

DIN EN 494:2013-01 (E)

Fibre-cement profiled sheets and fittings - Product specification and test methods

Contents		Page
Foreword		4
1	Scope	5
2	Normative references	5
3	Terms and definitions	6
4	Symbols and abbreviations	7
5	Product requirements	8
5.1	General	8
5.1.1	Composition	8
5.1.2	Appearance and finish	8
5.2	Dimensions and tolerances	9
5.2.1	General	9
5.2.2	Categorisation by height of profile	9
5.2.3	Thickness	9
5.2.4	Tolerances on nominal dimensions	10
5.3	Physical requirements and characteristics for fibre-cement profiled sheets	11
5.3.1	General	11
5.3.2	Apparent density	11
5.3.3	Mechanical characteristics	11
5.3.4	Water impermeability	13
5.4	Durability requirements	13
5.4.1	General	13
5.4.2	Freeze-thaw	13
5.4.3	Heat-rain	13
5.4.4	Warm water	14
5.4.5	Soak-dry	14
5.5	Summary of characteristics and classification	14
5.5.1	Summary of characteristics	14
5.5.2	Classification	14
5.6	Fire and safety	15
5.6.1	External fire performance	15
5.6.2	Reaction to fire	15
5.6.3	Release of dangerous substances	15
5.7	Product information	15
6	Evaluation of conformity	16
6.1	General	16
6.2	Initial Type testing	16
6.3	Factory Production Control (FPC)	17
6.3.1	General	17
6.3.2	Acceptance tests	17
6.3.3	Equipment	18
6.3.4	Raw materials and components	19
6.3.5	Product testing and evaluation	19
6.3.6	Non-conforming products	19
6.4	Inspection of a consignment of finished products	19
7	Test methods	19

7.1	General	19
7.2	Dimensional tests	19
7.2.1	Dimensional tests for sheets	19
7.2.2	Dimensional tests for fittings	22
7.3	Tests for physical performance and characteristics	22
7.3.1	Apparent density	22
7.3.2	Mechanical characteristics	23
7.3.3	Water impermeability	27
7.3.4	Warm water	27
7.3.5	Soak-dry	28
7.4	Tests for climatic performance	30
7.4.1	Freeze-thaw	30
7.4.2	Heat-rain	31
7.4.3	Freeze-thaw test for fittings	32
7.5	Test for fire performance	33
7.5.1	Test for external fire performance	33
7.5.2	Test for reaction to fire	33
8	Marking, labelling and packaging	38
Annex A (normative) Figures		40
Annex B (normative) Consignment inspection sampling		52
Annex C (normative) Statistical method for determining the corresponding wet values or revised dry specifications for the breaking load and/or bending moment when carrying out the dry method of test for quality control purposes		53
C.1	Procedure	53
C.2	Determination of the correlation between the results of testing wet and dry specimens ...	53
C.3	Determination of the regression line	54
C.4	Determination of a value for wet testing from an obtained value for dry testing	54
C.5	Determination of the minimum value specified for dry testing x_{std} corresponding to the minimum value specified for wet testing in this document y_{std}	55
Annex ZA (informative) Clauses of this European Standard addressing the provisions of the EU Construction Products Directive		57
ZA.1	Scope and relevant characteristics	57
ZA.2	Procedure for the attestation of conformity of fibre cement profiled sheets and fittings	59
ZA.2.1	Systems of attestation of conformity	59
ZA.2.2	EC Declaration of conformity	62
ZA.3	CE marking	64
Bibliography		66