

ISO/TR 52010-2:2017-06 (E)

Energy performance of buildings - External climatic conditions - Part 2: Explanation and justification of ISO 52010-1

Contents	Page
Foreword	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Symbols and subscripts	1
5 Description of the methods	1
5.1 Output of the method	1
5.2 General description of the method	2
5.2.1 Calculation of the distribution of solar irradiance on a non-horizontal plane	2
5.2.2 Calculation of solar shading by distant objects	3
6 Calculation method	4
6.1 Output data	4
6.2 Calculation time intervals	4
6.3 Input data	4
6.4 Calculation procedure	4
6.4.1 Calculation of the sun path	4
6.4.2 Split between direct and diffuse solar irradiance	4
6.4.3 Solar reflectivity of the ground	4
6.4.4 Calculation of the total solar irradiance at given orientation and tilt angle	4
6.4.5 Calculation of shading by external objects	5
6.4.6 Calculation of illuminance	5
7 Quality control	5
8 Compliance check	5
9 Directional (spatial) distribution of hourly solar irradiation or illumination (not covered in ISO 52010-1)	5
9.1 General	5
9.2 Tregenza elements	6
9.3 Allocation of the radiation in each element	6
9.4 Plane at certain orientation and tilt	7
9.5 References	9
10 Worked out examples	9
10.1 Method calculation of the total solar irradiation at given orientation and tilt angle	9
10.2 Calculation of shading by external objects	9
11 Validation	9
12 Information on the accompanying spreadsheet	12
Annex A (informative) Input and method selection data sheet -- Template	13

Annex B (informative) Input and method selection data sheet -- Default choices	14
Annex C (informative) Calculation examples on the solar irradiation at given orientation and tilt angle	15
Annex D (informative) Calculation examples on the effect of solar shading	20
Bibliography	23