TRIME®-ES, On-line moisture measurement system in building industry applications

The sensor system TRIME®--ES with tube access probe T3/22 determines continuously the water content in concrete and stones. The small dimension with 22mm diameter offers advantages in installation, both horizontal or vertical up to 3.5m depth. Inserting the probe is easy even at places difficult to access.

In contrast to radioactive systems no legal restrictions and conditions are imposed by purchase, storage, transport or use of TRIME®- systems .

Obvious Advantages

The rapid, reliable and routine determination of water content offers new dimensions in bore hole logging of moisture.

The measurement is independent of temperature and salinity. A most important fact for reliable readings in these monitoring applications.

Netherlands Reichswaterstaad (Ministry of Transport, Public Works & Water management) runs a research project on bridges' life-time extension using TRIME-ES for monitoring 16 bridges along the highway A59 between s'Hertogenbosch, NL and Breda, NL.

Please also have a look at www.koenders-instruments.com (project co-ordinator).

Installation method 1 for probe T3/22

Bring in an unruffled flat borehole (up to 2m depth) with a diameter of 22mm (+-1mm) inside the concrete where the T3/22 probe can be completely encapsulated with pottant inside the borehole. With the pottant it is secured that no water penetrates inside the borehole and the T3/22 probe can measure over very long time (years) installation. Before encapsulating the borehole it is necessary to check the T3/22 concerning reliable measurement values. There should be no sand or small stones between the probe and the surface of the borehole.

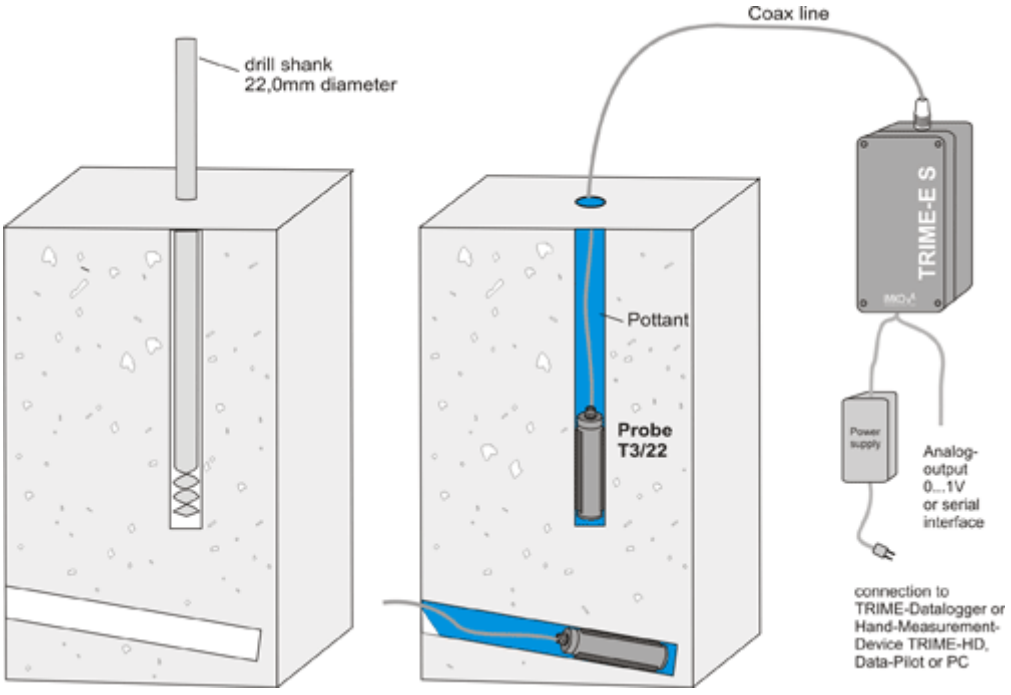
Advantage of method 1

- it is easy to bring in a borehole with 22mm diameter.
- installation depth of max. 2m
- the probe T3/22 is completely encapsulated with pottant inside the borehole.
- network capability, up to 60 TRIME-ES can be connected in network configuration.

Disadvantage of method 1

- the T3/22 probe is not removable later.

Method 1 needs coated probe plates of the T3/22 which are pressed on inside the surface of the borehole.



Installation method 2 for probe T3/22

Bring in an unruffled flat borehole with a diameter of 22,5mm (+0,3mm) inside rock or concrete. A small plastic tube can be installed inside the borehole. The T3/22 probe can be pushed inside the plastic tube for measuring. Necessary is also a sealing of the plastic tube around the borehole with pottant.

Advantage of method 2

- a cost saving installation of several plastic tubes is possible and therefore the use of only one probe in several measurement locations for mobile measurements.
- installation depth of max. 2m
- Network capability, up to 60 TRIME-ES can be connected in network configuration.

Disadvantage of method 2

- for long time installations it is necessary to secure that no water penetrates into the probe inside the plastic tube.
- it needs a precise borehole technology for the 22,5mm (+0,3mm) diameter to place the plastic tube inside rock or concrete and to encapsulate the plastic tube around the borehole with pottant.

It is to mention that the installation method 1 is easier and more robust against water protection!
Method 2 needs uncoated probe plates of the T3/22 which press on inside the surface of the plastic tube.