

DIN EN 1366-13:2019-09 (E)

Fire resistance tests for service installations - Part 13: Chimneys

Contents

European foreword.....	5
Introduction	6
1 Scope	7
2 Normative references.....	7
3 Terms and definitions.....	8
4 Test equipment.....	9
4.1 General.....	9
4.2 Furnace.....	9
4.3 Equipment for measuring gas pressure	9
4.4 Equipment for measuring thermal movements.....	9
5 Test conditions	9
6 Test specimen	10
6.1 Size.....	10
6.1.1 General.....	10
6.1.2 Length	10
6.1.3 Cross-section.....	10
6.2 Number	10
6.3 Design.....	10
6.3.1 General.....	10
6.3.2 Distances to the test furnace and between each other	11
6.3.3 Openings in test specimen.....	11
6.3.4 Joints in horizontal test specimens including connecting flue pipes.....	11
6.3.5 Joints in vertical test specimen.....	12
6.3.6 Support for vertical chimneys	12
6.3.7 Support for horizontal test specimen	12
6.3.8 Compensators.....	12
7 Installation of test specimen.....	12
7.1 General.....	12
7.2 Standard supporting construction	13
7.3 Non-standard supporting constructions	13
7.4 Restraint of test specimen	13
7.4.1 Inside the furnace	13
7.4.2 At the penetration point.....	13
7.4.3 Fire stopping.....	13

7.4.4	Unsupported vertical chimneys.....	13
8	Conditioning	13
8.1	General.....	13
8.2	Water-based sealing materials	13
9	Application of instrumentation	14
9.1	Thermocouples.....	14
9.1.1	Furnace thermocouples (plate thermometers).....	14
9.1.2	Unexposed surface thermocouples.....	14
9.2	Pressure.....	15
9.3	Expansion/contraction	15
10	Test procedure.....	15
10.1	Thermal treatment before the fire resistance test	15
10.2	Fire resistance test.....	15
10.2.1	General.....	15
10.2.2	Temperature	16
10.2.3	Pressure	16
10.2.4	Test measurements and observations	16
10.2.5	Termination of the test.....	16
11	Performance criteria	16
11.1	Integrity.....	16
11.2	Insulation.....	17
12	Test report.....	17
13	Field of direct application of test results.....	17
13.1	Distance - Horizontal parts of test specimen.....	17
13.2	Sizes	17
13.2.1	Diameter or cross section.....	17
13.2.2	Length of horizontal chimneys.....	18
13.2.3	Height of vertical Chimneys - Chimneys supported at each storey.....	18
13.3	Pressure	18
13.4	Construction.....	18
13.5	Supporting construction.....	18
13.6	Fire stopping	18
Annex A (informative)	General guidance.....	24
A.1	General.....	24
A.2	Notes on test specimens	24
A.2.1	Design	24

A.2.2 Thermal expansion / contraction	24
A.2.2.1 General.....	24
A.2.2.2 Effect on supporting constructions	24
A.2.2.3 Effect on joints, attachments, etc	24
A.3 Notes on test conditions - Temperature-time development.....	24
A.4 Notes on procedure - Using additional thermocouples T1	25
Bibliography.....	26