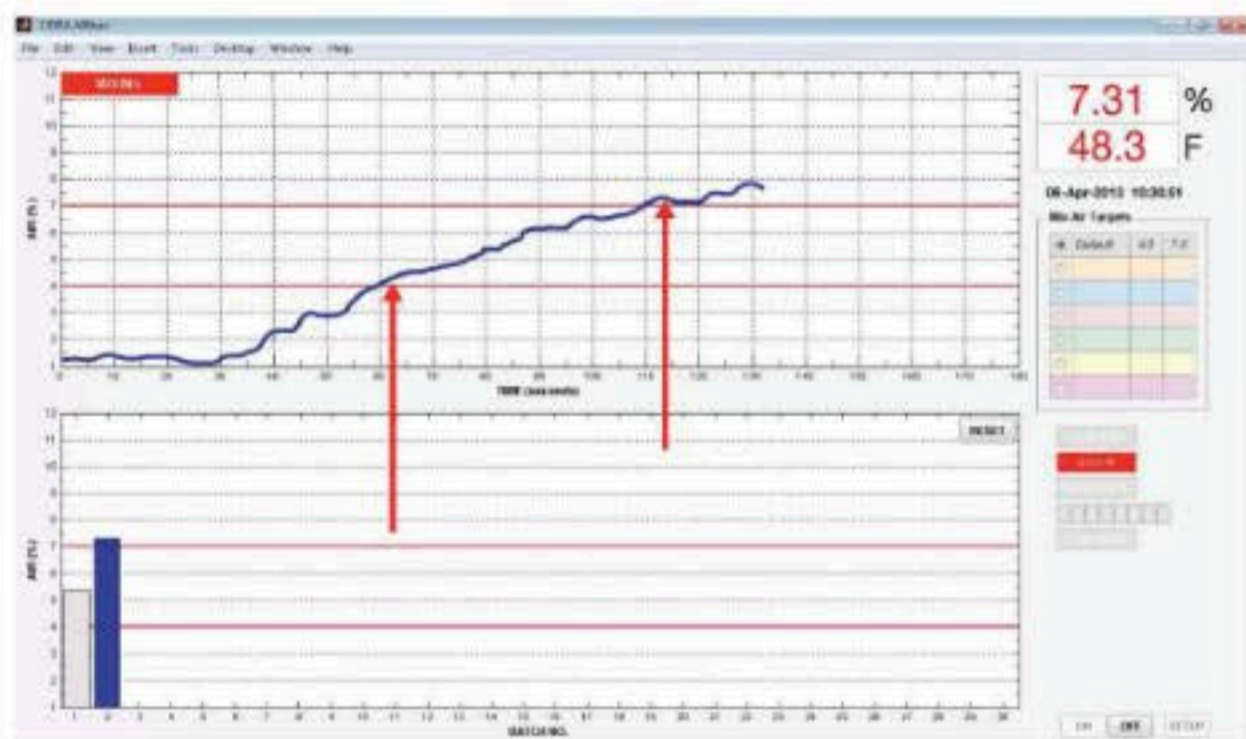
The AIRtrac Process Monitoring System offers a proprietary, turnkey solution for real-time air measurement during the concrete mixing process. It is designed for use in all stationary-wall models, such as pan, twin-shaft, or turbine mixers.

The AIRtrac nets information that allows the operator to take action (air increase or decrease) before the batch is dumped from the mixer, ensuring concrete will be within specification. Producers now have “eyes into the process” — a spontaneous relay of data not previously available. The technology enables producers to better understand and optimize mixing time, batch sequencing, and mix designs. It equips quality control and production managers with air-measurement records for all concrete produced. AIRtrac improves concrete quality and consistency and reduces the cost of production, product engineers affirm.

The system moves critical entrained-air measurement upstream in the pro-

(top) AIRtrac’s sampling capacity proves how every mixer and model type build air at a different rate. A batch in a twin shaft mixer, for example, exhibits 4 percent air at 60 seconds, 7 percent at 110 seconds.

(right) In the sample reading above, extended mixing time has resulted in higher air levels than the specifications.

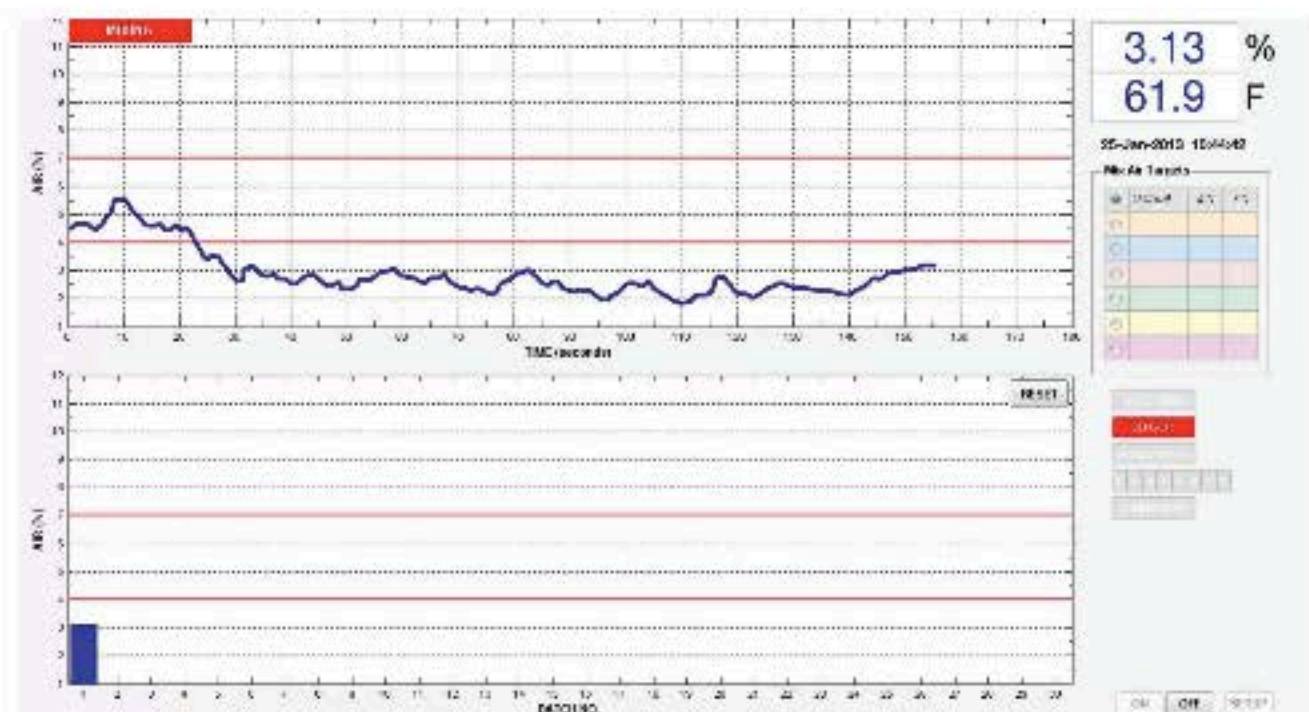


cess. Developer CiDRA is a pioneer in the area of real-time entrained-air measurement in slurries, noting that AIRtrac is the first and only solution to supply air and related process information during the concrete mixing process. The current pressure-pot method only provides for post-pour air measurement, company officials contend, when it is not possible to take action and correct a batch that is out of specification. Air is a critical ingredient for optimum performance of concrete, and it can be used to improve the long-term durability of surfaces and structures exposed to water and deicing chemicals in freeze/thaw environments.

"The AIRtrac system has afforded us insight and information never available before ... real time air and temperature information for every batch of concrete is extremely valuable information for our operation," says Jim Fitzgerald, Quality Control manager at Connecticut-based Blakeslee

Prestress. "AIRtrac [alerts] us if it is necessary to take action while concrete is still in the mixer. The system provides us a much better understanding of mix time, batch sequencing and how admix-

tures affect [air content levels]. Producing high quality, consistent concrete day in and day out is a challenging job." — *Cidra Concrete Systems, 877/CIDR77; www.cidra.com*



The AIRtrac probe can gauge the affect of oil on the first batch of the day. Some hydrocarbon (oil) or synthetic (wax-based) formulations will either knock air out or raise air levels. This sample reading shows an operator challenged to build air in a day's opening batch.

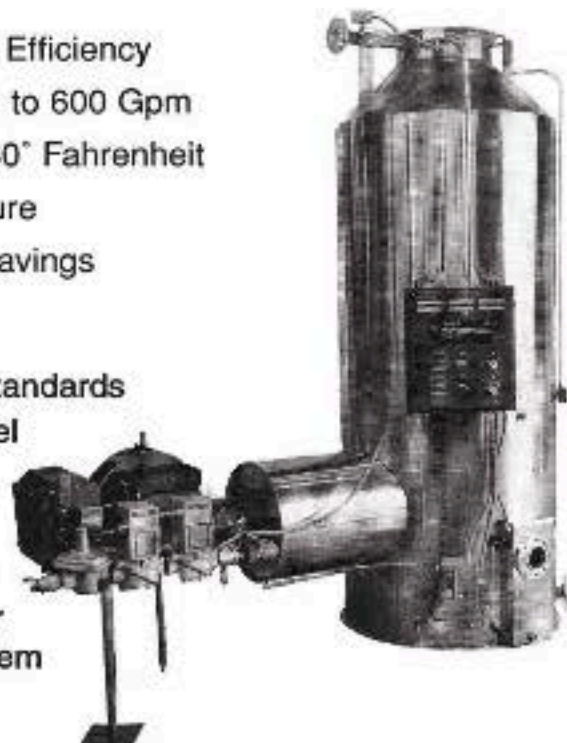
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