

# DIN EN 1873:2016-07 (E)

## Prefabricated accessories for roofing - Individual rooflights of plastics - Product specification and test methods (includes Amendment :2016)

---

Contents	Page
European foreword.....	6
1 Scope.....	7
2 Normative references.....	10
3 Terms and definitions .....	11
4 Symbols and abbreviations .....	13
5 Requirements .....	15
5.1 Radiation properties.....	15
5.1.1 General.....	15
5.1.2 Light transmission .....	15
5.1.3 Solar direct transmittance $\tau_e$ .....	16
5.1.4 Total solar energy transmittance $g$ .....	16
5.2 Durability .....	16
5.3 Water tightness.....	16
5.4 Mechanical performances.....	16
5.4.1 Resistance to upward loads.....	16
5.4.2 Resistance to downward loads.....	16
5.4.3 Impact resistance .....	17
5.5 Reaction to fire .....	17
5.6 Resistance to fire .....	18
5.7 External fire performance .....	18
5.8 Air permeability .....	18
5.9 Thermal resistance.....	18
5.10 Airborne sound insulation.....	19
5.11 Release of dangerous substances.....	19
6 Testing and classification.....	19
6.1 General.....	19
6.2 Radiation properties.....	19
6.2.1 Total luminous transmittance.....	19
6.2.2 Determination of solar direct transmittance $\tau_e$ .....	20
6.2.3 Determination of total solar energy transmittance $g$ .....	20
6.3 Durability .....	20
6.3.1 Classification for durability.....	20
6.3.2 Conditions for accelerated ageing.....	22
6.3.3 Variation of light transmission .....	22
6.3.4 Variation in yellowness index .....	23
6.3.5 Variation of mechanical properties with ageing.....	23
6.3.6 Test specimen.....	23
6.4 Watertightness.....	24
6.4.1 Principle .....	24
6.4.2 Procedure.....	24
6.4.3 Apparatus.....	24
6.4.4 Test specimen.....	24

Dimensions in millimetres .....	25
6.5 Mechanical performances .....	26
6.5.1 Resistance to upward and downward loads .....	26
6.5.2 Impact resistance.....	27
6.6 Fire behaviour .....	29
6.7 Air permeability .....	29
6.8 Thermal transmittance.....	30
6.9 Relationship between characteristics, families and test specimens.....	30
6.10 Test report .....	32
7 Assessment and verification of constancy of performance - AVCP.....	32
7.1 General .....	32
7.2 Type testing .....	33
7.2.1 General .....	33
7.2.2 Test reports .....	33
7.3 Factory production control (FPC).....	33
7.3.1 General .....	33
7.3.2 General requirements.....	34
7.3.3 Product specific requirements .....	36
7.3.4 Initial inspection of factory and of FPC.....	37
7.3.5 Continuous surveillance of FPC.....	38
7.3.6 Procedure for modifications.....	38
8 Designation and marking .....	38
Annex A (informative) Guidelines for safety, application, use and maintenance .....	40
A.1 General .....	40
A.2 Guidelines for safety.....	40
A.3 Guidelines for application and use.....	40
A.4 Maintenance .....	41
Annex B (normative) Alternative test method for the determination of light transmission .....	42
B.1 General .....	42
B.2 Apparatus .....	42
B.3 Test pieces.....	43
B.4 Procedure .....	43
B.5 Expression of results .....	43
Annex C (normative) Test method for air permeability .....	44
C.1 General .....	44
C.2 Test apparatus.....	44
C.3 Test specimen .....	44
C.4 Test procedure .....	45
C.5 Evaluation of the results .....	45
C.6 Rounding off to be used for the air permeability.....	45
C.7 Test report .....	46
Annex D (normative) Determination of thermal transmittance of rooflight.....	47

D.1	General.....	47
D.2	Determination of thermal transmittance of rooflight components.....	47
D.2.1	Determination by measurement .....	47
D.2.2	Determination by calculation.....	47
D.2.2.1	General.....	47
D.2.2.2	Thermal transmittance of the upstand $U_{up}$ and $U_{up,e}$ .....	47
D.2.2.3	Thermal transmittance of the edge profile $U_e$ .....	47
D.2.2.4	Thermal transmittance of the junction part $U_j$ .....	47
D.2.2.5	Thermal transmittance of the translucent parts $U_t$ .....	47
D.2.2.6	Linear thermal transmittances $\Psi_e, \Psi_j, \Psi_t$ .....	48
D.2.2.7	Definition of starting point for calculation of thermal transmittance.....	48
D.3	Determination of areas of a rooflight .....	49
D.3.1	Components .....	49
D.3.2	Area of the rooflight upstand.....	50
D.3.3	Area of the edge profile.....	51
D.3.4	Area of the junction part.....	53
D.3.5	Area of the translucent part $A_t$ .....	54
D.3.6	Surface of the rooflight.....	54
D.4	Total thermal transmittance of individual rooflights.....	55
D.4.1	General.....	55
D.4.2	Total thermal transmittance $U_r$ of individual rooflights including the edge profile .....	56
D.4.3	Total thermal transmittance $U_{rc}$ of individual rooflights including the edge profile and upstand.....	57
D.4.4	Total thermal transmittance $U_{rc}$ of individual rooflights including the edge profile and upstand (alternative method).....	59
D.4.5	Total thermal transmittance $U_{rc}$ of individual rooflights including the upstand without edge profile .....	60
D.4.6	Total thermal transmittance $U_{rc}$ of individual rooflights including the edge profile and upstand with more than one translucent part.....	62
D.4.7	Rounding off to be used for thermal transmittance in calculation and classification .....	63
D.5	Test specimen for evaluation of thermal transmittance: $U_{r,ref}, U_{rc,ref300}$ .....	63
D.5.1	General.....	63
D.5.2	Reference models.....	64
D.5.2.1	Individual rooflight without upstand .....	64
D.5.2.2	Individual rooflight with upstand .....	64
D.6	Characteristics for supplied rooflight.....	65
Annex E (normative)	Reaction to fire test.....	66

<b>E.1</b>	<b>Class E .....</b>	<b>66</b>
<b>E.1.1</b>	<b>General .....</b>	<b>66</b>
<b>E.1.2</b>	<b>Mounting and fixing for the small flame test in accordance to EN ISO 11925-2 .....</b>	<b>66</b>
<b>E.2</b>	<b>Class A2 to class D.....</b>	<b>67</b>
<b>E.2.1</b>	<b>General .....</b>	<b>67</b>
<b>E.2.2</b>	<b>Mounting and fixing for the SBI test.....</b>	<b>67</b>
<b>E.3</b>	<b>Class A1.....</b>	<b>67</b>
<b>Annex ZA (informative)</b>	<b>Clauses of this European Standard addressing the provisions of the EU Construction Products Regulation.....</b>	<b>68</b>
<b>ZA.1</b>	<b>Scope and relevant characteristics .....</b>	<b>68</b>
<b>ZA.2</b>	<b>Procedure for AVCP of prefabricated accessories for roofing - individual rooflights of plastics.....</b>	<b>70</b>
<b>ZA.2.1</b>	<b>Systems of AVCP .....</b>	<b>70</b>
<b>ZA.2.2</b>	<b>Declaration of performance (DoP).....</b>	<b>72</b>
<b>ZA.2.2.1</b>	<b>General.....</b>	<b>72</b>
<b>ZA.2.2.2</b>	<b>Content.....</b>	<b>73</b>
<b>ZA.2.2.3</b>	<b>Example of DoP .....</b>	<b>74</b>
<b>ZA.3</b>	<b>CE marking and labelling.....</b>	<b>77</b>
<b>Bibliography</b>	<b>.....</b>	<b>79</b>