DIN EN 12467:2016-12 (E)

Fibre-cement flat sheets - Product specification and test methods (includes Amendment :2016)

Contents

Page

European foreword 5

1 Scope 6

2 Normative references 6

3 Terms and definitions 6

4 Symbols and abbreviations 8

5 Requirements 9
5.1 General 9
5.1.1 Composition 9
5.1.2 Appearance and finish 9
5.2 Classification 9
5.2.1 General 9
5.2.2 Category A 9
5.2.3 Category B 10
5.2.4 Category C 10
5.2.5 Category D 10
5.2.6 Groups of sizes 10
5.3 Dimensions and tolerances 10
5.3.1 General 10
5.3.2 Nominal length and width 10
5.3.3 Thickness 10
5.3.4 Tolerances on nominal dimensions 11
5.3.5 Tolerances on shape 12
5.4 Physical requirements and characteristics 12
5.4.1 General 12
5.4.2 Apparent density 12
5.4.3 Moisture movement 12
5.4.4 Mechanical characteristics - Bending strength (MOR) - Modulus of elasticity (MOE) 13
5.4.5 Water impermeability for Categories A, B and D 13
5.4.6 Water vapour permeability for Category D 13
5.5 Durability requirements 14
5.5.1 General 14
5.5.2 Freeze-thaw for Categories A, B and D 14
5.5.3 Heat-rain for Categories A and B 14
5.5.4 Warm water for Categories A, B, C and D 14
5.5.5 Soak-dry for Categories A, B , C and D 14
5.6 Fire and safety 14
5.6.1 Reaction to fire 14
5.6.2 Release of dangerous substances 14
5.7 Product information 15

6 !Assessment and verification of constancy of performance -- AVCP 15
6.1 General 15
6.2 Type testing 15
6.2.1 General 15
6.2.2 Test samples, testing and compliance criteria 17
6.2.3 Test reports 17

6.3 Factory production control (FPC) 17
6.3.1 General 17
6.3.2 Requirements 17
6.3.3 Product specific requirements 20
6.3.4 Initial inspection of factory and of FPC 20
6.3.5 Continuous surveillance of FPC 21
6.3.6 Procedure for modifications 21
6.4 Inspection of a consignment of finished products" 21

7 Test methods 21
7.1 General 21
7.2 Dimensional and geometrical tests 21
7.2.1 Preparation of specimen 21
7.2.2 Apparatus 22
7.2.3 Procedure 22
7.2.4 Expression and interpretation of results 24
7.3 Tests for physical performance and characteristics 25
7.3.1 Apparent density 25
7.3.2 Mechanical characteristics - Bending strength - Modulus of elasticity (Bending modulus) 25
7.3.3 Water impermeability 30
7.3.4 Water vapour permeability 31
7.3.5 Warm water 31
7.3.6 Soak-dry 32
7.3.7 Moisture movement test 33
7.4 Tests for climatic performance 33
7.4.1 Freeze-thaw 33
7.4.2 Heat-rain 35
7.5 Test for reaction to fire performance 36
7.5.1 Sheets satisfying the requirements for the fire reaction Class A1 without the need for testing 36
7.5.2 Other sheets 36

8 Marking, labelling and packaging 44

Annex A (normative) Consignment inspection sampling 45

Annex B (normative) Statistical method for determining the corresponding wet values or revised dry specifications for the MOR when carrying out the dry method of test or when tested prior to coating for quality control purposes 46

B.1 Procedure 46
B.2 Determination of the correlation between the results of testing wet and dry specimens 46
B.3 Determination of the regression line 47
B.4 Determination of a value for wet testing from an obtained value for dry testing 47
B.5 Determination of the minimum value specified for dry testing xstd corresponding to the minimum value specified for wet testing in this document ystd 48

Annex C (normative) Test method for the determination of moisture movement characteristic of fibre-cement sheets 49

C.1 General 49
C.2 Principle 49
C.3 Apparatus 49
C.4 Specimen preparation 49
C.5 Test procedure 49
C.6 Calculation of results 50
C.7 Test report 50

Annex ZA (informative) !Clauses of this European Standard addressing the provisions of the EU Construction Products Regulation 51

ZA.1 Scope and relevant characteristics 51

ZA.2 Procedure for AVCP of fibre cement flat sheets 52

ZA.2.1 Systems of AVCP 52

ZA.2.2 Declaration of performance (DoP) 56

ZA.3 CE marking and labelling" 60

Bibliography 63