DIN EN 16510-2-1:2023-02 (E)

Residential solid fuel burning appliances - Part 2-1: Roomheaters

Contents

Page

European foreword 4

1 Scope 6

2 Normative references 6

3 Terms and definitions 6

4 Characteristics 7
4.1 Load bearing capacity 7
4.2 Protection of combustible materials 7
4.3 Carbon monoxide emission (CO) 8
4.4 Nitrogen oxides (NOx) emissions 8
4.5 Emission of organic gaseous compounds (OGC) 9
4.6 Particulate matter (PM) emissions 9
4.7 Safety and accessibility in use 10
4.7.1 General 10
4.7.2 Flue gas outlet temperature at nominal heat output 10
4.7.3 Flue gas outlet temperature at part load heat output 10
4.7.4 Minimum flue draught at nominal heat output 10
4.7.5 Minimum flue draught at part load heat output 10
4.7.6 Flue gas mass flow at nominal heat output 10
4.7.7 Flue gas mass flow at part load heat output 10
4.7.8 Fire safety of installation to the chimney 11
4.8 Energy economy and heat retention 11
4.8.1 Space heat output at nominal heat output 11
4.8.2 Water heat output, if existing at nominal heat output 11
4.8.3 Efficiency at nominal heat output 11
4.8.4 Space heat output at part load heat output 11
4.8.5 Water heat output, if existing at part load heat output 12
4.8.6 Efficiency at part load heat output 12
4.8.7 Seasonal space heating efficiency at appliance's nominal heat output 12
4.8.8 Energy efficiency 12
4.8.9 Electric power consumption at nominal heat output, if existing 13
4.8.10 Electric power consumption at part load heat output, if existing 13
4.8.11 Standby mode power consumption, if existing 13
4.9 Environmental sustainability 13

5 Descriptive features 15
5.1 Data for potential use with room ventilation systems: type of appliance (in relation to its tightness to the room) 15
5.2 Data for the building's statics: appliance's mass 15
5.3 Materials and construction elements 15
5.3.1 General 15
5.3.2 General stresses 15
5.3.3 Integral boiler or heat exchanger 15
5.4 Risk of burning fuel falling out 15
5.5 Temperature rise in the fuel storage 16
5.6 Temperature rise of the operating components 16
5.7 Spillage of flue gases into the room 16
5.7.1 Possible spillage of CO, if relevant for the fuel type 16
5.7.2 Open operation 16

5.8 Cleanability ... 16
5.8.1 Heating surfaces ... 16
5.8.2 Flueways ... 16
5.8.3 Ashpan ... 16
5.8.4 Bottomgrate ... 16
5.8.5 Damper ... 16
5.8.6 Fan-cut-out-device ... 16
5.9 Strength and leak tightness of boiler shells ... 16

6 Assessment and verification of constancy of performance - AVCP ... 17
6.1 General ... 17
6.2 Assessment of performance ... 17
6.2.1 General ... 17
6.2.2 Test samples, testing and compliance criteria ... 18
6.3 Verification of constancy of performance ... 19
6.3.1 Factory production control (FPC) ... 19

Annex A (normative) Test methods ... 24

A.1 Test environment ... 24
A.2 Test assembly ... 24
A.3 Measurement equipment ... 24
A.4 Test procedures ... 24
A.5 Test results ... 25
A.6 Calculation methods ... 25
A.7 Test report ... 25

Annex ZA (informative) Relationship of this European Standard with Regulation (EU) No. 305/2011 26

ZA.1 Scope and relevant characteristics ... 26

ZA.2 System of Assessment and Verification of Constancy of Performance (AVCP) ... 29

ZA.3 Assignment of AVCP tasks ... 29