

# ISO 19916-1:2018 (E)

## Glass in building — Vacuum insulating glass — Part 1: Basic specification of products and evaluation methods for thermal and sound insulating performance

---

### Contents

	Foreword
	Introduction
1	Scope
2	Normative references
3	Terms and definitions
4	Description of components
4.1	Glass types and characteristics
4.2	Pillars
4.3	Edge seal
4.4	Evacuation port
4.5	Getter
5	Optical and thermal properties
5.1	Optical properties
5.2	U-value (thermal transmittance)
5.2.1	Determination of the U-value
5.2.2	Test report
5.2.3	Calculation method for U-value of vacuum insulating glass with different glass thickness
5.3	Total solar energy transmittance (g-value)
6	Dimensional requirements
6.1	Thickness
6.1.1	Nominal thickness
6.1.2	Limit deviation on thickness
6.1.3	Measurement of thickness
6.2	Width B and length H
6.2.1	General
6.2.2	Limit deviations on width B and length H
6.2.3	Limit deviations on squareness
6.2.4	Displacement
7	Durability
7.1	Requirements
7.2	Test specimens
7.3	Test method
8	Measurement of sound insulation
Annex A	(normative) Determination of steady-state U-value (thermal transmittance) — Heat flow meter method and guarded hot plate method
A.1	General
A.2	Basic formula
A.3	Test apparatus
A.3.1	Buffer plates
A.3.2	Heat flow meter method
A.3.3	Guarded hot plate method

- A.4**        **Dimensions of specimen and metering area**
- A.4.1**     **Distance from edge seal**
- A.4.2**     **Dimensions of metering area**
- A.5**        **Measurements**

**Annex B (normative) Test method for durability**

- B.1**        **Durability test**
- B.1.1**     **General**
- B.1.2**     **Moisture and light resistance test**
- B.1.3**     **Thermal repeating test**

**Annex C (informative) Calculation method for thermal transmittance (U-value)**

**Annex D (informative) Contribution from the edges to the measurement of the thermal transmittance (U-value) of vacuum insulating glass**

**Annex E (informative) Maximum deviation in the measured thermal transmittance (U-value) of a vacuum insulating glass due to non-uniformities in the heat flow through the pillar array**

**Page count: 33**