DIN EN 494:2007-06 (E)

Fibre-cement profiled sheets and fittings - Product specification and test methods (includes Amendments A1:2005 + A2:2006 + A3:200 7)

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 tolerance 9
5.2.1 General 9
5.2.2 Categorization 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 Type testing 16
6.2.1 General 16
6.2.2 Initial type testing 16
6.2.3 Further type testing 17
6.3 Factory Production Control (FPC) 17
6.3.1 General 17
6.3.2 Acceptance tests 18
6.3.3 Equipment 19
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 20
7.1 General 20
7.2 Dimensional tests 20
7.2.1 Dimensional tests for sheets 20
7.2.2 Dimensional tests for fittings 23
7.3 Tests for physical performance and characteristics 23
7.3.1 Apparent density 23
7.3.2 Mechanical characteristics 24
7.3.3 Water impermeability 27
7.3.4 Warm water 28
7.3.5 Soak-dry 29
7.4 Tests for climatic performance 30
7.4.1 Freeze-thaw 30
7.4.2 Heat-rain 32
7.4.3 Freeze-thaw test for fittings 33
7.5 Test for fire performance 33
7.5.1 Test for external fire performance 33
7.5.2 Test for reaction to fire 34

8 Marking, labelling and packaging 40

Annex A (normative) Figures 41

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 xstd corresponding to the minimum value specified for wet testing in this document ystd 55

Annex ZA (informative) Clauses of this European Standard addressing the provisions of the EU Construction Products Directive 58

ZA.1 Scope and relevant characteristics 58

ZA.2 Procedure for the attestation of conformity of fibre cement profiled sheets and fittings 60

ZA.2.1 Systems of attestation of conformity 60

ZA.2.2 EC Declaration of conformity 62

ZA.3 CE marking 63

Bibliography 66