

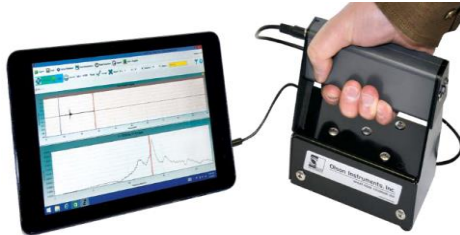


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## CTG-2 – Concrete Thickness Gauge



### Introduction

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. Easily transfer thickness and flaw data reports.

**\*Please note tablet is not included.**

### 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

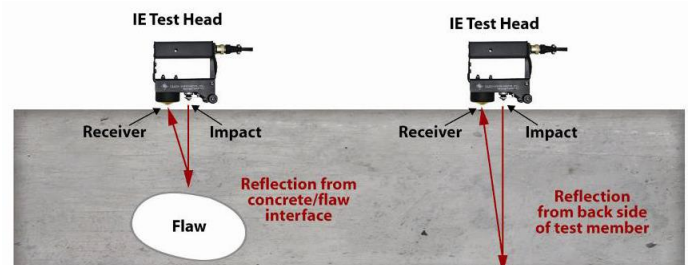
- Non-destructive and non-invasive
- Designed for Site, Rugged and Lightweight
- No coupling agents required
- Intuitive tablet interface for settings/results
- Calibration takes seconds for high accuracy
- View live Thickness Data and Sound Waveforms
- Customize your Grid Test Area
- WinCTG-2 software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

*In-situ core testing could take weeks and cost you \$1000's  
Forget the hard way, do it in mere seconds with the CTG-2*

### 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.

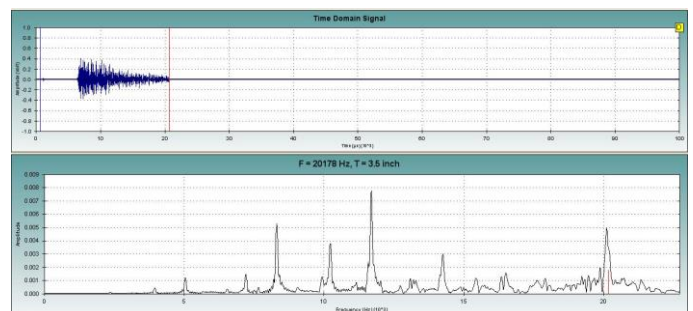
These waves are received by a transducer located adjacent to the impactor. The time traces are recorded and converted to frequency via Fast Fourier Transform with respect to frequency amplitude. With the highest frequency peak, and the measured compressional wave velocity through concrete, depth can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



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## 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

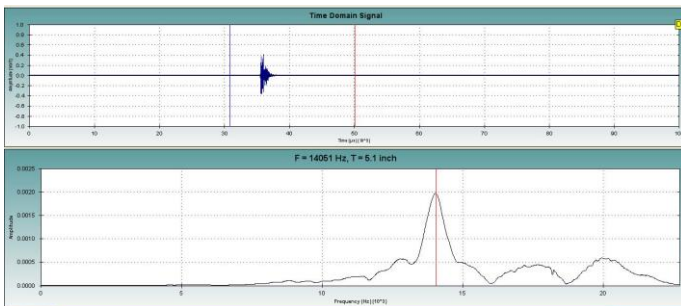
Default settings are customized to standard concrete and generally produce results within  $\pm 10\%$  accuracy. Accuracy of  $\pm 2\%$  is achieved when the p-wave velocity is calibrated on-site against a slab with known thickness.

### Data Transfer

WinCTG-2 software works alongside Windows 7, 8 or 10, 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.



*Indicative Good Quality Thickness Data Acquisition*

## 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



## Specifications

<b>Thickness Range</b>	<ul style="list-style-type: none"> <li>• 81 mm to 508mm</li> <li>• Optional thick mode tests up to 1.8m</li> </ul>
<b>Accuracy:</b>	$\pm 2\%$ when calibrated on a known thickness location
<b>Software Features:</b>	Olson's WinCTG2 Software is used for data acquisition and analysis
<b>Power</b>	Uses four readily available, non-rechargeable CR123A 3V long life lithium photo batteries
<b>Data Collection</b>	Works along with most Windows 7, Windows 8 and Windows 10 devices
<b>Frequency Resolution</b>	10 Hz
<b>Sample No. Acquired per Test</b>	4,545 Samples
<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>	Can be 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 concrete. With experience in research, consulting and construction they are able to assist you in reviewing issues and developing solutions. PCTE can provide more than just the equipment. They can provide leading technical support for your business.

## Other Equipment

The full Proceq range of equipment is available for insitu non-destructive concrete measurement, including Schmidt Hammers, Covermeters, Half Potentials, Resistivity and Permeability. The Olson Instrument range includes the NDE360, CTG, Freedom Data PC and DAS as well as the resonance tester. We also supply Intelli-Rock maturity, temp and humidity logging systems, corrosion rate monitoring equipment, and Ground Penetrating Radar.