

# ISO 6946:2017-06 (E)

## Building components and building elements - Thermal resistance and thermal transmittance - Calculation methods

---

<b>Contents</b>		<b>Page</b>
Foreword .....		iv
Introduction .....		v
<b>1</b>	<b>Scope .....</b>	<b>1</b>
<b>2</b>	<b>Normative references .....</b>	<b>1</b>
<b>3</b>	<b>Terms and definitions .....</b>	<b>2</b>
<b>4</b>	<b>Symbols and subscripts .....</b>	<b>3</b>
<b>4.1</b>	<b>Symbols .....</b>	<b>3</b>
<b>4.2</b>	<b>Subscripts .....</b>	<b>3</b>
<b>5</b>	<b>Description of the method .....</b>	<b>3</b>
<b>5.1</b>	<b>Output .....</b>	<b>3</b>
<b>5.2</b>	<b>General description .....</b>	<b>4</b>
<b>5.3</b>	<b>Detailed calculation method .....</b>	<b>4</b>
<b>5.4</b>	<b>Simplified calculation method .....</b>	<b>4</b>
<b>6</b>	<b>Calculation of thermal transmittance and thermal resistance .....</b>	<b>4</b>
<b>6.1</b>	<b>Output data .....</b>	<b>4</b>
<b>6.2</b>	<b>Calculation time intervals .....</b>	<b>4</b>
<b>6.3</b>	<b>Input data .....</b>	<b>4</b>
<b>6.4</b>	<b>Principles of the simplified calculation procedure .....</b>	<b>5</b>
<b>6.5</b>	<b>Thermal transmittance .....</b>	<b>6</b>
<b>6.5.1</b>	<b>By detailed calculation method .....</b>	<b>6</b>
<b>6.5.2</b>	<b>By simplified calculation method .....</b>	<b>6</b>
<b>6.6</b>	<b>Thermal resistance .....</b>	<b>7</b>
<b>6.7</b>	<b>Total thermal resistance .....</b>	<b>7</b>
<b>6.7.1</b>	<b>Thermal resistance of homogeneous components .....</b>	<b>7</b>
<b>6.7.2</b>	<b>Total thermal resistance of a building component consisting of homogeneous and inhomogeneous layers .....</b>	<b>8</b>
<b>6.8</b>	<b>Surface resistances .....</b>	<b>12</b>
<b>6.9</b>	<b>Thermal resistance of air layers .....</b>	<b>12</b>
<b>6.9.1</b>	<b>Applicability .....</b>	<b>12</b>
<b>6.9.2</b>	<b>Unventilated air layer .....</b>	<b>13</b>
<b>6.9.3</b>	<b>Slightly ventilated air layer .....</b>	<b>13</b>
<b>6.9.4</b>	<b>Well-ventilated air layer .....</b>	<b>14</b>
<b>6.10</b>	<b>Thermal resistance of unheated spaces .....</b>	<b>14</b>
<b>6.10.1</b>	<b>General .....</b>	<b>14</b>
<b>6.10.2</b>	<b>Roof spaces .....</b>	<b>14</b>
<b>6.10.3</b>	<b>Other spaces .....</b>	<b>15</b>
	<b>Annex A (normative) Input and method selection data sheet -- Template .....</b>	<b>16</b>
	<b>Annex B (informative) Input and method selection data sheet -- Default choices .....</b>	<b>19</b>
	<b>Annex C (normative) Surface resistances .....</b>	<b>22</b>
	<b>Annex D (normative) Thermal resistance of airspaces .....</b>	<b>25</b>

<b>Annex E (normative) Calculation of the thermal transmittance of components with tapered layers ..</b>	<b>29</b>
<b>Annex F (normative) Correction to thermal transmittance .....</b>	<b>34</b>
<b>Bibliography .....</b>	<b>40</b>