

ISO 10077-2:2017-06 (E)

Thermal performance of windows, doors and shutters - Calculation of thermal transmittance - Part 2: Numerical method for frames

Contents		Page
Foreword		v
Introduction		vi
1	Scope	1
2	Normative references	1
3	Terms and definitions	2
4	Symbols and subscripts	2
4.1	Symbols	2
4.2	Subscripts	3
5	Calculation method	3
5.1	Output of the method	3
5.2	General principle	3
5.3	Validation of the calculation programs	4
6	Calculation of thermal transmittance	4
6.1	Output data	4
6.2	Calculation time intervals	4
6.3	Input data	4
6.3.1	Geometrical characteristics	4
6.3.2	Thermal conductivity values	5
6.3.3	Emissivity of surfaces	6
6.3.4	General boundaries	6
6.3.5	Boundaries for roller shutter boxes	6
6.4	Calculation procedures	7
6.4.1	Determination of thermal transmittance	7
6.4.2	Treatment of cavities using the radiosity method	8
6.4.3	Treatment of cavities using the single equivalent thermal conductivity method 18 7 Report	24
7.1	of report	24
7.2	Geometrical data	24
7.3	Thermal data	25
7.3.1	Thermal conductivity	25
7.3.2	Emissivity	25
7.3.3	Boundary conditions	25
7.4	Presentation of results	25
Annex A (normative)	Input and method selection data sheet -- Template	26
Annex B (informative)	Input and method selection data sheet -- Default choices	28
Annex C (normative)	Regional references in line with ISO Global Relevance Policy	30
Annex D (normative)	Thermal conductivity and other characteristics of selected materials	31
Annex E (normative)	Surface resistances	34

Annex F (normative) Determination of the thermal transmittance	36
Annex G (normative) General examples for the validation of calculation programs using the radiosity method for the treatment of cavities	40
Annex H (normative) Examples of window frames for the validation of calculation programs using the radiosity method for the treatment of cavities	45
Annex I (normative) Examples of window frames for the validation of calculation programs using the single equivalent thermal conductivity method for the treatment of cavities	57
Annex J (normative) Wood species listed in Annex D	68
Bibliography	70