



## PERI InSite Construction

The solution for optimal concreting operations

**Smart and safe concreting. With PERI InSite Construction.**

**Increased safety**

through monitoring of the relevant parameters in the concreting process

**Optimal decisions**

thanks to real-time concrete data

**One data acquisition system**

for many applications

**Mobile data analysis and visualisation**

with intuitive web application mobile and at any time



# PERI InSite Construction

## The solution for optimal concreting operations

**PERI InSite Construction optimises concreting operations on the construction site and thus helps to save both time and money. The key: a data acquisition system and numerous sensors.**

Especially for infrastructure projects with climbing systems and mass concrete, such as bridges, high-rise buildings and towers with more than 20 storeys, as well as concreting in winter, the use of PERI InSite Construction provides considerable advantages. The intelligent solution helps to lower the cost of concreting operations, reduces the time required and increases the level of safety.

PERI InSite Construction includes the SONO WZ Analyser for water-content determination and three sensors for monitoring the concrete pressure

and temperature as well as for checking the filling level. While the SONO WZ displays the measurement results directly on the corresponding hand-held measuring instrument, the three sensors are connected by means of a cable to a reusable node which communicates via radio waves with a gateway. The ISC Hub in turn transmits the information via LTE to a cloud from where it can be retrieved in real time by the users – whenever and wherever they are. You can connect multiple nodes to the hub at the same time.



Concrete should not be colder than 5° C. With the temperature sensor, the concrete can be monitored in real time during the cold season – also from the comfort of the office.



The pressure sensor increases productivity and safety during concreting.



### Water-content determination

for fresh concrete with special requirements

**The SONO WZ Analyser determines the water content of fresh concrete on the construction site very quickly and precisely. The instrument is based on the innovative TRIME® radar technology and supports easy on-site quality control.**

SONO WZ consists of a lancehead-shaped probe and a hand-held measuring instrument for displaying the measurement results. During the so-called runtime measurement, a radar pulse is used to determine the volumetric water content. SONO WZ determines the water content in the fresh concrete using 4 to 5 measurements. After only 1 to 2 minutes, users receive a reliable result directly on the construction site. Compared to conventional measuring methods using the Darr method, the use of SONO WZ results in time savings of approx. 45 minutes.

In particular, when the highest demands are placed on the quality of the concrete, using the SONO WZ can save time and money as well as enhancing the level of safety by quickly determining the water-cement content. As the moisture measurement of the concrete only takes a few minutes with the SONO WZ, measures can be taken before the concrete is poured into place. Furthermore, by means of various settings, SONO WZ can also be used for newly developed concrete types such as fiber concrete or self-compacting concrete.



### Concrete detection

for checking the filling level in the formwork

**The concrete detection sensor monitors in real time whether the concrete has reached the required areas of the formwork and has thus increased the surface quality of the concrete.**

The concrete detection sensor measures the degree of compaction of the concrete. As a result, it can be determined whether the concrete has reached the required areas and how well it is compacted. Thereby, the concrete detection sensor supports during the filling of tunnels that are difficult to access or complicated geometries. Core drillings or spy holes are no longer necessary and the formation of cavities or gravel pockets is avoided. This enhances the surface quality of the concrete and the user is kept informed about the current status through the real-time data transmission.



### Pressure monitoring

for determining the pouring speed

**The pressure sensor monitors the pressure acting on the formwork. This not only increases the level of safety during the concreting process but also helps to save both time and money.**

The reusable pressure sensor is screwed directly into the formwork and serves to monitor the pouring speed along with the pressure acting on the formwork. This means that the sensor provides the easiest option to obtain precise information about the load exerted on the formwork. Overloading the formwork as well as formwork breaks are therefore effectively prevented. This is particularly advantageous in the construction of bridge piers, tunnels and single-sided walls.

In addition, precise pressure control leads to an increase in the quality of the concrete as no unwanted deformations can occur. The transmitted measurement results also help the user to determine the ideal pouring speed and to increase it if necessary – and this not only saves time but also money.



### Temperature monitoring

for efficient temperature monitoring

**The temperature sensor measures the temperature at different points in the concrete and then automatically transmits the data directly to the user. This eliminates any time-consuming manual read-outs and measuring point recordings.**

With the temperature sensor, the temperature of mass concrete and winter concrete can be determined directly from any given location – for example, from the comfort of the office. This ensures that the temperature of the concrete does not drop below 5° C. The temperature helps to determine the concrete strength and thus the ideal time for striking. In this way, striking operations can be carried out earlier and/or the amount of formwork materials is reduced – this results in time and cost savings on the construction site.

# Overview of other PERI solutions

The perfect system for any project  
and any requirement



Wall Formwork



Column Formwork



Slab Formwork



Climbing Systems



Bridge Formwork



Tunnel Formwork



Shoring Systems



Construction Scaffold



Facade Scaffold



Industrial Scaffold



Access



Protection Scaffold



Safety Systems



System-Independent  
Accessories



Services