

DIN EN 13501-2:2010-02 (E)

Fire classification of construction products and building elements - Part 2:
Classification using data from fire resistance tests, excluding ventilation services
(includes Amendment A1:2009)

Contents		Page
Foreword		4
Introduction		5
1	Scope	6
2	Normative references	7
3	Terms and definitions	9
4	Fire scenarios	13
4.1	General	13
4.2	The standard temperature/time curve (post flash-over fire)	13
4.3	The slow heating curve (smouldering fire)	14
4.4	The 'semi-natural' fire	14
4.5	The external fire exposure curve	14
4.6	Constant temperature attack	15
5	Resistance to fire performance characteristics	15
5.1	General	15
5.2	Performance characteristics	15
5.2.1	R - Loadbearing capacity	15
5.2.2	E - Integrity	16
5.2.3	I - Thermal insulation	16
5.2.4	W - Radiation	18
5.2.5	M - Mechanical action	18
5.2.6	C - Self-closing	19
5.2.7	S - Smoke leakage	19
5.2.8	G - 'Soot fire' resistance	19
5.2.9	K - Fire protection ability	19
6	Declaration of fire resistance performance	20
6.1	Classification periods	20
6.2	Designatory letters	20
6.3	Declaration of performance	20
6.4	Combinations of classes	21
6.5	Particular classifications	21
6.5.1	Fire doors and shutters	21
6.5.2	Conveyor systems and their closures	22
6.6	Additional performance parameters	22
6.6.1	Optional performance parameters	22
6.6.2	Expansion of performance parameters	22
6.6.3	Particular performance parameters	23
6.7	Presentation of classification	23
6.8	Declaration of fire resistance classes in product specifications	23
7	Classification procedure for fire resistance	23
7.1	General	23
7.1.1	Procedure	23

7.1.2	General rules for deducing the number of standard temperature/time fire resistance tests	25
7.1.3	"Field of application"	26
7.2	Classification of loadbearing elements without a fire separating function	27
7.2.1	General	27
7.2.2	Classification of loadbearing walls without separating function	27
7.2.3	Classification of loadbearing floors and roofs without fire separating function	28
7.2.4	Classification of beams	29
7.2.5	Classification of columns	30
7.2.6	Classification of balconies, walkways and stairs	31
7.3	Classification of loadbearing elements with fire separating function	32
7.3.1	General	32
7.3.2	Classification of loadbearing walls with fire separating function	32
7.3.3	Classification of loadbearing floors and roofs with fire separating function	34
7.3.4	Classification of raised floors	35
7.4	Products and systems for protecting elements or parts of works	36
7.4.1	General	36
7.4.2	Tests to be carried out	37
7.4.3	Test methods	38
7.4.4	Performance criteria	38
7.4.5	Classes	38
7.4.6	Classification of protected structural members	38
7.5	Classification of non-loadbearing elements	41
7.5.1	General	41
7.5.2	Partitions	42
7.5.3	Classification of curtain walling	43
7.5.4	Classification of ceilings with independent fire resistance	45
7.5.5	Classification of fire doors and shutters including their closing devices	47
7.5.6	Classification of smoke control doors	48
7.5.7	Classification of closure and conveyor system assemblies	50
7.5.8	Classification of penetration seals	51
7.5.9	Classification of linear joint seals	53
7.5.10	Classification of service ducts and shafts	55
7.5.11	Classification of chimneys	57
7.6	Classification of wall and ceiling coverings for fire protection ability	57
7.6.1	General	57
7.6.2	Test method	58
7.6.3	Tests to be carried out	58
7.6.4	Performance criteria for fire protection ability	58
7.6.5	Classes	59
Annex A (normative) Classification report		60
A.1	General	60
A.2	Content and format	60
A.3	Classification report format	62
Annex B (informative) Presentation of characterisation data and their field of application for products and systems for protecting elements or parts of work		66
B.1	General	66
B.2	Characterisation data for protective vertical membranes	66
B.3	Characterisation data for applied protection to concrete members	67
B.4	Characterisation data for applied protection to steelwork	68
B.5	Characterisation data for applied protection to concrete/profiled sheet steel composite members	70
B.6	Characterisation data for applied protection to concrete filled hollow steel columns	71
B.7	Characterisation data for applied protection to timber members	72
Bibliography		80