BUILD TEST SOLUTIONS

Heat3D®

Rapid U-Value Measurement

buildtestsolutions.com

Heat3D precisely measures heat flows and U-values of building elements using a patented, quick, and non-invasive method that follows ISO9869-2.

It can be used to detect heat flow rates, thermal bridging, poorly performing structures, as well as assessing existing levels of insulation. Heat3D is designed to work on iPhones and iPads and uses a portable thermal camera to obtain results in a matter of hours as opposed to days or weeks using traditional techniques. The rapid nature of the measurement enables quantified U-values that are more accurate than manual calculation methods.

Applications

As-Built Performance Measurement
Conduct quality assurance testing to check that desired outcomes are being achieved. Improve quality and save costs by identifying issues early to prevent late-stage remedial work.

Retrofit Performance Improvement
Quantify the baseline vs the actual delivered performance. Determine the true energy, running cost and CO_2 savings delivered by improvements.

Measure Heritage Buildings
Easily establish the nature and fabric of any heritage building, without the need for invasive testing methods which can cause damage to historically significant structures.

Key Features

3D Model
The app produces a 3D model of the room being surveyed allowing you to inspect areas of interest later and quantify improvements.

Quick and Easy
The fast and intuitive app allows measurements to be carried out with minimal training and supervision.

Low Cost
Only requires a portable thermal camera and is significantly more affordable than traditional techniques that use expensive specialist equipment.

Energy Costs
Energy, running costs and CO_2 emissions of the heat loss area being measured which allows cost savings and RoI to be determined after improvements have been made.

Mobile Based
Works on wide range of iPhones and iPads and doesn't need lots of bulky additional equipment to be carried to site.

Cloud Based
All measurement and survey data are saved into the cloud.

Technology

App-based Heat3D detects room features such as walls, floors and ceilings and constructs a 3D model which is then combined with the thermal images from the FLIR One camera to provide a detailed insight into the thermal performance of each surface.

Quantitative infrared thermography is used to calculate the heat loss through these surfaces and, using temperature sensors, a U-value is calculated and presented on the device. This process takes around an hour for each test, allowing multiple surfaces to be tested in a relatively short period of time.

Extensive research into quantified U-values

Heat3D is the product of years of research and real-world testing into quantitative infrared thermography techniques. Developed in conjunction with mobile app specialists Electric Pocket and the energy experts at the University of Salford.

What's Included?

- FLIR One Pro thermal camera
- Tripod and quick release mount for iPhone or iPad
- Adjustable target mount
- Temperature targets
- Mono pole target mounting solution
- PID controller and portable heater

Note: Apple device not included.

Scan here to find out how to use Heat3D

Technical Specification

OVERVIEW	
Mobile Device	Apple iOS with GPS Basic: A9 processor, WiFi + Cellular Advanced: A10X processor, WiFi + Cellular
Thermal Camera	Basic: FLIR ONE iOS Advanced: FLIR ONE Pro iOS
Temperature Sensor	Blue Maestro Bluetooth Tempo Disc

OVERALL ACCURACY	
Reporting Area	U-values and heat flux for 50cm squares across the surface
Heat Flow	±2 W/m²
Air Temperature	±0.3°C
Surface Temperature	±0.4°C

THERMAL CAMERA	
Thermal Resolution	Basic: 80x60 (4,800 pixels) Advanced: 160x120 (19,200 pixels)
Thermal Accuracy	±3°C / ±5%
Thermal Sensitivity	Basic: 150mK Advanced: 70mK
Battery Charge Time	40 mins
Battery Life	Approximately 1 hour

THERMAL SENSOR	
Temperature Accuracy	Typical: ±0.3°C Maximum: ±0.4°C
Temperature Resolution	0.1°C

Contact

To find out more about Heat3D please contact us today:

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buildtestsolutions.com

Made for iPad

Made for iPhone

UK DESIGNED UK MANUFACTURED

NPL National Physical Laboratory — NATIONAL PHYSICAL LABORATORY TESTED