

Test report No. RRF - 40 22 6134

of the roomheaters

Sargas 1

Sargas 3

of the company

Schiedel GmbH

Friedrich-Schiedel-Str. 2-6, At-4542 Nußbach



- ❖ Testing laboratory according to Regulation (EU) Nr. 305/2011, notified body No.: NB 1625
- ❖ Testing, monitoring and certification body according to LBO, registered No.: NRW 15
- ❖ Testing, monitoring and certification body in construction supervision licensing procedures
- ❖ DIN CERTCO testing laboratory, registered No. PL139
- ❖ Testing laboratory according to DIN EN ISO/IEC 17025:2018, DAkkS No. D-PL-17727-01-00

Test report on a fireplace in accordance with EN 13240:2001/A2:2004/AC:2007

<u>Testing station</u>	RRF Rhein-Ruhr Feuerstätten Prüfstelle GmbH	
Name, Address	Im Lipperfeld 34 b, 46047 Oberhausen Telefon: +49(0)208-607041 - 0, Fax: +49(0)208-607041 - 28	
Test report No.	RRF - 40 22 6134	
<u>Manufacturer</u>	Schiedel GmbH	
Name, Address	Friedrich-Schiedel-Str. 2-6, At-4542 Nußbach	
<u>Product</u>	Roomheater fired by solid fuel	
Type, batch, serial number:	Sargas 1	
Variant/s of the product family	Sargas 3	
Nominal heat output according to manufacturer	6,2 kW	- Solid fuel wood logs (intermittent burning)
Total heat output (test result)	6,8 kW	- Solid fuel wood logs (intermittent burning)
Space heat output (test result)	6,8 kW	- Solid fuel wood logs (intermittent burning)
Water heat output (test result)	---	- Solid fuel wood logs (intermittent burning)
Initiator	Manufacturer	
Date of delivery	14.03.2022	
Taking of the appliance	Documents delivered by manufacturer	
Test location	Im Lipperfeld 34 b, 46047 Oberhausen	
Technician	Schulte, K.	

Brief summary by testing laboratory:

The above-mentioned fireplaces were subjected to a test according to the above-mentioned standard with the test fuels listed in this test report according to table B.1.

This test report has been drawn up without prejudice to the rights of third parties in respect of private trademark rights of the initiator or manufacturer and may not be published in extracts.

The test report with pages 1 to 20 and the enclosed test documents a to e provided by the initiator contains the results of the test according to this standard.

This test report is the translation of the original German test report. In case of doubts, the German version is valid.

Oberhausen, 13 April 2022

(Place and date)


(C. Droll)(stamp and signature of the deputy
head of the testing laboratory)

Operation

The Rhein-Ruhr Feuerstätten Prüfstelle GmbH was commissioned to carry out an administrative approval using value tables and documents for the product description (e.g. type test report and tested technical drawings). The test is based on the test report no. RRF - 40 19 5411 of the type tested roomheater Kokra 3S, Kokra from June 16, 2021 by Creina d.d. Kranj, Mirka Vadvova 8, SL-4000 crane. The results of the physical test were taken from the aforementioned test report.

Description of the test object

The roomheater Sargas 1 is an appliance for intermittent burning.

The corpus of the roomheater is made of sheet steel with:

- dimensions 1130 x 510 x 425 mm (h x w x d)
- a mass of 100 kg according to the manufacturer
- encasement of sheet steel with rectangular base
- flue gas spigot with a nominal diameter of 150 mm optionally on top or rear side of the appliance
- closed fuel storage below the combustion chamber
- straight, self-closing combustion chamber door made of sheet steel with an inspection window in the front, single-leaf, horizontally raisable
 - interpretation: the installation in a shared flue system according to the current version of DIN 18896 is permitted
- one hand regulator in the front below the combustion chamber door, that
 - regulates the secondary air and enters the combustion chamber via the inspection window and rear openings (2 holes of Ø 7 mm each)
 - can be opened further via a mechanism (upward pressure releases further opening path), whereby additional primary air enters the combustion chamber through the grate
- convection air channel in the rear and side wall of the corpus of the roomheater with a
 - not lockable convection air inlet port below the side inspection windows and the rear wall, an in the fuel storage compartment
 - not lockable convection air outlet port in the top plate
- rear wall and side walls of the combustion chamber made vermiculite
- base of the combustion chamber made of steel with slotted holes in the bottom of the combustion chamber as a grate, designed as a flat firing system
- sheet steel raised towards the front of the combustion chamber door to keep the fuel in the combustion chamber
- baffle made of vermiculite
- flue gas baffle made of sheet steel
- ash pan behind the combustion chamber door
- double radiation protection shield in the fuel storage in a distance of 50 mm to the ash pan insert, also a distance of 50 mm between the radiation protection shields
- radiation protection shield on the rear and side walls between the corpus and the encasement
- Air - exhaust system (LAS) above the fireplace, consisting of
 - a double-walled connecting piece with a length of 1500 mm
 - nominal inner pipe diameter: 150 mm
 - nominal outer pipe diameter: 250 mm
 - insulation made of mineral wool with a thickness of 30 mm flush with the inner pipe
 - circumferential annular gap with a width of 20 mm between insulation and outer pipe, as well as opening on the upper side for combustion air supply

Description of the variant of the product family

The roomheater Sargas 3 is an appliance for intermittent burning.

The corpus of the roomheater is made of sheet steel with:

- dimensions 1130 x 510 x 425 mm (h x w x d)
- a mass of 100 kg according to the manufacturer
- encasement of sheet steel with rectangular base
- flue gas spigot with a nominal diameter of 150 mm optionally on top or rear side of the appliance
- closed fuel storage below the combustion chamber
- straight, self-closing combustion chamber door made of sheet steel with an inspection window in the front, single-leaf, horizontally raisable
 - interpretation: the installation in a shared flue system according to the current version of DIN 18896 is permitted
- straight lateral inspection windows, double-leaf
- one hand regulator in the front below the combustion chamber door, that
 - regulates the secondary air and enters the combustion chamber via the inspection window and rear openings (2 holes of Ø 7 mm each)
 - can be opened further via a mechanism (upward pressure releases further opening path), whereby additional primary air enters the combustion chamber through the grate
- convection air channel in the rear and side wall of the corpus of the roomheater with a
 - not lockable convection air inlet port below the side inspection windows and the rear wall, an in the fuel storage compartment
 - not lockable convection air outlet port in the top plate
- rear wall and parts of the side walls of the combustion chamber made vermiculite
- base of the combustion chamber made of steel with slotted holes in the bottom of the combustion chamber as a grate, designed as a flat firing system
- sheet steel raised towards the front of the combustion chamber door to keep the fuel in the combustion chamber
- baffle made of vermiculite
- flue gas baffle made of sheet steel
- ash pan behind the combustion chamber door
- double radiation protection shield in the fuel storage in a distance of 50 mm to the ash pan insert, also a distance of 50 mm between the radiation protection shields
- radiation protection shield on the rear wall between the corpus and the encasement
- Air - exhaust system (LAS) above the fireplace, consisting of
 - a double-walled connecting piece with a length of 1500 mm
 - nominal inner pipe diameter: 150 mm
 - nominal outer pipe diameter: 250 mm
 - insulation made of mineral wool with a thickness of 30 mm flush with the inner pipe
 - circumferential annular gap with a width of 20 mm between insulation and outer pipe, as well as opening on the upper side for combustion air supply

Result of the administrative approval

The result of the administrative approval based on technical drawings showed that the roomheater Sargas 1 corresponds to the roomheater Kokra and that the roomheater Sargas 3 corresponds to the roomheater Kokra 3S in terms of its structural and material-specific properties and meets the requirements of Chapter 9.2.

Testing the raw materials, design and construction according to section 4

	Requirement according to	Requirement fulfilled
<u>Production documentation</u> Documentations, drawings Specification of the materials used Nominal heat output based on fuel(s) Declarations for boilers: Declaration of welding technique used Max. operating water temperature in °C Max. operating pressure in bar Type test pressure in bar Water heating output in kW	4.1	yes yes yes n/a
<u>Construction</u> <u>General construction</u> Use of non-combustible materials No dangerous materials Bottomgrate and ash pan are present Replaceability of individual components	4.2 4.2.1	yes yes yes yes
<u>Boilers</u> Only cast iron in line with Table 4 in use or types of steel in line with Table 3 homogenous materials	4.2.2	n/a
<u>Welding and welding materials</u> Suitable for welding Raw materials in line with Table 3	4.2.2.1	n/a
<u>Steel: Nominal minimum wall thickness</u> Nominal minimum steel thickness in line with Table 2 Tolerances according to EN 10029:1991	4.2.2.1.1	n/a
<u>Cast iron parts subject to water pressure</u> Mechanical properties according to Table 4	4.2.2.2.1	n/a
<u>Cast iron: Minimum wall thickness</u> Wall thickness in line with Table 5	4.2.2.3	n/a
<u>Boiler shell tappings</u> Outlet pipe threads in line with Table 6 Fulfilling of the ISO requirements: of taper threads of cylindrical threads Design and position of flow tappings Min. depth of tapping and length of thread in line with Table 7 Drain socket $\geq \frac{1}{2}$ " and construction according to ISO 7 or ISO 228	4.2.2.4	n/a
<u>Boiler waterways</u> Prevention of deposits Inspection holes ≥ 70 mm x 40 mm $\varnothing \geq 70$ mm Gasket and protective cap are present	4.2.2.5	n/a



	Requirement according to	Requirement fulfilled
<u>Indirect water systems</u> Minimum dimensions ≥ 20 mm Minimum dimensions ≥ 15 mm	4.2.2.5.2	n/a
<u>Direct water systems</u> Minimum dimensions ≥ 25 mm	4.2.2.5.3	n/a
<u>Venting of the water sections</u> Water sections of the boiler are vented No disruptive boiling noises	4.2.2.5.4	n/a
<u>Water tightness</u> Securing elements extend into water-filled components	4.2.2.5.4	n/a
<u>Cleaning of heating surfaces</u> Accessibility of the surfaces Cleaning with brushes and/or special tool of the manufacturer	4.2.3	yes yes n/a
<u>Flue spigot or socket</u> Safe, tight connection Overlap length: ≥ 25 mm for vertical connection ≥ 40 mm for horizontal connection ≥ 6 mm penetration depth	4.2.4	yes yes n/a n/a
<u>Flueways and cleaning tools</u> Minimum dimension: bituminous coal and peat ≥ 30 mm other combustible fuels ≥ 15 mm Easy cleaning with ordinary household brushes Brushes, scrapers designed by manufacturer	4.2.5	 n/a yes yes n/a
<u>Ashpan and ash removal</u> Ash can be removed Capacity is sufficient No obstruction of the air inlet control	4.2.6	yes yes yes
<u>Combustion chamber bottomgrate</u> When replacing the correct installation is guaranteed Effective ash removal	4.2.7	yes n/a
<u>Combustion air supply</u> Manual or automatic regulation device Adjusting control is clearly visible, permanently marked Correlation setting \rightarrow combustible fuel is possible No obstruction of the air inlet control	4.2.8	yes yes n/a yes
<u>Control of flue gas</u> Flue damper is present Easy to operate Safety profile ≥ 20 cm ² and/or ≥ 3 % of the profile surface Setting is visible Draught regulator: easy to clean	4.2.9	n/a



	Requirement according to	Requirement fulfilled
<u>Firedoors, charging doors</u> Filling with the commercially-available fuel is possible Accidental opening is preventing Positive closure is facilitate	4.2.10	yes yes yes
<u>Flue bypass device</u> Easily operable Open and closed setting	4.2.11	n/a
<u>Front firebars / deepening plates</u> Fuel / ash is held back Correct insertion is quaranteed Accidental dislodged from the fixing can be avoided	4.2.12	n/a
<u>Fireplaces for solid mineral fuels and peat briquettes</u> Combustion chamber grate and ashpan are present	4.2.13	n/a

Test of the safety requirements in accordance with section 5

	Requirement according to	Requirement fulfilled
<u>Natural draught safety test</u> Flue draught ≥ 3 Pa CO-volume $\leq 250 \text{ dm}^3/10 \text{ h}$	5.1	n/a
<u>Operation with open firedoors</u> No heating gas emission No discharge of ember	5.2	n/a
<u>Strength, leak tightness of boiler shells</u> After testing: no leaks, no permanent deformation	5.3	n/a
<u>Temperature rise in the fuel storage container</u> Contact temperature $\leq 65 \text{ K}$	5.4	yes
<u>Operating tools</u> Tools supplied Contact surfaces without tool Temperatures $\leq 35 \text{ K}$ (metal) $\leq 45 \text{ K}$ (porcelain, vitreous enamel or similar) $\leq 60 \text{ K}$ (plastic, rubber or wood)	5.5	yes n/a
Test result page 19		
<u>Temperature of adjacent combustible materials</u> Temperatures $\leq 65 \text{ K}$ (see installation and operating instructions for information about safety intervals and heat insulation)	5.6	yes
<u>Thermal discharge control</u> Discharge control as an integral part of the fireplace Opening of the discharge control according to instructions by manufacturer at $\leq 105 \text{ °C}$ at $\leq 105 \text{ °C}$	5.7	n/a

Specifications of the test combustible fuels used according to Table B.1

Test fuel	usage ¹⁾	W [%]	A [%]	Non- permanent ingredients [%]	H [%]	C [%]	S [%]	Hu [kJ/kg]	Analyse RA-No.
Beech Logs	NWL	12,4	0,39	84,9	6,70	42,64	0,03	15045	15-54242-001
Profile wood (Spruce)	BS	12,0	0,38	84,3	5,54	44,26	0,09	16410	16-37708-001

Comments:
Analyses of samples have been carried out by the UCL Umwelt Control Labor GmbH, Josef-Rethmann-Str. 5, 44536 Lünen (accredited testing laboratory to DIN EN ISO/IEC 17025:2005) and by the RAG Ruhranalytik Laboratorium für Kohle und Umwelt GmbH, Wilhelmstr. 98, 44649 Herne (accredited testing laboratory to DIN EN ISO/IEC 17025:2005).
1) NWL: Nominal Heat Output, BS: Safety Test, TLW: Part Load Heat Output




Table of measuring instruments

Measuring object	Measuring principle	Brand / Type	Device No.
OGC	FID	Rosemount / NGA 2000	PM 109
NO _x	Chemiluminescence	Rosemount / NGA 2000	PM 109
CO ₂	NDIR	Rosemount / NGA 2000	PM 103
CO	NDIR	Rosemount / NGA 2000	PM 103
Amount of particles	Gravimetric deter-mination according to EN 303-5 and prEN 16510:2013. Electrically regulated extraction via a filter head probe	Paul-Gothe-GmbH / Mini Kaminsonde	PM 120
Amount of particles	Analytical scale	Sartorius / A200S	PM 135
Temperature	thermocouple NiCr-Ni; accor. DIN EN 60584-1 DIN EN 60584-2	Measuring converter / Delphin Systeme	
Fuel consumption	Platform Scale		PM 131
Measurement value logging	Datalogger	Delphin Technology AG	PM 165

Comment: n/a



Testing the nominal heat output, the efficiency and the duration of burning accor. to A.4.7

		Requ. accor. to	Test period 1	Test period 2	Test period 3	Average value from 1 bis 3	Requ. fulfilled
Day of test, date	DD.MM.YY		12.09.17	13.09.17	13.09.17	---	
Test fuel		Tab. B1	Wood logs				yes
Type of appliance			roomheater (intermittent burning)				
Test amount	kg	A.4.2	1,50	1,50	1,46	1,49	yes
Layer and Alignment of the logs						---	
Setting of the controls for - one hand regulator			180 sec. open, then 130 mm open	180 sec. open, then 130 mm open	180 sec. open, then 130 mm open	---	
Bottomgrate			open	open	open	---	
Mean flue draught	Pa	6.4	12	12	12	12	yes
Room temperature t_r	°C		26	25	26	26	
Mean flue gas temperature t_a	°C		269	278	269	272	
Max. flue gas temperature	°C		277	289	280	282	
Mean flue gas spigot temp.	°C		323	333	323	327	
Cross draught	m/s		≤ 0,5	≤ 0,5	≤ 0,5	≤ 0,5	
Mean CO ₂ -content	%		11,0	11,2	10,8	11,0	
Mean CO-content	%		0,10	0,14	0,13	0,12	
Test duration	h	6.6	0,75	0,75	0,72	0,74	yes
Target test duration	h		0,75	0,75	0,75	0,75	
Variance to target ≤ 15	%	A.5	-1	0	-4	-1	yes
Thermal heat loss	%		18,0	18,4	18,4	18,3	
Chemical heat loss	%		0,6	0,8	0,8	0,7	
Loss of combustible fuel by drop through grate and ranking	%		0,5	0,5	0,5	0,5	
Efficiency	%	6.3	81	80	80	81	yes
Total heat output (test result)	kW	A.5	6,9	6,7	6,8	6,8	yes
Space heat output (test result)	kW	6.7	6,9	6,7	6,8	6,8	yes
Water heat output (test result)	kW	A.4.5	---	---	---	---	n/a
Nominal heat output according to manufacturer	kW		6,2	6,2	6,2	6,2	
Flue gas mass flow	g/s		5,4	5,2	5,5	5,4	
Fuel rate	kg/h		2,03	2,00	2,03	2,02	
Boiler components							
Mean flow temperature	°C	A.4.7.3	---	---	---	---	n/a
Mean return temperature	°C	A.4.7.3	---	---	---	---	n/a
Water flow rate	kg/h	A.4.7.3	---	---	---	---	n/a
Comment:							
The values were taken from the test report No. RRF - 40 17 4674-1 from 13.02.2020.							

Determination of emissions during the test of nominal heat output, efficiency and burning time according to A.4.7

	Requir. accor. to	Test period 1	Test period 2	Test period 3	Test result 1 bis 3	Requir. fulfilled
Day of test, date DD.MM.YY		12.09.17	13.09.17	13.09.17	---	
Test fuel	Tab. B1	Wood logs				yes
Type of appliance		roomheater (intermittent burning)				
Mean CO ₂ -content %		11,0	11,2	10,8	11,0	
Mean CO-content %		0,10	0,14	0,13	0,12	
Mean CO-content ¹⁾ %	6.2	0,07	0,10	0,09	0,09	yes
Mean CO-content ¹⁾ mg/m ³		875	1250	1125	1125	
Mean NO _x -content ppm		81	67	74	74	
Mean NO _x -content ¹⁾ acc. to EN 16510-1:2018 Annex D mg/m ³		116	94	109	106	
Mean THC content ppm		62	92	72	76	
Mean C _{OGC} -content ¹⁾ acc. to EN 16510-1:2018 Annex E mg/m ³		79	115	93	96	
Assessment of particles (PM) according to EN 16510-1:2018 Annex F, chapter F.2						
Mean CO ₂ -content while assessment of particles %		12,3	12,7	11,9	12,3	
Particles ¹⁾ PM mg/m ³		8	6	5	6	
Comment: The values were taken from the test report No. RRF - 40 17 4674-1 from 13.02.2020.						

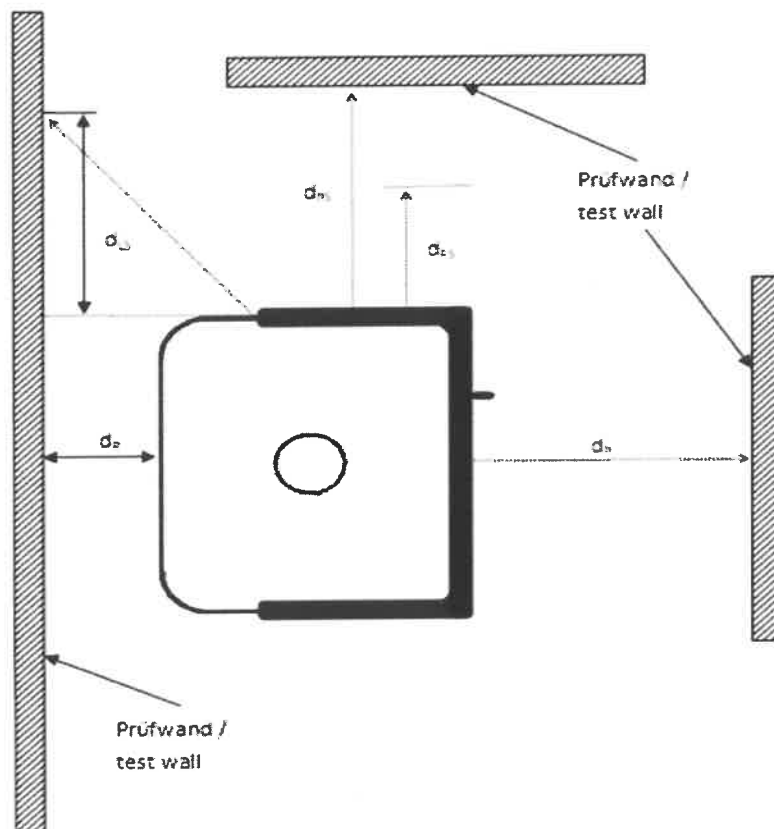
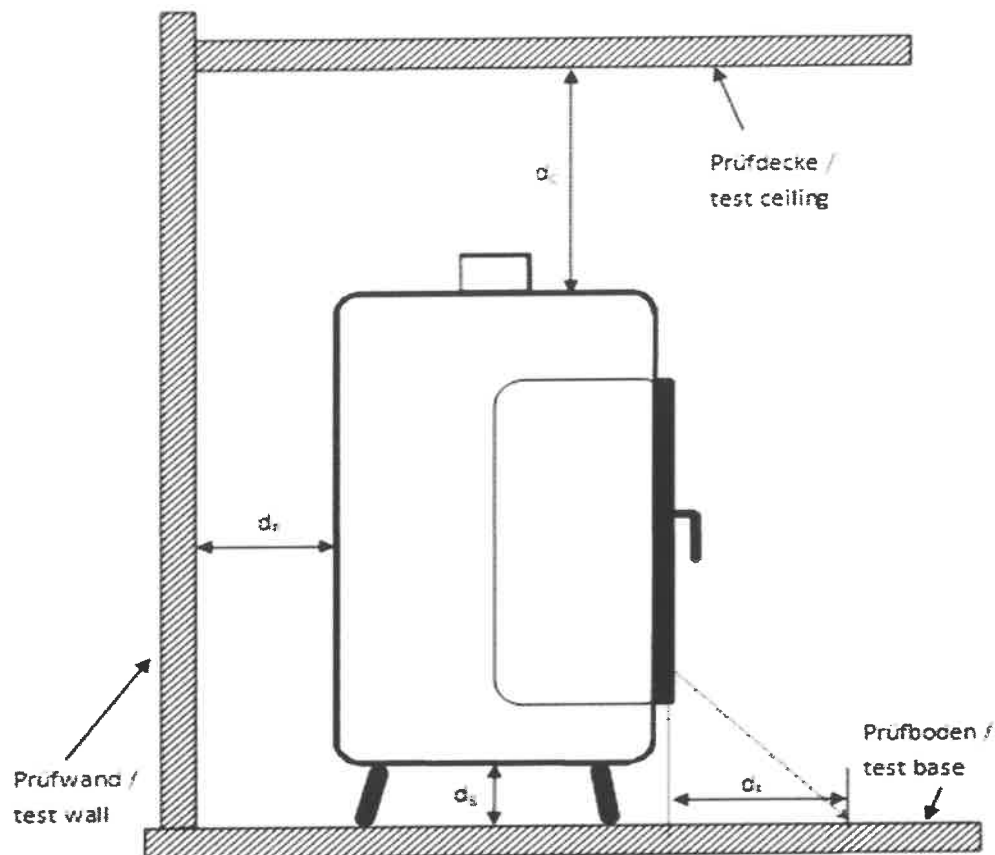
1) Based on 13% O₂

Testing the fire safety according to sections A.4.9.2

	Requ. accor. to	Test result	Requ. fulfilled
Product name	Sargas 3		
Position of the fireplace in the trihedron		90°	
Day of test, date DD.MM.YY		07.02.20	
Test fuel	A.4.9.2.2.1	Profile wood (Spruce)	yes
Test amount (total) incl. ignition process kg	A.4.9.2.2.1	15,31	yes
Number of test amounts		7	
Calculated mass of fuel **) kg		2,17	
Setting of the controls for			
- one hand regulator		open	
- heating-up position		open	
Bottomgrate		---	
Burning fuel selector		---	
Combustion chamber (door)		closed	
Mean flue draught Pa	6.4	15	yes
Mean room temperature °C		21	
Max. flue gas temperature °C		337	
Mean flue gas temperature °C		295	
Distance to combustibles *)			
to the base (d_B) mm		0	
to the rear / side / ceiling $(d_R / d_S / d_C)$ mm		50 / 400 / ---	
to the side (offset) (d_{S2}) mm		---	
in range of the inspection window $(d_P / d_L / d_F)$ mm		1200 / --- / ---	
in range of the lateral window $(d_{PS} / d_{LS} / d_{FS})$ mm		400 / --- / ---	
Max. surface temperature			
on the test base (d_B) K	5.6	10	yes
on the rear wall (d_R) K	5.6	40	yes
on the side wall (d_S / d_{S2}) K	5.6	58 / ---	yes
on the ceiling (d_C) K	5.6	---	n/a
in range of the inspection window $(d_P / d_L / d_F)$ K	5.6	64 / --- / ---	yes
in range of the lateral window $(d_{PS} / d_{LS} / d_{FS})$ K		58 / --- / ---	yes
in fuel storage compartment K	5.4	37	yes
Discharge of embers	5.2	no	yes
Combustion gas	5.2	no	yes
Damage to the fireplace caused by the test: Non discernible			
Comment:			
A schematic figure of the distances to combustible components can be found on page 12.			
*) applies only for components made of combustible material with a thermal resistance $< 1,2 \text{ m}^2\text{K/W}$			
**) calculation mass of fuel according to firebox bottom area, without considering prEN16510			
The safety test was done with an air-exhaust system on top of the appliance. The determined safety distances are only valid with air-exhaust system. Without the air-exhaust system, higher safety distances are expected because the uninsulated part of the measuring section would have to be considered on top of the appliance.			
The end of the burning cycles in accord. to the decision 2017-01 of the SG03-WG2 at $4 \pm 0,5 \text{ Vol-\% CO}_2$			

Testing the fire safety according to sections A.4.9.2

Test procedure (single door and lateral windows) in a 90° corner

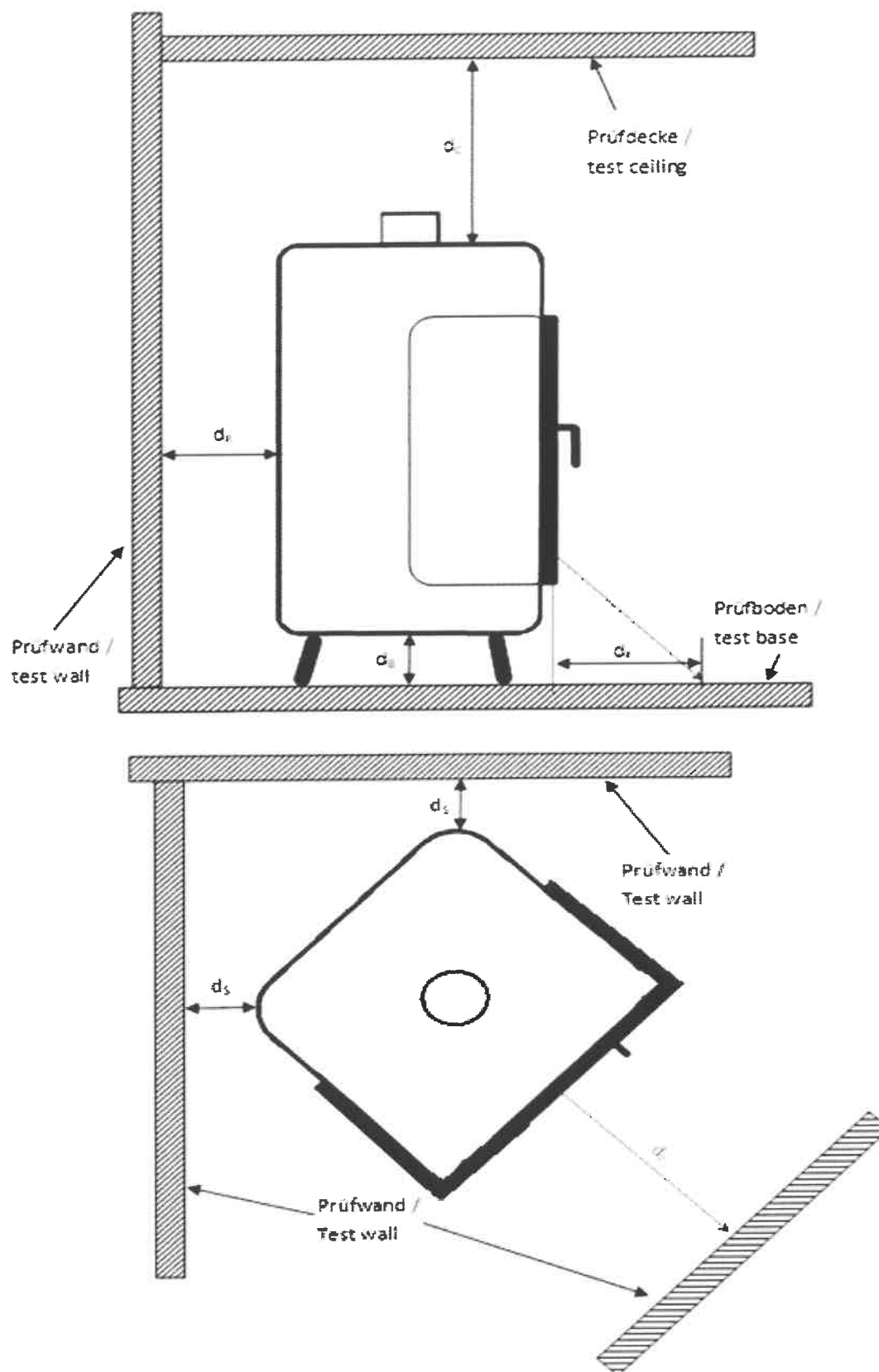


Testing the fire safety according to sections A.4.9.2

	Requ. accor. to	Test result	Requ. fulfilled
Product name	Sargas 3		
Position of the fireplace in the trihedron		45°	
Day of test, date	DD.MM.YY	10.02.20	
Test fuel	A.4.9.2.2.1	Profile wood (Spruce)	yes
Test amount (total) incl. ignition process	kg A.4.9.2.2.1	19,53	yes
Number of test amounts		9	
Calculated mass of fuel **)	kg	2,17	
<u>Setting of the controls for</u>			
- one hand regulator		open	
- heating-up position		open	
Bottomgrate		---	
Burning fuel selector		---	
Combustion chamber (door)		closed	
Mean flue draught	Pa 6.4	15	yes
Mean room temperature	°C	22	
Max. flue gas temperature	°C	324	
Mean flue gas temperature	°C	286	
<u>Distance to combustible components *)</u>			
to the base (d_B)	mm	0	
to the rear / side / ceiling $(d_R / d_S / d_C)$	mm	--- / 200 / ---	
to the side (offset) (d_{S2})	mm	---	
in range of the inspection window $(d_P / d_L / d_F)$	mm	1200 / --- / ---	
in range of the lateral window $(d_{PS} / d_{LS} / d_{FS})$	mm	--- / --- / ---	
<u>Max. surface temperature</u>			
on the test base (d_B)	K 5.6	12	yes
on the rear wall (d_R)	K 5.6	---	n/a
on the side wall (d_S / d_{S2})	K 5.6	65 / ---	yes
on the ceiling (d_C)	K 5.6	---	n/a
in range of the inspection window $(d_P / d_L / d_F)$	K 5.6	64 / --- / ---	yes
in range of the lateral window $(d_{PS} / d_{LS} / d_{FS})$	K	--- / --- / ---	n/a
in fuel storage compartment	K 5.4	39	yes
Discharge of embers	5.2	no	yes
Combustion gas	5.2	no	yes
Damage to the fireplace caused by the test: Non discernible			
Comment:			
A schematic figure of the distances to combustible components can be found on page 14.			
*) applies only for components made of combustible material with a thermal resistance $< 1,2 \text{ m}^2\text{K/W}$			
**) calculation mass of fuel according to firebox bottom area, without considering prEN16510			
The safety test was done with an air-exhaust system on top of the appliance. The determined safety distances are only valid with air-exhaust system. Without the air-exhaust system, higher safety distances are expected because the uninsulated part of the measuring section would have to be considered on top of the appliance.			
The end of the burning cycles in accord. to the decision 2017-01 of the SG03-WG2 at $4 \pm 0,5 \text{ Vol-\% CO}_2$			

Testing the fire safety according to sections A.4.9.2

Test procedure (single door and lateral windows) in a 45° corner

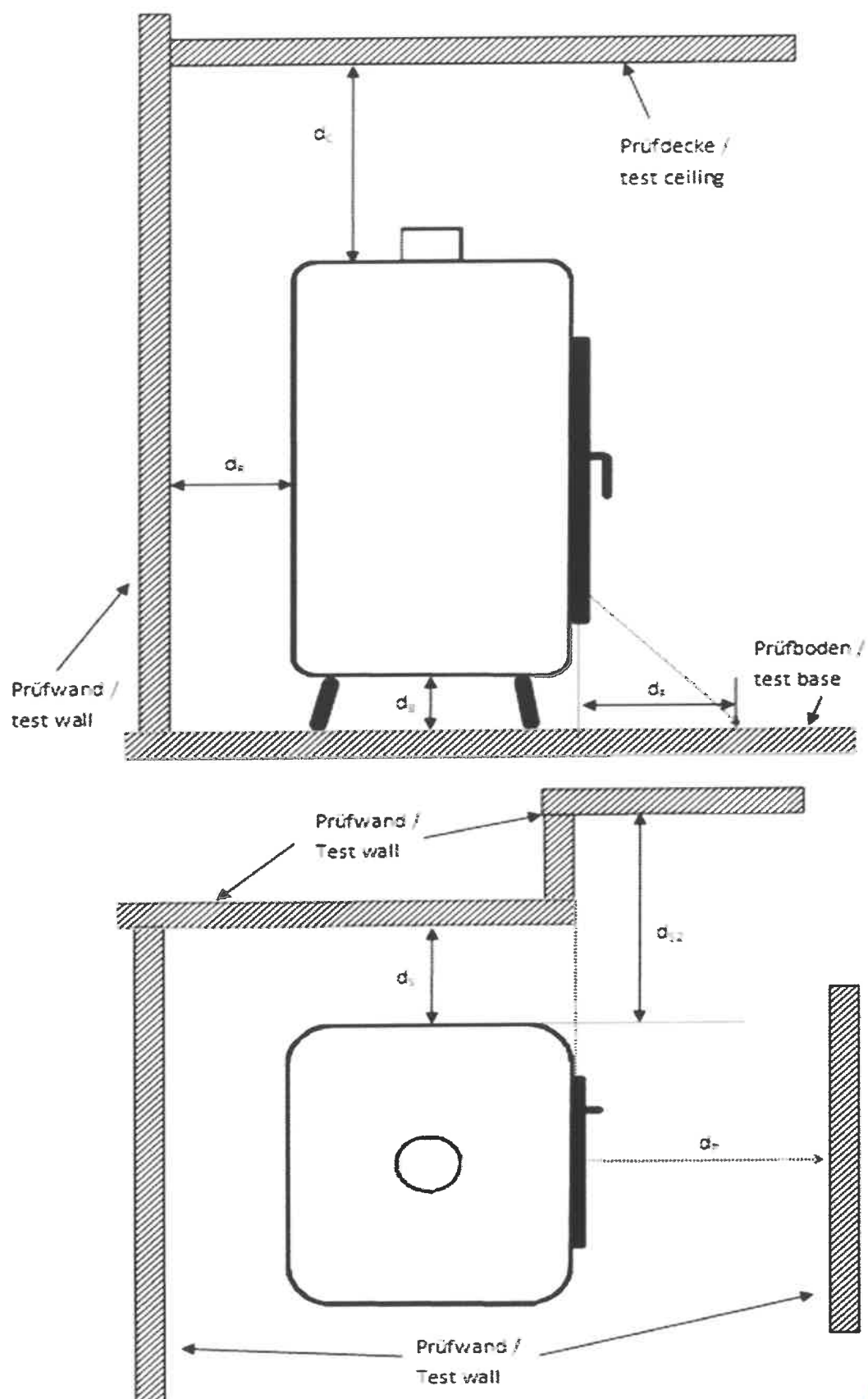


Testing the fire safety according to sections A.4.9.2

	Requ. accor. to	Test result	Requ. fulfilled
Product name	Sargas 1		
Position of the fireplace in the trihedron		90°	
Day of test, date DD.MM.YY		28.01.20	
Test fuel	A.4.9.2.2.1	Profile wood (Spruce)	yes
Test amount (total) incl. ignition process kg	A.4.9.2.2.1	17,36	yes
Number of test amounts		8	
Calculated mass of fuel **) kg		2,17	
<u>Setting of the controls for</u>			
- one hand regulator		open	
- heating-up position		open	
Bottomgrate		---	
Burning fuel selector		---	
Combustion chamber (door)		closed	
Mean flue draught Pa	6.4	15	yes
Mean room temperature °C		22	
Max. flue gas temperature °C		370	
Mean flue gas temperature °C		325	
<u>Distance to combustible components *)</u>			
to the base (d_B) mm		0	
to the rear / side / ceiling $(d_R / d_S / d_C)$ mm		70 / 100 / ---	
to the side (offset) (d_{S2}) mm		450	
in range of the inspection window $(d_P / d_L / d_F)$ mm		1200 / --- / ---	
in range of the lateral window $(d_{PS} / d_{LS} / d_{FS})$ mm		--- / --- / ---	
<u>Max. surface temperature</u>			
on the test base (d_B) K	5.6	33	yes
on the rear wall (d_R) K	5.6	56	yes
on the side wall (d_S / d_{S2}) K	5.6	57 / 63	yes
on the ceiling (d_C) K	5.6	---	n/a
in range of the inspection window $(d_P / d_L / d_F)$ K	5.6	59 / --- / ---	yes
in range of the lateral window $(d_{PS} / d_{LS} / d_{FS})$ K		--- / --- / ---	n/a
in fuel storage compartment K	5.4	44	yes
Discharge of embers	5.2	no	yes
Combustion gas	5.2	no	yes
Damage to the fireplace caused by the test: Non discernible			
Comment:			
A schematic figure of the distances to combustible components can be found on page 16.			
*) applies only for components made of combustible material with a thermal resistance $< 1,2 \text{ m}^2\text{K/W}$			
**) calculation mass of fuel according to firebox bottom area, without considering prEN16510			
The safety test was done with an air-exhaust system on top of the appliance. The determined safety distances are only valid with air-exhaust system. Without the air-exhaust system, higher safety distances are expected because the uninsulated part of the measuring section would have to be considered on top of the appliance.			
The end of the burning cycles in accord. to the decision 2017-01 of the SG03-WG2 at $4 \pm 0,5 \text{ Vol-\% CO}_2$			

Testing the fire safety according to sections A.4.9.2

Test procedure (single door) in a 90° corner



Testing the fire safety according to sections A.4.9.2

	Requm. accor. to	Test result	Requm. fulfilled
Product name	Sargas 1		
Position of the fireplace in the trihedron		45°	
Day of test, date DD.MM.YY		29.01.20	
Test fuel	A.4.9.2.2.1	Profile wood (Spruce)	yes
Test amount (total) incl. ignition process kg	A.4.9.2.2.1	13,02	yes
Number of test amounts		6	
Calculated mass of fuel **) kg		2,17	
Setting of the controls for			
- one hand regulator		open	
- heating-up position		open	
Bottomgrate		---	
Burning fuel selector		---	
Combustion chamber (door)		closed	
Mean flue draught Pa	6.4	16	yes
Mean room temperature °C		23	
Max. flue gas temperature °C		386	
Mean flue gas temperature °C		327	
Distance to combustible components *)			
to the base (d_B) mm		0	
to the rear / side / ceiling ($d_R / d_S / d_C$) mm		--- / 100 / ---	
to the side (offset) (d_{S2}) mm		---	
in range of the inspection window ($d_P / d_L / d_F$) mm		1200 / --- / ---	
in range of the lateral window ($d_{PS} / d_{LS} / d_{FS}$) mm		--- / --- / ---	
Max. surface temperature			
on the test base (d_B) K	5.6	12	yes
on the rear wall (d_R) K	5.6	---	n/a
on the side wall (d_S / d_{S2}) K	5.6	57 / ---	yes
on the ceiling (d_C) K	5.6	---	n/a
in range of the inspection window ($d_P / d_L / d_F$) K	5.6	59 / --- / ---	yes
in range of the lateral window ($d_{PS} / d_{LS} / d_{FS}$) K		--- / --- / ---	n/a
in fuel storage compartment K	5.4	44	yes
Discharge of embers	5.2	no	yes
Combustion gas	5.2	no	yes

Damage to the fireplace caused by the test: Non discernible

Comment:

A schematic figure of the distances to combustible components can be found on page 18.

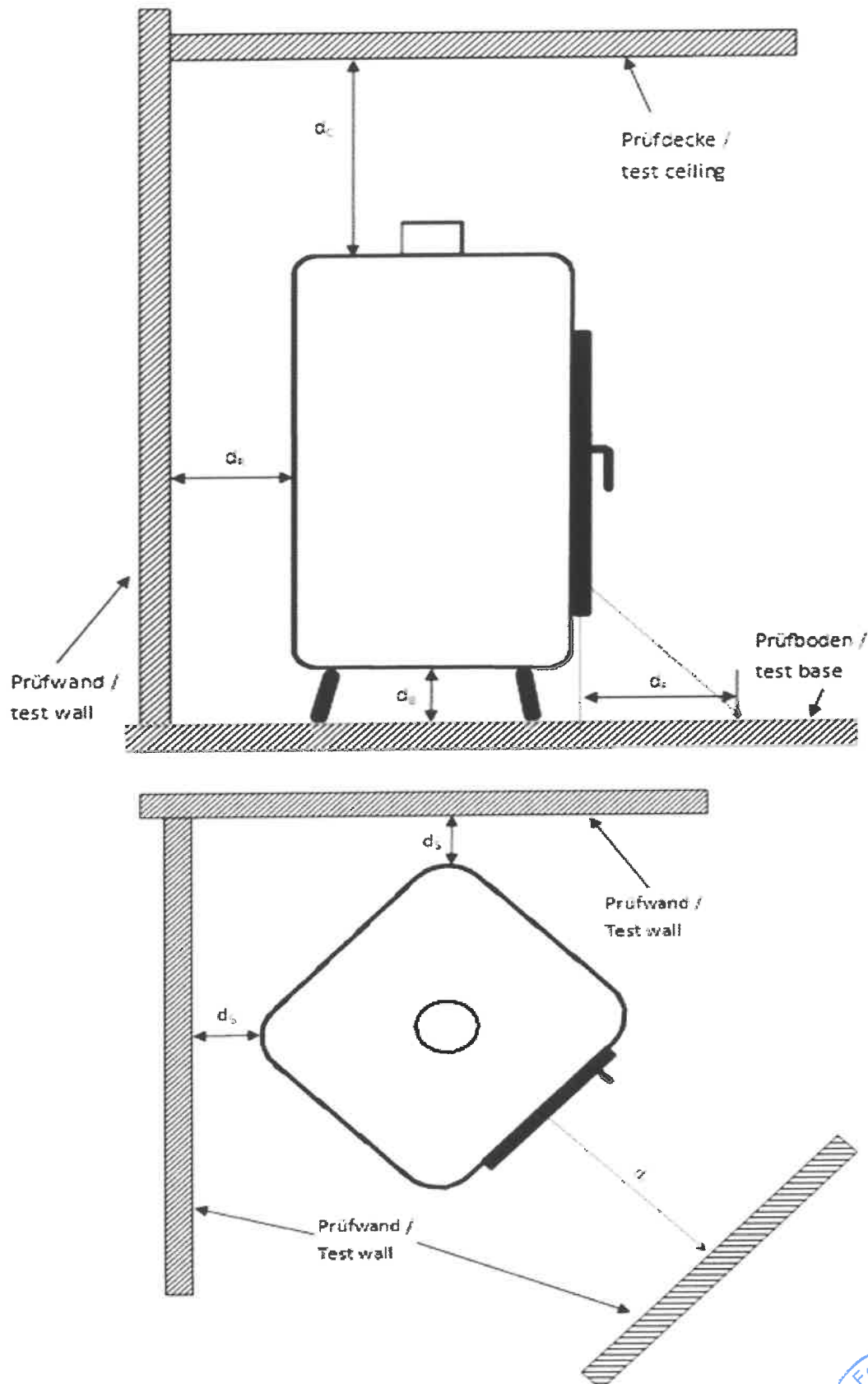
*) applies only for components made of combustible material with a thermal resistance $< 1,2 \text{ m}^2\text{K/W}$

**) calculation mass of fuel according to firebox bottom area, without considering prEN16510

The safety test was done with an air-exhaust system on top of the appliance. The determined safety distances are only valid with air-exhaust system. Without the air-exhaust system, higher safety distances are expected because the uninsulated part of the measuring section would have to be considered on top of the appliance.

The end of the burning cycles in accord. to the decision 2017-01 of the SG03-WG2 at $4 \pm 0,5 \text{ Vol-\% CO}_2$

Testing the fire safety according to sections A.4.9.2
 Test procedure (single door) in a 45° corner



Testing the temperature of the controls according to section A.4.7

		Requirem. accord. to	Test result 1	Test result 2	Test result 3	Requm. fulfilled
Day of test, date	DD.MM.YY		08.09.12	08.09.12	08.09.12	
Control name			fire door handle	one hand regulator	ash door handle	
Material of the controls			aluminium	stainless steel	sheet steel	
Max. surface temperature of the controls						
Target	K	5.5	35	35	35	
Actual	K		29	31	90 *)	no *)
Test fuel		Tab. B.1	wood logs	wood logs	wood logs	yes
Test amount	kg	A.4.2	1,42	1,46	1,46	
<u>Setting of the controls for</u>						
- one hand regulator			105 mm open	105 mm open	105 mm open	
Mean flue draught	Pa	6.4	12	12	12	
Total heat output	kW		6,3	6,3	6,3	
Operating tools		available – / – not available				
Comment:						
*) For a safe use of the controls a tool (e. g. glove, cold hand etc.) is needed.						
Delivered tool: a glove						

Testing the fire safety with open combustion chamber according to A.4.9.1
n/a

Testing the light load, the ember retaining and recovery of the temperature according to section A.4.8
n/a

Safety testing with natural flue draught according to section A.4.9.3
n/a, because it is an intermittent burning appliance

Pressure testing for the boilers according to section A.4.9.4
n/a

Testing the thermal flow safety device according to section A.4.9.5
n/a



Requirements for the operating instructions according to section 7

Operating instructions	Requirements according to	Requirements fulfilled
in the language of the country	7.1	yes
not in contradiction to the test results *)	7.1	n/a
Requirements of all "m-dash" listed items **)	7.2	n/a
Requirements of all "m-dash" listed items ***)	7.3	n/a
Comments: *) Safety distances, test results and operating mode are to be taken from the test report. **) Since the assembly and operating instructions were in Norwegian, the requirements could not be checked for completeness.		

Requirement for identification according to section 8

	Requirements according to	Requirements fulfilled
Designation permanent *)	8	n/a
readable *)	8	n/a
Labels permanent *)	8	n/a
Damage by testing *)	8	n/a
Details on type label are complete **)	8	no
Comments: *) As there was no type label on the fireplace during the test, the check of these points is not applicable. **) Minimum distance and test results have to be transferred of the test report. Before placing the building product on the market all requirements of paragraph 8 of DIN EN 13240 must be fulfilled.		