ISO 21364-21:2025-06 (E)

Domestic gas cooking appliances - Safety - Part 21: Particular requirements for gas hobs, gas grills and gas griddles

Contents

Page

Foreword ... **vi**

Introduction ... **vii**

1 Scope ... **1**

2 Normative references ... **1**

3 Terms and definitions ... **2**
3.1 Definitions relating to components ... 2

4 Components in gas cooking appliances ... **2**
4.1 General ... 2
4.2 Manual gas shut-off valves ... 2
4.3 Knobs ... 3
4.3.1 Design of knobs ... 3
4.3.2 Marking for knobs ... 3
4.4 Multifunctional controls ... 3
4.5 Thermoelectric flame supervision controls ... 3
4.6 Thermostats ... 3
4.7 Pressure regulators ... 3
4.8 Automatic shut-off valves ... 3
4.9 Injectors and adjusters ... 3
4.10 Ignition systems ... 3
4.11 Thermal cut-outs ... 3
4.12 Multi-ring burners ... 3
4.13 Overheating safety devices (OSD) ... 4
4.13.1 Requirement ... 4
4.13.2 Test procedure ... 5

5 General conditions of test ... **5**

6 Heat input ... **5**
6.1 General ... 5
6.2 Obtaining the nominal heat input ... 5
6.2.1 General ... 5
6.2.2 Test of hob burner ... 5
6.2.3 Test of multi-ring hob burner ... 6
6.2.4 Test of surface grill and griddle without a thermostat ... 6
6.2.5 Test of surface grill and griddle with a thermostat ... 6
6.3 Measurements and calculations ... 6
6.4 Obtaining the reduced heat input ... 6
6.4.1 General ... 6
6.4.2 Test of hob burner, surface grill and griddle burner ... 6
6.5 Total heat input ... 6

7 Heating ... **6**
7.1 General ... 6
7.2 Operating conditions ... 6
7.3 Heating tests ... 7
7.4 Abnormal operation ... 7
7.4.1 General ... 7
7.4.2 Hob burner ... 7
7.4.3 Gas griddles ... 7

8 Combustion **7**
8.1 Measurement of all burners simultaneously 7
8.2 Blocked combustion products outlet 7
8.3 Analysis of the combustion products 8
8.4 Single burner 8
8.4.1 General requirement 8
8.4.2 Hob burner, surface grill burner and griddle burner 8
8.4.3 Tests of multi-ring burner 9
8.4.4 Additional test of Type II and Type V multi-ring burners 10
8.4.5 Sampling the combustion products 10
8.5 Sooting test 13
8.5.1 Requirement 13
8.5.2 Test 13

9 Ignition, cross-lighting and flame stability **14**
9.1 General 14
9.2 Movement of oven/grill door or cabinet door 14
9.3 Test for appliances having an automatic burner control system 14
9.4 Hob burner, surface grill burner and griddle burner 14
9.4.1 General 14
9.4.2 Cold conditions 14
9.4.3 Hot conditions 15
9.5 Multi-ring hob burner 16
9.5.1 Requirement 16
9.5.2 Additional test for Type I multi-ring burners 16
9.5.3 Additional test for Type II and Type V multi-ring burners 16
9.5.4 Resistance to draught 17

10 Accumulation of unburnt gas and leak tightness **18**

11 Construction **18**
11.1 General 18
11.2 Materials 19
11.2.1 General 19
11.2.2 Burner material test 19
11.2.3 Sealings 19
11.2.4 Resistance for non-metallic feet of pan supports 19
11.3 Gas inlet connections 19
11.4 Conversion to different gases 19
11.5 Pull forces of knobs for manual gas shut-off valves 19
11.6 Appliances that enable the user to program the start or the end of the cooking cycle 19
11.7 Compartment for one gas cylinder 19
11.8 Touch controls 19
11.8.1 General 19
11.8.2 Requirement 20
11.8.3 Test 20
11.9 Resistance to spillage 20
11.9.1 Requirement 20
11.9.2 Test 20
11.10 Specific hob parts and hob accessories 20
11.10.1 Pan supports 20
11.10.2 Removable devices for small pans 21
11.10.3 Special supports for convex-based pans 21
11.10.4 Covered burners 21
11.11 Shut down lids 21
11.11.1 Requirement 21
11.11.2 Test 22
11.11.3 Glass shut down lids 22
11.11.4 Shut-off device 22

12 Mechanical strength **23**
12.1 Parts made of glass and glass-ceramic 23
12.1.1 General 23
12.1.2 Spring hammer test 23
12.1.3 Punch test 23
12.1.4 Thermal stress resistance for glass and glass-ceramic hob surfaces 23
12.2 Pan support 23
12.2.1 Requirement 23
12.2.2 Test 23
12.3 Pan support in contact with the glass or glass ceramic of the hob 23
13 Electrical safety **24**
14 Marking and instructions **24**
Annex A (normative) **National deviations in various countries** **25**
Annex B (informative) **Additional tests for hobs, surface grills and griddles supplied with natural gas and hydrogen admixtures** **28**
Annex C (informative) **Additional combustion test for NO_2 measurement of gas hobs burners** **33**
Bibliography **35**