

# DIN EN 16263-4:2015-11 (E)

## Pyrotechnic articles - Other pyrotechnic articles - Part 4: Test methods

---

<b>Contents</b>		<b>Page</b>
European foreword .....		4
<b>1</b>	<b>Scope .....</b>	<b>5</b>
<b>2</b>	<b>Normative references .....</b>	<b>5</b>
<b>3</b>	<b>Terms and definitions .....</b>	<b>5</b>
<b>4</b>	<b>Apparatus .....</b>	<b>5</b>
4.1	General .....	5
4.2	Test area .....	5
4.2.1	General .....	5
4.2.2	Indoor .....	6
4.2.3	Outdoor .....	6
4.3	Timing device .....	6
4.4	Calliper .....	6
4.5	Ruler .....	6
4.6	Measuring tape .....	6
4.7	Wind speed meter .....	6
4.8	Balance .....	6
4.9	Temperature chamber .....	6
4.10	Sound level meter .....	7
4.11	Shock apparatus .....	7
4.12	Drop-test apparatus .....	7
4.13	Goniometer .....	7
4.14	Devices for measuring of effect height .....	7
4.15	Devices for measuring thrust .....	7
4.16	Abrasive sheet .....	8
4.17	Witness screen .....	8
4.18	Transparent type size sheet .....	9
4.19	High speed video equipment .....	9
4.20	Further test apparatus .....	9
<b>5</b>	<b>Test methods .....</b>	<b>10</b>
5.1	General .....	10
5.2	Construction .....	10
5.2.1	Outer dimension of item .....	10
5.2.2	Determination of calibre .....	10
5.2.3	Determination of gross mass .....	10
5.3	Design verification .....	10
5.3.1	General .....	10
5.3.2	Conformity to drawings and part lists .....	10
5.3.3	Pyrotechnic composition -- Determination of net explosive content .....	10
5.4	Angle of ascent and height of effects .....	11
5.4.1	General .....	11
5.4.2	Apparatus .....	11
5.4.3	Procedure .....	11
5.5	Measurement of sound pressure level .....	12
5.5.1	Apparatus .....	12
5.5.2	Procedure .....	12
5.6	Timing measurement .....	12
5.6.1	Apparatus .....	12

5.6.2	Procedure .....	12
5.7	Mechanical conditioning .....	12
<b>EN ISO 16263-4:2015 (E) 5.7.1 Apparatus .....</b>		
5.7.2	Procedure .....	12
5.8	Mechanical impact test (Drop test) .....	13
5.8.1	Apparatus .....	13
5.8.2	General .....	13
5.8.3	Procedure .....	13
5.9	Thermal conditioning .....	13
5.9.1	Apparatus .....	13
5.9.2	Procedure .....	13
5.10	Function test .....	14
5.10.1	General .....	14
5.10.2	Apparatus .....	14
5.10.3	Procedure .....	15
5.11	Measurement of thrust .....	16
5.11.1	Apparatus .....	16
5.11.2	Procedure .....	16
5.12	Resistance to ignition by an abrasive surface .....	16
5.12.1	Apparatus .....	16
5.12.2	Procedure .....	16
5.13	Further tests .....	16
5.13.1	Sensitiveness of pyrotechnic composition .....	16
5.13.2	External temperature of hand-held pyrotechnic articles .....	19
5.14	Measuring of labelling .....	19
5.14.1	Apparatus .....	19
5.14.2	Procedure .....	19
5.15	Measuring of the energy of fragments .....	20
5.15.1	Apparatus .....	20
5.15.2	Procedure .....	20
5.16	Water immersion test .....	21
5.16.1	Apparatus .....	21
5.16.2	Procedure .....	21
Annex A (informative) Mechanical conditioning (Shock apparatus) .....		22
Annex B (informative) Drop test (Mechanical impact test) .....		25
Annex C (informative) Procedures for calculation of heights .....		26
Annex D (informative) Determination of the duration of accelerated ageing test to demonstrate the correct functioning at the 'use by' date .....		30
Annex E (informative) Overview of essential safety requirements and corresponding clauses of all parts of EN 16263 .....		33
Annex ZA (informative) Relationship between this European Standard and the Essential Requirements of EU Directive 2007/23/EC on the placing on the market of pyrotechnic articles .....		34
Annex ZB (informative) Relationship between this European Standard and the Essential Requirements of EU Directive 2013/29/EU on the placing on the market of pyrotechnic articles .....		35
Bibliography .....		36