

DIN EN ISO 10077-1:2010-05 (E)

Thermal performance of windows, doors and shutters - Calculation of thermal transmittance - Part 1: General (ISO 10077-1:2006 + Cor. 1:2009) (includes Corrigendum AC:2009)

Contents		Page
Foreword		3
Introduction		4
1	Scope	5
2	Normative references	6
3	Terms, definitions, symbols and units	6
3.1	Terms and definitions	6
3.2	Symbols and units	7
3.3	Subscripts	7
4	Geometrical characteristics	7
4.1	Glazed area, opaque panel area	7
4.2	Total visible perimeter of the glazing	7
4.3	Frame areas	8
4.4	Window area	9
5	Calculation of thermal transmittance	11
5.1	Windows	11
5.2	Glazing	14
5.3	Windows with closed shutters	15
5.4	Doors	16
6	Input data	18
7	Report	18
7.1	Contents of report	18
7.2	Drawing of sections	18
7.3	Drawing of the whole window or door	19
7.4	Values used in the calculation	19
7.5	Presentation of results	19
	Annex A (normative) Internal and external surface thermal resistances	20
	Annex B (normative) Thermal conductivity of glass	21
	Annex C (informative) Thermal resistance of air spaces between glazing and thermal transmittance of coupled, double or triple glazing	22
	Annex D (informative) Thermal transmittance of frames	24
	Annex E (normative) Linear thermal transmittance of frame/glazing junction	30
	Annex F (informative) Thermal transmittance of windows	32
	Annex G (informative) Additional thermal resistance for windows with closed shutters	37
	Annex H (informative) Permeability of shutters	38
	Bibliography	40