

ISO 5659-2:2012-12 (E)

Plastics - Smoke generation - Part 2: Determination of optical density by a single-chamber test

Contents		Page
Foreword		v
Introduction		vi
1	Scope	1
2	Normative references	1
3	Terms and definitions	1
4	Principles of the test	3
5	Suitability of a material for testing	3
5.1	Material geometry	3
5.2	Physical characteristics	3
6	Specimen construction and preparation	3
6.1	Number of specimens	3
6.2	Size of specimens	3
6.3	Specimen preparation	4
6.4	Wrapping of specimens	4
6.5	Conditioning	4
7	Apparatus and ancillary equipment	5
7.1	General	5
7.2	Test chamber	5
7.3	Specimen support and heating arrangements	9
7.4	Gas supply	14
7.5	Photometric system	15
7.6	Chamber leakage	17
7.7	Cleaning materials	17
7.8	Ancillary equipment	17
8	Test environment	18
9	Setting-up and calibration procedures	18
9.1	General	18
9.2	Alignment of photometric system	19
9.3	Selection of compensating filter(s)	19
9.4	Linearity check	20
9.5	Calibration of range-extension filter	20
9.6	Chamber leakage rate test	20
9.7	Burner calibration	20
9.8	Radiator cone calibration	21
9.9	Cleaning	21
9.10	Frequency of checking and calibrating procedure	21
10	Test procedure	22
10.1	General	22
10.2	Preparation of test chamber	22
10.3	Tests with pilot flame	22

10.4	Preparation of the photometric system	22
10.5	Loading the specimen	22
10.6	Recording of light transmission	23
10.7	Observations	23
10.8	Termination of test	24
10.9	Testing in different modes	24
11	Expression of results	25
11.1	Specific optical density D_s	25
11.2	Clear-beam correction factor D_c	25
12	Precision	25
13	Test report	26
Annex A (normative) Calibration of heat fluxmeter		27
Annex B (informative) Variability in the specific optical density of smoke measured in the single-chamber test		28
Annex C (informative) Determination of mass optical density		30
Annex D (informative) Precision data from tests on intumescent materials		35
Annex E (informative) Guidance on optical density testing		37
Bibliography		45