

10.002

LEVEL INDICATOR TAPE

Approval Date: 20 May 1998

Reviewed on : 23 October 2007

Version: 1

Purpose

The level tape is used to manually measure the distance to the water level in a pipe, stilling well or piezometer relative to a fixed Datum. The manual observations are used to connect DWLR readings to a benchmark, e.g. the well head, and for validation purposes. A DWLR can only meet its accuracy specifications if it is correctly referenced to an established benchmark. The level indicator tape is one of the essential components to achieve this.

Conditions & Requirements

- The tape should be stable and should give accurate and reproducible readings.
- The tape is to be used under a wide range of temperatures. To maintain the specified accuracy, the tape should have a low temperature coefficient for length variations.
- During its technical lifetime, the tape will be frequently unwound/rewound under wet, dry, muddy, dusty conditions. This should not affect the accuracy.
- The manufacturer should specify:
 1. the tape load (weight on the tape) required to achieve the rated accuracy, i.e. how much weight is needed to fully straighten the tape without stretching it,
 2. the longitudinal temperature coefficient of the tape, and
 3. the elongation under tension, in mm/m tape length per Newton load.

Specifications

tape length	adequate to reach the lowest water level, e.g. 20, 50 or 100 m
tape material	stainless steel or fibre reinforced plastic
accuracy	2.5 mm/10 m @ 20°C
temperature coefficient	<0.0125 mm/°C/m
suspension weight	according manufacturer's specification
water detector	bell shaped weight

Approval Date: 20 May 1998

Version: 1

Purpose

The level tape is used to manually measure the distance to the water level in a pipe, stilling well or piezometer relative to a fixed Datum. The manual observations are used to connect DWLR readings to a benchmark, e.g. the well head, and for validation purposes. A DWLR can only meet its accuracy specifications if it is correctly referenced to an established benchmark. The level indicator tape is one of the essential components to achieve this.

Conditions & Requirements

- The tape should be stable and should give accurate and reproducible readings.
- The tape is to be used under a wide range of temperatures. To maintain the specified accuracy, the tape should have a low temperature coefficient for length variations.
- During its technical lifetime, the tape will be frequently unwound/rewound under wet, dry, muddy, dusty conditions. This should not affect the accuracy.
- The manufacturer should specify:
 4. the tape load (weight on the tape) required to achieve the rated accuracy, i.e. how much weight is needed to fully straighten the tape without stretching it,
 5. the longitudinal temperature coefficient of the tape, and
 6. the elongation under tension, in mm/m tape length per Newton load.

Specifications

tape length	adequate to reach the lowest water level, e.g. 20, 50 or 100 m
tape material	stainless steel or fibre reinforced plastic
accuracy	2.5 mm/10 m @ 20°C
temperature coefficient	<0.0125 mm/°C/m
suspension weight	according manufacturer's specification
water detector	bell shaped weight