

U-Value Measurement with the gSKIN® U-Value Kit

Object:		Measurement period:	
Address:		Component:	<input type="checkbox"/> Wall <input type="checkbox"/> Window <input type="checkbox"/>
		Structure (by layer):	
		Orientation:	
Year:		Use of the building:	<input type="checkbox"/> Occupied <input type="checkbox"/> Unoccupied
Type:		Photos:	<input type="checkbox"/> Yes <input type="checkbox"/> No

1	Conditions
	Temperature difference ($T_{\text{interior}} - T_{\text{exterior}}$) is at least 5°C
	Measurement possible for at least 72h (ISO)

2	Material
	Software installed on laptop
	Data logger charged
	Enough memory on data logger available
	Fixation (paste, adhesive tape) available
	<i>Optional:</i> Thermal imaging camera available
	<i>Optional:</i> Ladder available

3	Choice of the measurement position
	Measurement position is accessible from the inside and the outside
	Outside measurement position can be reached with the long cable (5m) of the outside temperature sensor through a door or a window
	No direct solar radiation (north wall, if necessary, install a sunshade or similar)
	Position is protected from strong winds/rain
	Position is not in proximity to heat bridges (use thermal imaging camera if available)
	Position is not in proximity to a heat source

4	Mounting
	Fixation (paste, adhesive tape) chosen (The paste can leave residues on the wall/window)
	Heat flux sensor installed on the interior of the building
	Inside temperature sensor (short cable) installed near the heat flux sensor

4	Mounting (Continuation)
	Outside temperature sensor (long cable) installed on the exterior of the building, roughly at the same position as the inside sensors
	All fixations checked (Do not pull on the heat flux sensor cable.)
	Heat flux sensor and data logger connected by the black connectors

5	Start of the measurement
	Data logger and laptop connected by USB cable
	Measurement started via software
	<i>Optional:</i> USB cable disconnected
	Photos of installation taken for documentation

6	During the measurement
	Keep inside temperature as constant as possible (Do not air the room, do not adjust the thermostat)

7	End of the measurement
	Results read via the button "Read record" in the software, report saved (If the measurement is not ISO conform, it might be necessary to prolong the measurement)
	Measurement stopped via «Logger» and then «Stop Measurement»

8	Dismounting
	Disconnect data logger and heat flux sensor
	Heat flux sensor removed with care from surface (Do not pull on the heat flux sensor cable. Please consult the manual.)
	Temperature sensors removed and cable wound up
	Fixation residuals removed

Note on Window U-Value Measurements

To obtain a measurement according to the **ISO standard**, we recommend the following procedure:

1. Conduct one single measurement, including at least three nights
2. Analyze the results manually with Excel
(A template allowing copy-paste is available on our website, in the download section)

If **no ISO compliance** is required, the following procedure is also possible:

1. Conduct one single measurement overnight (start the measurement after sunset and stop the measurement before sunrise)
2. Use the automatic analysis provided by the software

WARNING: This method does not comply with the ISO standard.

In order to prevent distortion of the measurement results through solar radiation, measurements of windows have to be conducted at night.