

ISO 7240-24:2016-04 (E)

Fire detection and fire alarm systems - Part 24: Fire alarm loudspeakers

Contents		Page
Foreword		v
Introduction		vii
1	Scope	1
2	Normative references	1
3	Terms, definitions, symbols and abbreviated terms	2
3.1	Terms and definitions	2
3.2	Abbreviated terms	4
4	Requirements	4
4.1	Compliance	4
4.2	Frequency response limits	5
4.3	Durability	5
4.4	Construction	5
4.4.1	Provision for external conductors	5
4.4.2	Materials	6
4.4.3	Ingress protection	6
4.4.4	Access	6
5	Tests	6
5.1	General	6
5.1.1	Atmospheric conditions for tests	6
5.1.2	Operating conditions for tests	6
5.1.3	Mounting arrangements	7
5.1.4	Tolerances	7
5.1.5	Frequency response measurement and sensitivity calculation	7
5.1.6	Frequency response measurement and sensitivity calculation for loudspeakers requiring dedicated system equalization	8
5.1.7	Provision for tests	8
5.1.8	Test schedule	9
5.2	Reproducibility	10
5.2.1	Object of the test	10
5.2.2	Test procedure	10
5.2.3	Requirements	10
5.3	Rated impedance	10
5.3.1	Object of the test	10
5.3.2	Test procedure	10
5.3.3	Requirements	11
5.4	Horizontal and vertical coverage angles	11
5.4.1	Object of the test	11
5.4.2	Test procedure	11
5.4.3	Requirements	12
5.5	Maximum sound pressure level	12
5.5.1	Object of the test	12
5.5.2	Test procedure	12
5.5.3	Requirements	13
5.6	Rated noise power (durability)	13
5.6.1	Object of the test	13
5.6.2	Test procedure	13

5.6.3	Requirements	13
5.7	Dry heat (operational)	14
5.7.1	Object of the test	14
5.7.2	Test procedure	14
5.7.3	Requirements	14
5.8	Dry heat (endurance)	14
5.8.1	Object of the test	14
5.8.2	Test procedure	15
5.8.3	Requirements	15
5.9	Cold (operational)	15
5.9.1	Object of the test	15
5.9.2	Test procedure	15
5.9.3	Requirements	16
5.10	Damp heat, cyclic (operational)	16
5.10.1	Object of the test	16
5.10.2	Test procedure	16
5.10.3	Requirements	17
5.11	Damp heat, steady-state (endurance)	17
5.11.1	Object of the test	17
5.11.2	Test procedure	17
5.11.3	Requirements	18
5.12	Damp heat, cyclic (endurance)	18
5.12.1	Object of the test	18
5.12.2	Test procedure	18
5.12.3	Requirements	18
5.13	Sulfur dioxide (SO ₂) corrosion (endurance)	18
5.13.1	Object of the test	18
5.13.2	Test procedure	19
5.13.3	Requirements	19
5.14	Shock (operational)	19
5.14.1	Object of the test	19
5.14.2	Test procedure	19
5.14.3	Requirements	20
5.15	Impact (operational)	20
5.15.1	Object of the test	20
5.15.2	Test procedure	20
5.15.3	Requirements	21
5.16	Vibration, sinusoidal (operational)	21
5.16.1	Object of the test	21
5.16.2	Test procedure	21
5.16.3	Requirements	22
5.17	Vibration, sinusoidal (endurance)	22
5.17.1	Object of the test	22
5.17.2	Test procedure	23
5.17.3	Requirements	23
5.18	Ingress protection	24
5.18.1	Object of the test	24
5.18.2	Enclosure of the loudspeaker	24
5.18.3	Test procedure	24
5.18.4	Requirements	25
6	Test report	25
7	Marking	25
8	Data	26
Annex A (normative) Acoustical measurements		27
Annex B (normative) Measuring rated noise power (durability)		32

Annex C (informative) Loudspeaker physical references37
Bibliography39