

ISO 4589-2:2017-04 (E)

Plastics - Determination of burning behaviour by oxygen index - Part 2: Ambient-temperature test

Contents		Page
Foreword		v
Introduction		vi
1	Scope	1
2	Normative references	1
3	Terms and definitions	1
4	Principle	2
5	Apparatus	2
5.1	Test chimney	2
5.2	Test specimen holder	2
5.3	Gas supplies	6
5.4	Gas control devices	7
5.5	Oxygen analyser	7
5.6	Flame igniter	7
5.7	Timing device	7
5.8	Fume extraction system	8
5.9	Tool for preparing rolled film	8
6	Calibration of equipment	8
7	Preparation of test specimens	8
7.1	Sampling	8
7.2	Test specimen dimensions and preparation	9
7.3	Marking of test specimens	11
7.3.1	General	11
7.3.2	Marks for testing by top surface ignition	11
7.3.3	Marks for testing by propagating ignition	11
7.4	Conditioning	11
8	Procedure for determination of oxygen index	12
8.1	General	12
8.2	Setting up the apparatus and test specimen	12
8.3	Igniting the test specimen	13
8.3.1	General	13
8.3.2	Procedure A -- Top surface ignition	13
8.3.3	Procedure B -- Propagating ignition	13
8.4	Assessing the burning behaviour of individual test specimens	13
8.5	Selecting successive volume fractions of oxygen	14
8.6	Determining the preliminary volume fraction of oxygen	15
8.7	Volume fraction of oxygen changes	15
9	Calculations and expression of results	16
9.1	Oxygen index	16
9.2	Determination of k	17
9.3	Standard deviation of oxygen volume fraction measurements	17
9.4	Precision of results	18

10	Comparison with a specified minimum value of the oxygen index (short procedure)	19
10.1	General	19
10.2	Setting up the apparatus and test specimen	19
10.3	Igniting the test specimen	19
10.4	Assessing the burning behaviour of the test specimens	19
10.5	Expressing of results	19
11	Test report	19
Annex A (normative) Calibration of equipment		20
Annex B (normative) Calculation of volume fraction of oxygen		22
Annex C (informative) Typical test results sheet		23
Annex D (informative) Results obtained by interlaboratory trials on type VI specimens		25
Annex E (informative) Precision data obtained from an interlaboratory trial carried out in 1978-1980		26
Bibliography		27