

DIN EN ISO 12631:2018-01 (E)

Thermal performance of curtain walling - Calculation of thermal transmittance (ISO 12631:2017)

| Contents | | Page |
|--------------------------------|------------------------------------------------------------------------------|-------------|
| European foreword | | 4 |
| Foreword | | 5 |
| Introduction | | 6 |
| 1 | Scope | 10 |
| 2 | Normative references | 10 |
| 3 | Terms and definitions | 11 |
| 4 | Symbols and subscripts | 12 |
| 4.1 | Symbols | 12 |
| 4.2 | Subscripts | 12 |
| 4.3 | Superscripts | 12 |
| 5 | Description of the methods | 12 |
| 5.1 | Output of the method | 12 |
| 5.2 | General description | 13 |
| 5.3 | Geometrical characteristics | 13 |
| 5.3.1 | Main principles | 13 |
| 5.3.2 | Internal depth | 15 |
| 5.3.3 | Boundaries of curtain wall structures | 16 |
| 5.3.4 | Cut-off planes and partitioning of thermal zones | 19 |
| 6 | Methodologies for the calculation of curtain wall transmittance | 19 |
| 7 | Single assessment method | 21 |
| 7.1 | Output data | 21 |
| 7.2 | Calculation time intervals | 21 |
| 7.3 | Input data | 21 |
| 7.3.1 | Geometrical characteristics | 21 |
| 7.3.2 | Thermal characteristics | 25 |
| 7.4 | Calculation procedure | 27 |
| 7.4.1 | Applicable time interval | 27 |
| 7.4.2 | Calculation of thermal transmittance | 57 |
| 8 | Component assessment method | 28 |
| 8.1 | Output data | 28 |
| 8.2 | Calculation time intervals | 28 |
| 8.3 | Input data | 28 |
| 8.3.1 | Geometrical characteristics | 28 |
| 8.3.2 | Thermal characteristics | 32 |
| 8.4 | Calculation procedure | 35 |
| 8.4.1 | Applicable time interval | 35 |
| 8.4.2 | Calculation of thermal transmittance | 35 |
| 9 | Report | 36 |
| 9.1 | Contents of report | 36 |
| 9.2 | Drawings | 37 |
| 9.2.1 | Section drawings | 37 |
| 9.2.2 | Overview drawing of the whole curtain wall element | 37 |
| 9.3 | Values used in the calculation | 37 |
| 9.4 | Presentation of results | 37 |

| | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| Annex A (normative) Input and method selection data sheet — Template | 38 |
| Annex B (informative) Input and method selection data sheet — default choices | 40 |
| Annex C (normative) Regional references in line with ISO Global Relevance Policy | 42 |
| Annex D (normative) Linear thermal transmittance of junctions | 43 |
| Annex E (normative) A method for calculating the thermal effect of screws using a 2D numerical method and the procedures specified in ISO 10077-2 | 50 |
| Annex F (normative) Ventilated and unventilated air spaces | 53 |
| Bibliography | 56 |