Pilodyn Wood Tester

Pilodyn is an easy-to use wood testing instrument. It makes it possible to assess the extent of decay objectively, and to determine the amount of strength loss it has caused! But it can also be used as a generel testing instrument for all kind of timber!

The Pilodyn operates by shooting a blunt steelpin (Ø 2,5 mm. or Ø 2,0 mm.) into wood by an exact amount of energy. The penetration depth is read on a scale!

Decaying dead wood density measurements are a useful indicator for multiple purposes, such as for estimating the amount of carbon in dead wood and making predictions of potential diversity of dead wood-inhabiting fungi and insects.

Currently, qualitative decay phases are used as wood density estimates in many applications. Penetrometers, which are commonly used for measuring the density of standing trees, might also be applicable to dead wood density measurements.

Instant, cost-effective non-destructive testing method, the Pilodyn Penetrometer operates on the basis that a blunt pin is shoot into the wood with a pre-set energy, and from the penetration of the needle the density of the wood, or the degree of decay in the wood can be assessed.

Other uses:

The Pilodyn wood tester is an instrument originally developed in Switzerland for determining the degree of soft rot in wooden telephone poles. The Pilodyn drives a steel pin into the tree with a precise force.

The depth to which the pin penetrates is indicated on the instrument and is inversely proportional to the density of the wood. The Pilodyn does not provide an estimate of actual wood density, but an estimate of the relative wood density, which can be used to rank various genetic 'units' (e.g. clones, families, seed lots and provenances) in regard to wood density.

As individual Pilodyn instruments may vary and provide estimates at slightly different levels of density, it is very important that one and the same instrument is used for all measurements within the same trial.

Determination of actual wood density requires extraction of increment cores or sample discs.

The Pilodyn is attractive in that it is rapid, does not require the use of an increment borer (destructive sampling), and is, in principle, free of operator bias.

The Pilodyn is a valuable tool for quick and cost-effective assessment of relative wood density. The main advantages are associated with the speed and ease of its use and its non-destructive sampling. Large numbers of assessments can be made without recourse to laboratory analyses.

Measurements should be taken carefully. This implies at least two measurements per tree. Measurements should always be taken under bark. Measurements of wood densities determined by increment cores or segments compared with Pilodyn measurements indicate that the Pilodyn can safely be used to rank provenances and families.

Technical Specifications

Technical data	PILODYN 6J Standard
Strike force	6J (Nm)
Penetration depth	0...40 mm
Striker pin diameter	2.0 mm
Dimensions:	
Diameter	50 mm
Length	420 mm
Weight	1.250 kg