



Brochure

# Thermal Transmittance Measurement Solutions

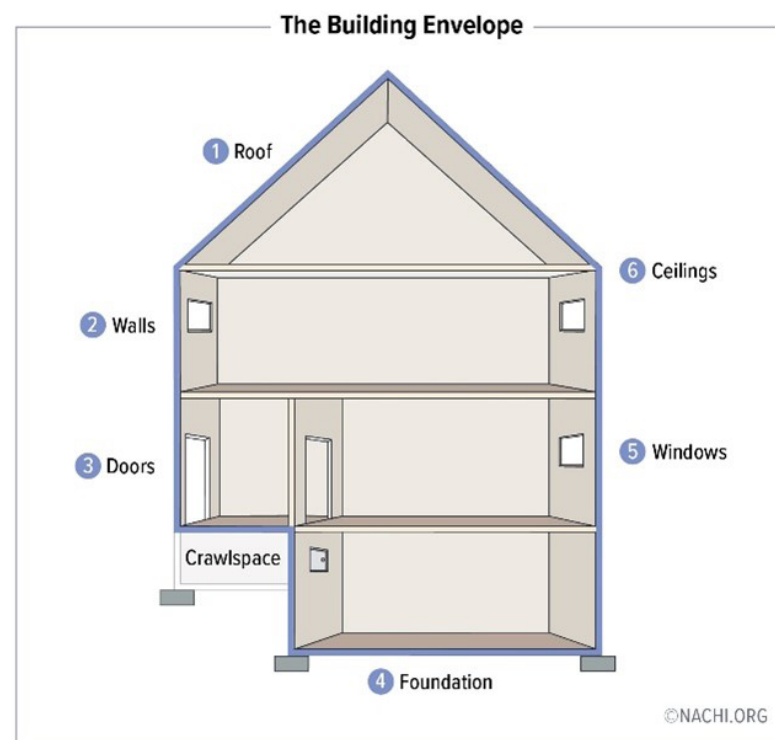
Swiss-patented ISO 9869 compliant  
measurement systems for U-Value (R-Value),  
temperature, and heat flux



# A precise way to measure your building's U-Value

Our building<sup>gt</sup> product series supports construction professionals in damage investigations, inspections, and renovation planning.

A cutting edge system designed for in-situ U-value measurement, the building<sup>gt</sup> series provides vital building calculations from values such as heat flux and temperature.

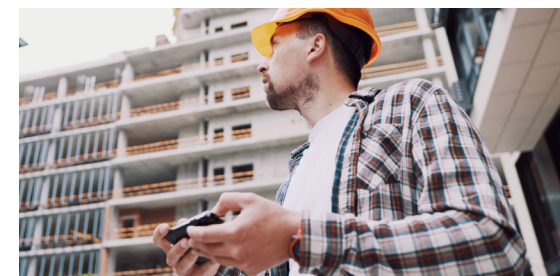


The building<sup>gt</sup> series consists of two U-Value measurement solutions, **UVAL Wired** and **UVAL Wireless**. These are **calibrated, plug-and-play** measurement kits that deliver reliable data, allowing **accurate** and **non-invasive assessment of thermal transmittance** in construction particularly for different building envelopes like walls, roofs, floors, and windows.

# Accurate & Non-Invasive In-Situ U-Value Measurement

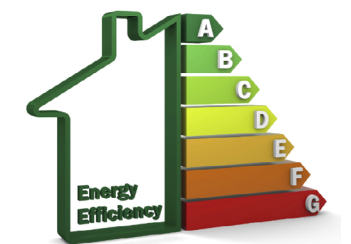
Traditionally, assessing a building's energy efficiency requires invasive methods like dismantling walls or relying on inaccurate assumptions and estimates.

The building<sup>gt</sup> series offers a **non-invasive, accurate solution for evaluating thermal efficiency**, giving users a clear and reliable assessment of their building's performance.



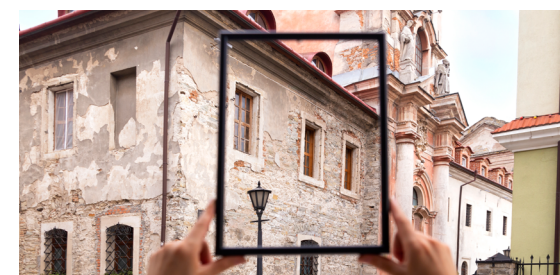
## Assessing the Status Quo

Designed to measure U-value with precision, ensuring compliance with regulatory standards



## Building Energy Rating

Obtain quantitative values to complement energy assessment methodologies and ensure full transparency



## Retrofitting Evaluation

Accurate U-value assessments empower informed decisions on renovation



## Measuring Novel Materials

Ideal for R&D and quality control purposes, ensuring precise assessment of innovative materials

# Available in Both Wired and Wireless Configurations

Experience flexibility in connectivity options with our product, available in both wired and wireless configurations. Whether you prioritize the affordability of a wired connection or the convenience of wireless technology, we have a solution to suit your needs.



Wired Kit



Wireless Kit

- ✓ **ISO-Conforming**  
All devices take measurements according to ISO 9869.
- ✚ **Swiss-Patented**  
Our Swiss, cutting-edge solutions are trusted by researchers and industries around the world.
- ▷ **Plug & Play**  
Sensor calibration data already loaded onto logger for fast plug-and-play measurements.
- 🔑 **Reliable & Precise**  
Our kits enable accurate thermal measurements and efficiency assessments
- ⊘ **Non-Invasive**  
Our solution delivers thermal measurements without intrusive methods like drilling or dismantling, ensuring minimal disruption.

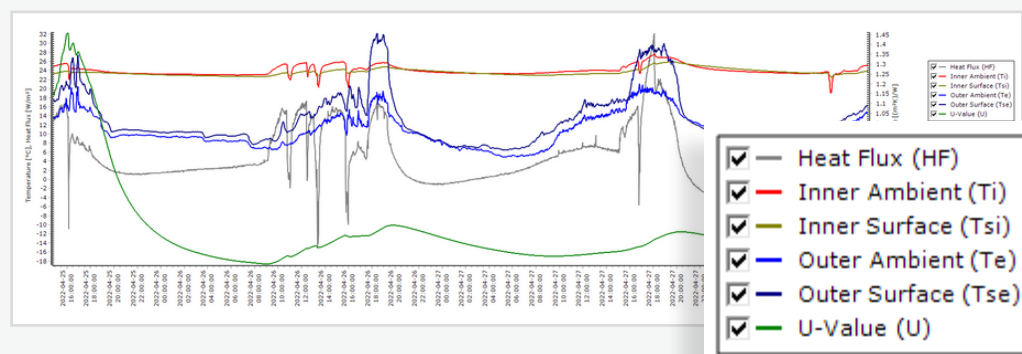
|                                                   | Wired                                                                                                                                                                                                                                                                                                                                                       | Wireless                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|---------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product Name                                      | UVAL Wired System                                                                                                                                                                                                                                                                                                                                           | UVAL Wireless System                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| ISO 9869 Measurements                             | ✓                                                                                                                                                                                                                                                                                                                                                           | ✓                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Swiss-Patented gSKIN Heat Flux sensing Technology | ✓                                                                                                                                                                                                                                                                                                                                                           | ✓                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Remote Measurement Access                         | ✗                                                                                                                                                                                                                                                                                                                                                           | ✓                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Software with CSV Export Function                 | ✓                                                                                                                                                                                                                                                                                                                                                           | ✓                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| R-Value (thermal conductivity) also obtainable    | Must be calculated manually                                                                                                                                                                                                                                                                                                                                 | ✓                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Multiple Measuring Points Capability              | Only 1 U-Value Measuring Point per system                                                                                                                                                                                                                                                                                                                   | Up to 5 U-Value Measuring Points per system                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Other Features                                    |                                                                                                                                                                                                                                                                                                                                                             | <div>- IP67 Rated Node</div> <div>- Wireless Indoor Range of 50m</div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Inclusions                                        | <div><b>Device:</b></div> <div>1 gSKIN® Heat Flux Sensor</div> <div>1 gSKIN® DLOG Data Logger with 2 temperature sensors</div> <div><b>Accessories:</b></div> <div>1 USB cable (PC to data logger)</div> <div>1 Roll of Double-Sided Adhesive Tape</div> <div>Instructions and Manual:</div> <div>1 Calibration sheet</div> <div>1 Instruction manual</div> | <div><b>Device:</b></div> <div>Base Station</div> <div>Nodes (may order more)</div> <div>1 Inner Wall Heat Flux Sensor</div> <div>1 Outer Wall Surface Sensor</div> <div>2 Ambient Temperature Sensors</div> <div><b>Accessories:</b></div> <div>2 Ambient Sensor Mounting Clips</div> <div>1 Roll of Double-Sided Adhesive Tape</div> <div>1 Bag of Double-Sided Adhesive Water Repellent Strips</div> <div>1 Pair of Scissors</div> <div><b>Instructions and Manual:</b></div> <div>1 Calibration sheet</div> <div>1 Instruction manual</div> |
| Geographic Coverage                               | Worldwide                                                                                                                                                                                                                                                                                                                                                   | Available in Europe, most of Africa and the Middle East. Employs a sub-GHz Communication link at 868 MHz.                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Price                                             | CHF 1,949.00                                                                                                                                                                                                                                                                                                                                                | CHF 2,399.00 for 1 measurement point, additional cost for more points.                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

# About the software

greenteg's analysis software, compatible with both wired and wireless kits, empowers users with a comprehensive suite of features.

- > Real-time analysis
- > CSV Export
- > Report generation
- > ISO 9869:1 Conformity Indication

Software graph:



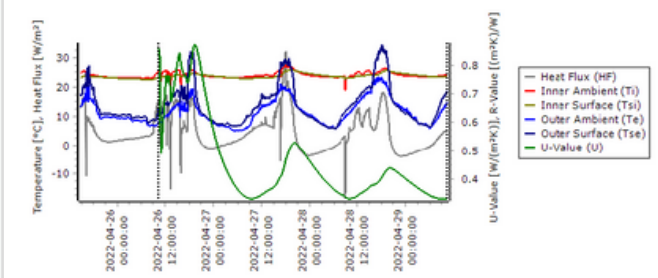
Final U-Value display with ISO Verification

| Measurement results:        |                     |                           |                 |
|-----------------------------|---------------------|---------------------------|-----------------|
| Logger data:                |                     |                           |                 |
| Measurement system:         | gOMS II             |                           |                 |
| Base Station serial number: | 502285              |                           |                 |
| Inner Node serial number:   | 10066               |                           |                 |
| Outer Node serial number:   | 10067               |                           |                 |
| U-Value analysis:           |                     |                           |                 |
| Total measurement duration: |                     | 91.61 h                   | Average values: |
| Analysis start time:        | 2022-04-26 10:26:40 | Heat Flux (HF):           | 4.17 W/m²       |
| Analysis end time:          | 2022-04-29 10:26:40 | Inner Ambient Temp. (Ti)  | 24.09 °C        |
| Analysis period:            | 72 h                | Inner Surface Temp. (Tsi) | 23.77 °C        |
| dR2/3:                      | 1.96 %              | Outer Ambient Temp. (Te)  | 11.36 °C        |
| dR24:                       | -0.24 %             | Outer Surface Temp. (Tse) | 13.64 °C        |
| U-Value (U):                | 0.332 W/(m²K)       |                           |                 |
| R-Value (R):                | 2.376 (m²K)/W       |                           |                 |

Measurement data fulfils requirements of ISO 9869-1:2014 section 7.1.

Uncertainties due to improper installation or environmental influences must be estimated by user (see section 6.1).

Overall analysis period: t=91.61 h



# Our clients

Our clients come from diverse roles within the building construction industry, spanning engineers, researchers, and environmental consultants.

Here are some of our esteemed clients:

**ETH** zürich

KIER 한국에너지기술연구원  
KOREA INSTITUTE OF ENERGY RESEARCH



**POLITECNICO**  
MILANO 1863

**ATKINS**  
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