

C393
RESONANCE FREQUENCY METER - DETERMINATION OF THE CONCRETE RESONANT FREQUENCY

STANDARDS: ASTM C215, C666 | BS 1881:209 | NF P18-414 | UNI 9771

The unit measures the resonant frequencies of the three different modes of vibration:

- Longitudinal, transverse (flexural) and torsional.

From these, the following material characteristics, non destructively, can be calculated:

- young's modulus of elasticity,
- modulus of rigidity,
- poisson's ratio.

Available for specimen sizes up to 150 mm cross section dimension, and from 45 mm to 700 mm in length.

Automatic identification of the resonance frequency. Large easy to view display for data analysis of time domain and frequency spectrum signals.

Data can be stored and uploaded to a PC for further analysis and inclusion in report.

Fast and easy to use system.

The principle used in this meter is based upon the determination of the fundamental resonant frequency of vibration of a specimen generated by an impact and sensed by an accelerometer. The frequency spectrum is computed and displayed by the meter.

Durability of concrete:

The determination of flexural resonance is very important when studying the degradation of concrete under accelerated freezing and thawing cycles and aggressive environments on concrete specimens.

The advantages of resonance methods are:

- Test can be repeated over a very long period on the same specimen; the number of test specimens required is therefore greatly reduced.
- The results obtained with the resonance method on the same specimen are more reproducible than those obtained with non destructive tests and groups of specimens.

Specifications:

- Frequency range: 10 Hz to 20 kHz
- Sampling rate: 20 kHz or 40 kHz
- Accelerometer sensitivity: 9.60 mV/g (0.979 mV/ms²)
- Battery 12V, 4-10 hours continuous use.
- Display: 320 by 240; backlit for daylight use.
- Storage: 200 plus readings.
- Software: Windows compatible 9x/me 32 MB Ram.
- Impactors: set of 6 hardened steel balls.

The standard supply includes:

- electronic main unit.
- standard bench with its accessories.
- accelerometer with cable.
- hardened steel balls set.

Weight: 30 kg approx.

