

ISO 7240-20:2010-05 (E)

Fire detection and alarm systems - Part 20: Aspirating smoke detectors

Contents		Page
Foreword		v
Introduction		vii
1	Scope	1
2	Normative references	1
3	Terms, definitions and abbreviated terms	2
3.1	Terms and definitions	2
3.2	Abbreviated terms	2
4	Requirements	3
4.1	Compliance	3
4.2	Classification	3
4.3	Individual visual alarm indication	3
4.4	Connection of ancillary devices	3
4.5	Manufacturer's adjustments	3
4.6	On-site adjustment of response behaviour	4
4.7	Response to slowly developing fires	4
4.8	Mechanical strength of the pipework	4
4.9	Hardware components and additional sensing elements in the sampling device	5
4.10	Airflow monitoring	5
4.11	Power supply	5
4.12	Marking	6
4.13	Data	6
4.14	Additional requirements for software controlled detectors	7
5	Tests	8
5.1	General	8
5.2	Repeatability	11
5.3	Reproducibility	11
5.4	Variation in supply parameters	12
5.5	Dry heat (operational)	13
5.6	Cold (operational)	14
5.7	Damp heat, steady state (operational)	15
5.8	Damp heat, steady state (endurance)	16
5.9	Sulfur dioxide (SO₂) corrosion (endurance)	17
5.10	Shock (operational)	18
5.11	Impact (operational)	19
5.12	Vibration, sinusoidal (operational)	20
5.13	Vibration, sinusoidal (endurance)	21
5.14	Electromagnetic compatibility (EMC) immunity tests	22
5.15	Fire sensitivity	23
5.16	Mechanical strength of pipe	26
6	Test report	26
Annex A (informative) Apparatus for response threshold value measurements		27
Annex B (normative) Smouldering (pyrolysis) wood fire (TF2)		32

Annex C (normative) Reduced smouldering pyrolysis wood fires (TF2A and TF2B)	34
Annex D (normative) Glowing smouldering cotton fire (TF3)	36
Annex E (normative) Reduced glowing smouldering cotton fire (TF3A and TF3B)	38
Annex F (normative) Flaming plastics (polyurethane) fire (TF4)	40
Annex G (normative) Flaming liquid (n-heptane) fire (TF5)	42
Annex H (normative) Reduced flaming liquid (n-heptane) fire (TF5A and TF5B)	43
Annex I (normative) Fire test room and ventilation system	45
Annex J (informative) Information concerning the requirements for the response to slowly developing fires	48
Annex K (informative) Apparatus for airflow monitoring test	52
Bibliography	54