DIN EN 1364-1:2015-09 (E)

Fire resistance tests for non-loadbearing elements - Part 1: Walls

Contents

Page

European foreword 5

Introduction 6

1 Scope 7

2 Normative references 7

3 Terms and definitions 7

4 Test equipment 9

5 Test conditions 9

6 Test specimen 9
6.1 Size 9
6.2 Number 9
6.3 Design 9
6.3.1 General 9
6.3.2 Vertical joints 10
6.3.3 Horizontal joints 10
6.3.4 Restraint 10
6.4 Construction 11
6.5 Verification 11

7 Installation of test specimen 11
7.1 General 11
7.2 Supporting construction 11

8 Conditioning 11

9 Application of instrumentation 12
9.1 Thermocouples 12
9.1.1 Furnace thermocouples (plate thermometers) 12
9.1.2 Unexposed face thermocouples 12
9.2 Pressure 13
9.3 Deflection 13
9.4 Radiation 13
9.5 Impact 13

10 Test procedure 13

11 Performance criteria 13

12 Test report 13

13 Field of direct application of test results 14
13.1 General 14
13.2 Extension of width 14
13.3 Extension of height 14
13.4 Supporting constructions 15
13.4.1 Standard supporting constructions 15

13.4.2 Non-standard supporting constructions 15

Annex A (normative) Specific requirements for testing glazed elements or non-loadbearing walls incorporating glazing 36

A.1 General 36
A.2 Test specimen design 36
A.3 Test specimen instrumentation 37
A.3.1 General 37
A.3.2 Average temperature rise 37
A.3.2.1 Fully glazed test specimen 37
A.3.2.2 Partly glazed test specimen 37
A.3.3 Maximum temperature rise 37
A.3.4 Radiation measurement 38
A.3.5 Deflection measurement 38
A.4 Field of direct application of test results 38
A.4.1 General 38
A.4.2 Field of direct application rules not requiring overrun time 38
A.4.2.1 Glazed element 38
A.4.2.1.1 Installation angle 38
A.4.2.1.2 Height of the glazed element 39
A.4.2.1.3 Width of the glazed element 39
A.4.2.2 Glazing system (see Figure 16) 39
A.4.2.2.1 Linear dimensions 39
A.4.2.2.2 Aspect ratio 39
A.4.2.2.3 Glazing beads 40
A.4.2.3 Framing system (see Figure 16) 40
A.4.2.4 Supporting constructions 40
A.4.2.4.1 General 40
A.4.2.4.2 Standard supporting constructions 40
A.4.2.4.3 Non-standard supporting construction 41
A.4.3 Field of direct application rules requiring overrun time 41
A.4.3.1 General 41
A.4.3.2 Dimensions of the glazed element 41
A.4.3.2.1 Height 41
A.4.3.2.2 Width 41
A.4.3.3 Dimensions and area of individual rectangular glass panes 42
A.4.3.4 Aspect ratio 42
A.4.3.5 Area of individual circular, triangular and four side non-rectangular glass panes 42

Annex B (normative) Specific requirements for testing non-loadbearing external and internal walls designed to span horizontally between two independently proven fire resisting vertical structural elements 43

B.1 General 43
B.2 Test specimen 43
B.2.1 Size 43
B.2.2 Number 43
B.2.3 Design 43
B.2.4 Boundary and Restraint conditions 43
B.3 Test specimen instrumentation 44
B.4 Test procedure 44
B.5 Performance criteria 44
B.6 Field of direct application of test results 44
B.6.1 General 44
B.6.2 Supporting constructions 45
B.6.3 Extension of width 45
B.6.4 Extension of height 45

Bibliography 46