DIN EN 16510-2-6:2023-02 (E)

Residential solid fuel burning appliances - Part 2-6: Mechanically by wood pellets fed roomheaters, inset appliances and cookers

Contents

Page

European foreword 4

1 Scope 6

2 Normative references 6

3 Terms and definitions 7

4 Characteristics 8
4.1 Load bearing capacity 8
4.2 Protection of combustible materials 8
4.3 Carbon monoxide emission (CO) 9
4.4 Nitrogen oxides (NOx) emissions 9
4.5 Emission of organic gaseous compounds (OGC) emissions 9
4.6 Particulate matter (PM) emissions 10
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 11
4.7.5 Minimum flue draught at part load heat output 11
4.7.6 Flue gas mass flow at nominal heat output 11
4.7.7 Flue gas mass flow at part load heat output 11
4.7.8 Fire safety of installation to the chimney 11
4.8 Energy economy and heat retention 12
4.8.1 Space heat output at nominal heat output 12
4.8.2 Water heat output, if existing at nominal heat output 12
4.8.3 Efficiency at nominal heat output 12
4.8.4 Space heat output at part load heat output 12
4.8.5 Water heat output, if existing at part load heat output 13
4.8.6 Efficiency at part load heat output 13
4.8.7 Seasonal space heating efficiency at appliance's nominal heat output 13
4.8.8 Energy efficiency 13
4.8.9 Electric power consumption at nominal heat output, if existing 14
4.8.10 Electric power consumption at part load heat output, if existing 14
4.8.11 Standby mode power consumption, if existing 14
4.9 Environmental sustainability 14

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
5.1.1 General 15
5.1.2 Tightness related to CO-emission 17
5.1.3 Overall tightness 17
5.2 Data for the building's statics: appliance's mass 17
5.3 Materials and construction elements 18
5.3.1 General 18
5.3.2 General stresses 18
5.3.3 Integral boiler or heat exchanger 18
5.4 Risk of burning fuel falling out 18
5.5 Temperature rise in the fuel storage 18

5.5.1 Temperature rise in the fuel hopper 18
5.5.2 Safety against back burning through the fuel conveyor system 18
5.6 Temperature rise of the operating components 18
5.7 Spillage of flue gases into the room 19
5.7.1 Possible spillage of CO, if relevant for the fuel type 19
5.7.2 Safety test for spillage of combustion gas and discharge of embers 19
5.7.3 Open operation 19
5.8 Cleanability 19
5.8.1 Heating surfaces 19
5.8.2 Flueways 19
5.8.3 Ashpan 19
5.8.4 Bottomgrate 19
5.8.5 Damper 19
5.8.6 Fan-cut-out-device 20
5.9 Strength and leak tightness of boiler shells 20

6 Assessment and verification of constancy of performance - AVCP 20
6.1 General 20
6.2 Assessment of performance 20
6.2.1 General 20
6.2.2 Test samples, testing and compliance criteria 21
6.3 Verification of constancy of performance 22
6.3.1 Factory production control (FPC) 22

Annex A (normative) Test methods 27

Annex FA (normative) Measurement positions for conveyor systems 34

Annex ZA (informative) Relationship of this European Standard with Regulation (EU) No. 305/2011 38

ZA.1 Scope and relevant characteristics 38

ZA.2 System of Assessment and Verification of Constancy of Performance (AVCP) 41

ZA.3 Assignment of AVCP tasks 42