

DIN EN 14509:2007-02 (E)

Self-supporting double skin metal faced insulating panels - Factory made products - Specifications

Contents		Page
Foreword		4
1	Scope	5
2	Normative references	5
3	Terms and definitions	8
4	Symbols and abbreviations	9
5	Requirements, properties and test methods	12
5.1	Requirements for component materials	12
5.2	Properties of panels	14
5.3	Actions and safety level requirements	20
6	Evaluation of conformity, testing, assessment and sampling methods	21
6.1	General	21
6.2	Type testing - ITT	21
6.3	Factory Production Control (FPC)	25
7	Classification and designation	31
8	Marking, labelling and packaging	32
8.1	Marking and labelling	32
8.2	Packaging, transport, storage and handling	33
Annex A (normative)	Testing procedures for material properties	34
A.1	Cross panel tensile test	34
A.2	Compressive strength and modulus of the core material	37
A.3	Shear test on the core material	38
A.4	Test to determine the shear properties of a complete panel	43
A.5	Test to determine the bending moment capacity and stiffness of a simply supported panel	45
A.6	Determination of the creep coefficient (t)	53
A.7	Interaction between bending moment and support force	55
A.8	Determination of apparent core density and mass of panel	57
A.9	Test for resistance to point loads and repeated loads	59
A.10	Calculation method for the determination of the thermal transmittance of a panel (U)	60
A.11	Water permeability - resistance to driving rain under pulsating pressure	65
A.12	Air permeability	66
A.13	Airborne sound insulation	66
A.14	Sound absorption	67
A.15	Support reaction capacity at the end of a panel	67
A.16	Recording and interpretation of test results	70
Annex B (normative)	Durability testing method for sandwich panels	72
B.1	Principle	72
B.2	Test DUR1	72
B.3	Test DUR2	74

B.4	Test report on durability tests	77
B.5	Adhesive bond between faces and prefabricated core material (wedge test)	78
B.6	Repeated loading test	80
B.7	Thermal shock test	81
Annex C (normative) Fire performance tests - additional instructions and direct field of application		83
C.1	Reaction to fire	83
C.2	Fire resistance	89
C.3	Fire tests ENV 1187 - external fire performance for roofs	92
C.4	Determination of the amount and thickness of the adhesive layer	93
Annex D (normative) Dimensional tolerances		96
D.1	General	96
D.2	Dimensional tolerances	96
Annex E (normative) Design procedures		106
E.1	Definitions and symbols	106
E.2	General	108
E.3	Actions	109
E.4	Resistance	110
E.5	Combination rules	113
E.6	Combination coefficients and safety factors	116
E.7	Calculation of the effects of actions	118
Annex ZA (informative) Clauses of this European Standard addressing the provisions of the EU Construction Products Directive		127
ZA.1 Scope and relevant characteristics		127
ZA.2 Procedures for the attestation of conformity of sandwich panels		129
ZA.3 CE Marking and labelling		134
Bibliography		147