

## Concrete Thickness Gauge 2

It is now easier than ever to verify the thickness and integrity of concrete flatwork. Drilling, coring and excavations are now obsolete. Save buckets of time, effort and money by simply using the CTG-2 instead.

No specialized knowledge or training is required. The CTG-2 comes ready to use straight out of the case, with inbuilt default parameters. Great accuracy is achieved through calibrating against your specific concrete type.

Use your own Windows 7, 8 or 10 Laptop/Tablet\* and simply connect the CTG-2 to directly view live measurement recordings, via the WinCTG-2 Software. Thickness and flaw information can also easily be transferred to spreadsheets or to your reports.

**\*Please note Tablet is not included**

### Impact Echo Principal

The CTG-2 works on the basis of the Impact Echo principal. A mechanical tap from the solenoid impactor onto the concrete releases low frequency p-waves which propagate into the structure and are reflected by external surfaces and flaws.

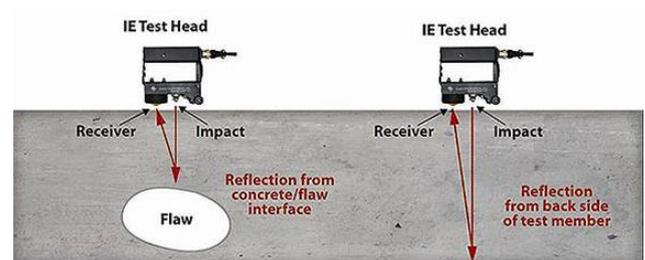
These waves are received by a transducer located adjacent to the impactor. The time traces are recorded and converted to frequency via Fast Fourier Transform with respect to frequency amplitude. With the highest frequency peak, and the measured compressional wave velocity through concrete, depth can be identified.

### Diagnose Defects in your Concrete (CTG-2)

The CTG is capable of defect location within concrete. Low frequency stress waves are emitted into the structure reflecting off slab boundaries and air pockets.

Depth and extent of partial cracks, voids and flaws are recorded as a waveform. Experienced users can determine various flaws hidden within the concrete formed due to poor concrete placement or weathering. The Time Domain Signal identifies where poor quality data was obtained during the field testing process.

Nearby Peaks may Indicate Internal Cracking/Defects



## Applications

Impact Echo testing can be used for:

- Depth, lateral location and extent of internal flaws
- Verification of Concrete Slab Thickness
- Usable on non-concrete materials depending on the material's internal structure
- Quality Assurance checks
- Can be used to predict early age strength

## Features

- Non-destructive and non-invasive
- Designed for Site, Rugged and Lightweight
- No coupling agents required
- Intuitive tablet interface for settings/results
- Calibration takes seconds for high accuracy
- View live Thickness Data and Sound Waveforms
- Customize your Grid Test Area
- WinCTG-2 software conversion to spreadsheet
- Frequency Spectra reveals presence of flaws with depth and lateral location.
- Penetrates cured paint and bonded tile

## Concrete Thickness Gauge 2

### Operation

#### Concrete Thickness

Impact Echo relies on an estimation of p-wave velocity through concrete to determine thickness. Thickness measurements are obtained when the test head is applied to the concrete surface and triggered.

#### Calibration Process

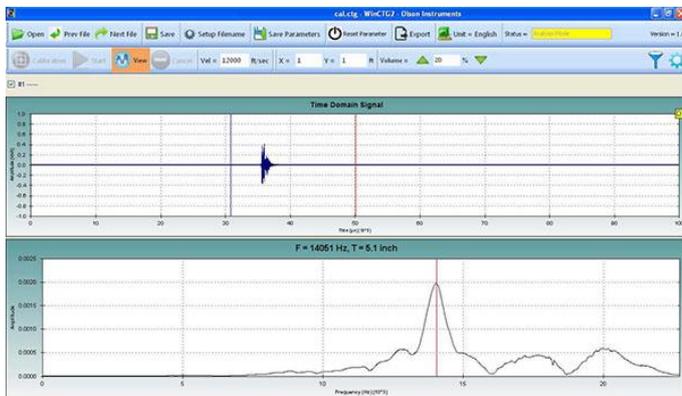
Default settings are customized to standard concrete and generally produce results within  $\pm 10\%$  accuracy. Accuracy of  $\pm 2\%$  is achieved when the p-wave velocity is calibrated on-site against a slab with known thickness.

#### Data Transfer

WinCTG-2 software works alongside Windows 7 or 8, converting frequency and thickness data into most spreadsheet formats for further analysis and reporting.

#### WinCTG-2 Analysis Software

The Windows based WinCTG-2 allows data and measurement setting review. Customized test grids can be set up using X and Y coordinates from your point of reference. Live field data can be viewed while testing.



### Equipment Supplied

The combined weight of the case and components is 2.27kg making the system more portable than ever.

CTG-2 comes standard with:

- CTG-2 IE Test Head
- 4 x CR123A Batteries
- Cables (Phone-Phone)
- Protective Case
- Microphone Adaptor
- WinCTG-2 USB Drive
- USB-MicroUSB Adaptor

## Technical Specifications

<b>Thickness Range</b>	81 - 508mm optional thick test mode to 1.8m
<b>Accuracy</b>	$\pm 2\%$ when calibrated to a known thickness
<b>Power</b>	4 non-rechargeable CR123A 3V long life batteries
<b>Frequency Resolution</b>	10 Hz
<b>Samples per Test</b>	4,545 Sample
<b>Sampling Rate</b>	45,454 Samples/Second
<b>Max Nyquist Sampling Frequency</b>	22,700 Hz
<b>Weight</b>	2.27kg excluding tablet
<b>Test Head Cable Length</b>	91 cm
<b>Learning Curve</b>	Taught in 10 Minutes
<b>Warranty</b>	1 Year Limited Warranty

## About PCTE

PCTE have over 30 years' experience in the measurement and testing of construction materials. PCTE can provide more than just the equipment, they can provide expert training. PCTE have a service centre in Sydney in which they can provide calibration, repairs and warranty repairs.

## Other Equipment

PCTE supply three main ranges: NDT, Lab and Geotech Instrumentation.

NDT includes: Rebound Hammers, Covermeters, Ultrasonics, GPR, Corrosion Testing, Coating Testing and Foundation Testing

Lab includes equipment for: Concrete, Cement, Aggregate, Soil, Asphalt and Metal

Geotech Instrumentation includes: Strain Gauges, Piezometers, Inclometers, Extensometers, Tiltmeters, Load Cells and Dataloggers