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Notified Body according Regulation (EU) 305/2011
Identification number: NB 1879
DIN CERTCO Registration No: PL211

TEST REPORT

NB 1879-K-06-2022 / 10.06.2022

This document CANCELS and REPLACES TEST REPORT No NB 1879-K-27-2017 / 27.11.2017.

1. Applicant's name: "Kupro Email" Ltd., Shumen, Industrial Zone, Trakia - South, Bulgaria;
Request: № 06 / 01.06.2022

2. Object: Residential cookers fired by solid fuel.
A cooker with manually controlled regime for operation with closed door.

Model: **„Alegra"**, Factory № **74211**

Purpose: For cooking and heating of residential premises without hot water boiler.

Burning material: beech wood logs, Test report № 32-L-PI-654 / 30.09.2019

3. Producer: "Kupro Email" Ltd., Shumen, Industrial Zone, Trakia - South, Bulgaria;

4. Test method:
Based on the submitted request for testing, an initial type testing has been carried out in compliance with:
- BDS EN 12815:2006 (BDS EN 12815:2006/A1:2006; BDS EN 12815:2001/AC:2020) „Residential cookers fired by solid fuel - Requirements and test methods", regarding:
- Temperature safety (fire safety) – item A.4.16; item A.4.15;
- Product emissions from burning – item A.4.4.2 (item A.6.2.6; item A.6.2.8; item A.6.2.9; item A.6.2.5);
- Surface temperature – item A.4.9;
- Temperature of the flue gases – item A.2.3.2; item A.4.4.3;
- Heat capacity / energy efficiency – item A.4.9 (item A.6.2.2; item A.6.2.4; item A.4.4; item A.4.6; item A.4.10; item A.4.7; item A.4.11) / item A.6.2.1 (item A.6.2.7).
- CEN / TS 15883:2009 „Residential solid fuel burning appliances – Emission test methods", regarding:
- OGC content – item 4;
- NOx content – item 5;
- Dust content – item A1.

5. The product is delivered by the manufacturer.

6. Date of receipt of the product: 02.06.2022

7. Duration of test: 02.06.2022 ÷ 09.06.2022

8. Place for testing: Testing laboratory at „Kontrol 94" Ltd., Gorna Oryahovitsa

Head of Laboratory: .....
/ Dipl. Eng. Miroslav Raev /
Gorna Oryahovitsa

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9. Tests and measurements
Test conditions for the measurement of performance

The conditions at nominal heat, according to BDS EN 12815:2006, item A.4.9 and CEN/TS 15883:2009						
	Unit	Respond to BDS EN 12815:2006	Test conditions			
			Test VII	Test VIII	Test X	Average
Fuel type		Table B.1	Beech wood logs			
Fire box			closed			
Burning process			manually controlled			
Minimum refueling interval - t_b	h	Table 7	1,00			
Duration of test period	h		0,90	0,97	1,00	0,96
The mean flue draught	Pa	6.1	13,0	13,0	13,0	13,0
The mean ambient room temperature - tr	°C	A.1.1	25,0	25,0	25,0	25,0
The mean cross-draught	m/s	A.1.2	< 0,20			
Atmospheric pressure	mbar		995,0	993,0	994,0	994,0
Air humidity	%RH		36,0	36,8	37,5	36,8
The heat output (manufacturer declared)	kW	6.6	6,0			
Fuel burned during test	kg	A.4.2	1,800	1,800	1,800	1,800
Fuel load	kg/h		2,000	1,862	1,800	1,887
Proportion of heat losses through combustible constituents in the residues – q_r	%	A.4.6	0,5	0,5	0,5	0,5
Position of control devices:						
- Primary air			closed			
- Secondary air			opened			
- Tertiary air			opened (unregulated)			
- Damper of oven			closed (position baking)			

9.1 Results obtained from the measurement of performance

Characteristics	Unit	Respond to BDS EN 12815:2006	Require-ments according BDS EN 12815:2006	Test VII	Test VIII	Test X	Ave-rage	Uncer-tainty: ± *U*
The mean flue gas temperature	°C	A.2.3.2		166,0	152,0	146,0	155,0	0,8
Combustion products emissions								
The mean O_2 emission	%	A.4.4.2		15,1	15,2	15,4	15,3	0,3
The mean CO_2 emission	%	A.4.4.2		5,7	4,9	5,4	5,3	0,3
The mean CO emission at 13%O_2	%	A.6.2.6	item 6.3 ≤ 1,000	0,116	0,117	0,119	0,117	0,007
The mean OGC emission at 13%O_2	mg/m³	item 4 от CEN/TS 15883:2009		112,9	108,6	112,4	111,3	4,3
The mean NOx emission at 13%O_2	mg/m³	item 5 от CEN/TS 15883:2009		94,7	87,0	120,0	100,6	7,8
The mean value of dust in the flue gas at 13%O_2	mg/m³	т. А1 от CEN/TS 15883:2009		35,8	38,0	33,8	35,9	1,8
Flue gas mass flow	g/s	A.6.2.5		8,9	9,4	8,4	8,9	1,3
Heat capacity (nominal heat output) / energy efficiency (losses)								
Heat load	kW	A.4.9		8,11	7,55	7,30	7,66	0,02
Proportion of losses through specific heat in the flue gases - q_a	%	A.4.4		19,88	20,60	17,90	19,46	0,05
Proportion of losses through latent heat in the flue gases - q_b	%			1,070	1,250	1,110	1,140	0,003
Efficiency – η	%	A.6.2.1	item 6.4 ≥ 60,0	78,6	77,7	80,5	78,9	0,3
Nominal heating output (from the test)	kW	A.6.2.2		6,37	5,87	5,88	6,04	0,03
Space heating output	kW	A.6.2.4		6,37	5,87	5,88	6,04	0,03
Hotplate boiling test:								
Boil two liters of water	min	A.4.10	item 6.9 ≤ 15'	13' 45"	13' 28"	14' 10"	13' 48"	-
Oven:								
Average temperature in the oven	°C	A.4.7		229,3	221,2	218,9	219,0	8,6
Oven heating test (baking shortbread)		A.4.11		evenly baked				

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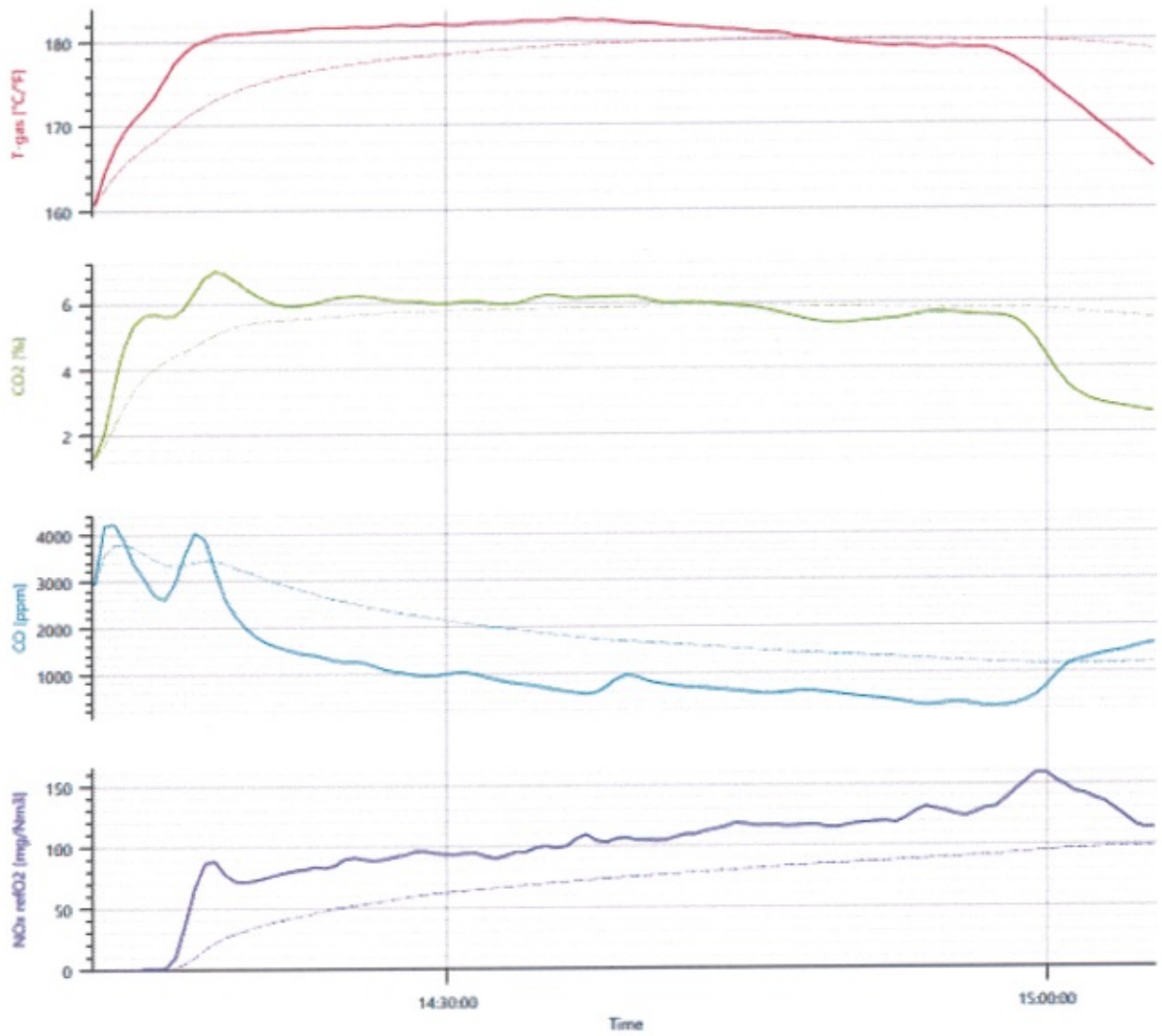
9.1.1. Graphical presentation of the measurement results.
- Test № VII



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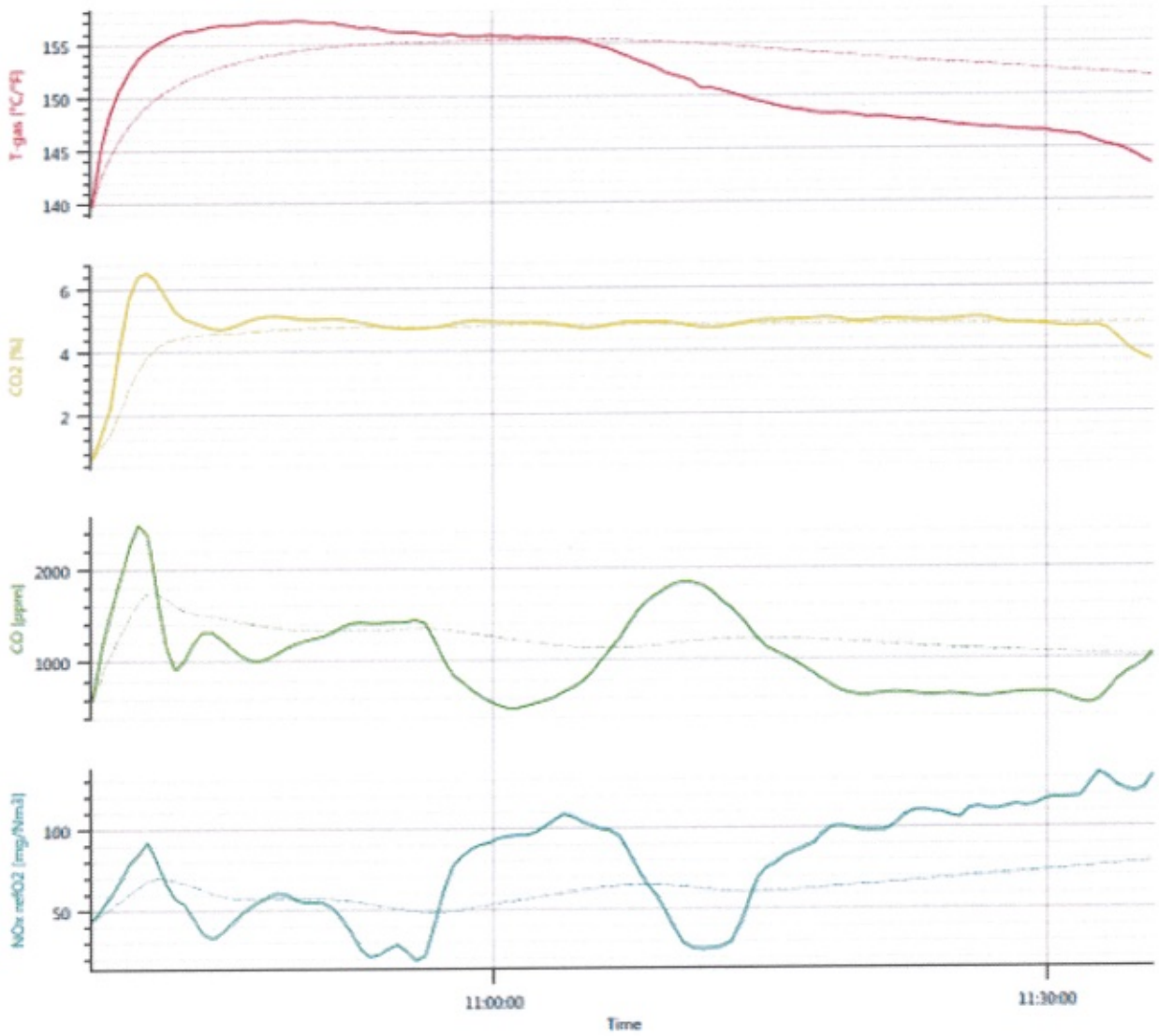
- Test № VIII



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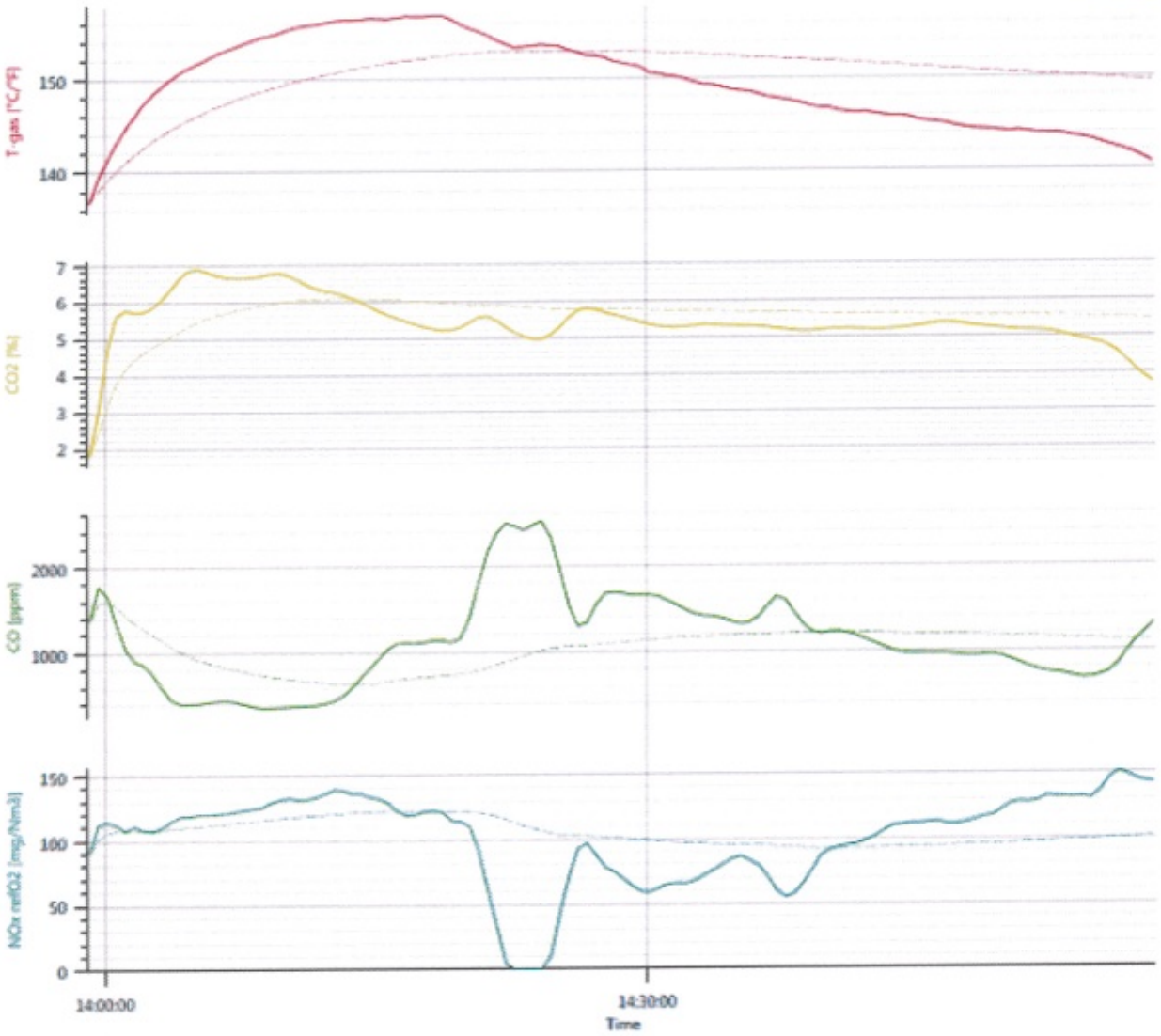
- Test № X



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Test conditions in measuring surface temperatures, according to A.4.9

	Unit	Respond to BDS EN 12815:2006/ A1:2006/AC:2020	Test conditions
Fire box			closed
Fuel		Table B.1	Beech wood logs
Operating tools			glove
The mean of ambient temperature - tr	°C	A.1.1	25,0
The mean flue draught	Pa	6.1	13,0
Position of control devices:			
- Primary air			closed
- Secondary air			opened
- Tertiary air			opened (unregulated)
- Damper of oven			closed (position baking)

9.2 Results obtained from the measurement surface temperatures, according to A.4.9

	Unit	Require-ments	Results of the test at nominal heat	Uncertainty: ± *U*
Maximum temperature to the operating components according item 5.3				
Handle of fire door	°C	**Wood** < 60K ($60 + t_r$)	55,0	0,4
Handle of oven door	°C		53,0	0,4
Handle of damper for oven	°C		43,0	0,4
Device for primary air	°C	**Metals** < 35K ($35 + t_r$)	65,0	0,4
Device for secondary air	°C		85,0	0,4
Maximum temperature of adjacent combustible materials according item 5.2:				
- side wall of trihedron	°C	< 65K ($65 + t_r$)	67,9	0,5
- rear wall of trihedron	°C		64,3	0,5
- floor of trihedron	°C		73,7	0,9
Caused residual crippling in appliance from the test: not be!				

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Test conditions in measuring of temperature safety test, according item A.4.16

	Unit	Respond to EN 12815:2001/ A1:2004/AC:2007 (BDS EN 12815:2006/ A1:2006/AC:2020)	Test conditions
The mean flue draught	Pa	6.1	15,0
The mean of ambient temperature - tr	°C	A.1.1	25,0
Fuel		A.4.16.2.1	Fir timber
Lower calorie value of the fuel - Hu	MJ/kg		16,610
Mass of fuel load – Bn	kg	A.4.2	1,670
Number of tests		-	3
Position of control devices:			
- primary air inlet control			opened
- secondary air inlet control			opened
- tertiary air inlet control			opened (unregulated)
- demper of oven			opened 1/2

9.3 Results obtained from the measurement temperature safety test, according item A.4.16

	Unit	Require-ments	Results of the tests	Uncertainty: ± U
Maximum temperature according item A.4.16.2, item 5.2 achieved on:				
- left side wall of the trihedron - distance to the trihedron 550 mm	°C	< 65K (65+tr)	84,2	0,5
- rear wall of the trihedron - distance to the trihedron 550 mm	°C		82,4	0,5
- in front of build-in glass - appliances safe distance 700 mm	°C		64,3	1,2
- floor of the trihedron - appliance distance to floor: legs 284 mm	°C		79,2	0,9
- the top of the trihedron - distance to the trihedron 950 mm	°C		77,7	1,5
Caused residual crippling in appliance from the test: None!				

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The description of the test steps, comparison of the design documentation with the performance of the test appliance, summary measurement results and calculation of the performance of the appliance are given in Appendixes A to the test report.

Declaration of conformity:

If only the upper limit of the tolerance T_U is indicated, without guard band:

Acceptance: The measured value together with the declared uncertainty of the test characteristic **carbon monoxide (CO)**, with a confidence level of 95% is below the upper limit and has a probability of 99,99 % to meet the requirements according to standard BDS EN 12815:2006 (BDS EN 12815:2006/A1:2006), given for comparison on the basis of the applied "simple" decision rule for taking of the solution ($w = 0$, $\eta \leq T_U$).

Acceptance: The measured values together with the declared uncertainty of the tested characteristics **maximum temperatures emitted by: side walls and rear wall** with a confidence level of 95% are below the upper limit and have a probability of 99,99 % to meet the requirements of BDS EN 12815:2006 (BDS EN 12815:2006/A1:2006), item 5.2 and item A.4.9, given for comparison based on the applied "simple" rule for decision making ($w = 0$, $\eta \leq T_U$).

Acceptance: The measured values together with the declared uncertainty of the tested characteristics **maximum temperatures emitted by: side walls, rear wall, glass and top** with a confidence level of 95% are below the upper limit and have a probability of 99,99 % to meet the requirements of BDS EN 12815:2006 (BDS EN 12815:2006/A1:2006), item 5.2 and item A.4.16, given for comparison based on the applied "simple" rule for decision making ($w = 0$, $\eta \leq T_U$).

If only the lower limit of the tolerance T_L is indicated, without guard band:

Acceptance: The measured value together with the declared uncertainty of the test characteristic **efficiency**, with a confidence level of 95% is above the lower limit and has a probability of 99,99 % to meet the requirements according to standard BDS EN 12815:2006 (BDS EN 12815:2006/A1:2006), given for comparison on the basis of the applied "simple" decision rule for taking of the solution ($w = 0$, $\eta \geq T_L$).

Declared conformity applies to test specimen only.

Reported compliance
Head of laboratory: .....
/ Dipl. Eng. M. Raev /

Notes:

1. The results from the test refer only to the tested sample.
2. The test report not contains any results obtained from subcontractors.
3. The information under item 1, item 2 and item 3 of this test report is provided by the customer. The laboratory is not responsible if the information provided may affect the validity of the results.
4. The laboratory is not responsible for the sampling stage of the test site. It is provided by the customer.
5. The reported expanded measurement uncertainty had obtained as a work of the standard uncertainty and the coverage multiplier k = 2, which at normal distribution corresponds to a coverage probability of approximately 95%. The standard measurement uncertainty is determined in accordance with the requirements of ILAC-G17:01/2021.
6. When declaring compliance / non-compliance, the laboratory uses a "simple" decision rule according to which there is compliance when the measured value together with the declared uncertainty is within the tolerance range.

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7. The default probability of conformity is usually (1 - α) = 0,95 (95%) - error type I α = 0,05 (5%), ie the probability that the measured value is within the specified standard must be higher than 95%.

8. With a decision rule based on simple acceptance and the existence of a normal distribution for the measured value, the probability of accepting a non-compliant element or rejecting a corresponding element may be up to 50%. The risk is then considered a "shared risk" between the laboratory and the client.

9. Indications used:

y - measured value

$U(y)$ - extended measurement uncertainty

(1- α) - confidence interval = 0,95

η - random value of the quantity Y

Y - the result obtained from the measurement with uncertainty included: $y - U \leq Y \leq y + U$

w – guard band

T_U - upper limit of the permissible deviation

T_L - lower limit of the permissible deviation

10. Reproducing the present test report is allowed only in a complete form from „Kontrol 94" Ltd.

Testing carried out by:

..... / Dipl. Eng. P. Nikolova/

..... / Dipl. Eng. D. Mollov /

Head of Laboratory:

..... / Dipl. Eng. M. Raev /

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The description of the test steps, comparison of the design documentation with the performance of the test appliance, summary measurement results and calculation of the performance of the appliance are given in Appendixes A to the test report.

A list of enclosed documents:

A1 – Required documentation for testing and description of tested appliance.

A2 – Photos of product.

A3 – Verification of conformity of materials, design and construction.

A4 – Test requirements for safety.

A5 – Conditions and requirements for measuring performance.

A6 – Verification of compliance with the instructions of the appliance.

A7 – Verification of conformity marking the appliance.

A8.1 – Test fuels used for test.

A8.2 – List of technical means used for test and measurement during the test.

A8.3 – Oven shelf test and the results.

A8.4 – Requirements for Regulation (EU) 2015/1185 and results obtained.

A8.5 – Results of determining energy efficiency classes of local space heaters, according to DELEGATED REGULATION (EU) 2015/1186.

A8.6 – Summary results of the measurement and calculation of the performance of the appliance.

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1. Required documentation for testing:

1.1 Grounds for testing: Requestor's documentation for the testing
1.2 Normative documents for the testing:
1.2.1 BDS EN 12815:2006 (BDS EN 12815:2006/A1:2006; BDS EN 12815:2001/AC:2020) „Residential cookers fired by solid fuel. Requirements and test methods".
1.2.2 CEN / TS 15883:2009 „Residential solid fuel burning appliances – Emission test methods".

2. Description of tested appliance

2.1 Construction

The cooker stove, consisting of:

- The fire door - made of steel sheet and has an in-built fireproof glass, opening vertically at an angle greater than 90°. The door has sealed with insulation rope and glass has sealed with insulation tape;
- Combustion chamber:

- The walls are made of sheet steel and are lined with chamotte bricks;
- The bottom is occupied by a cast iron bottomgrate with dimencion 298 x 160 mm and chamotte bricks behind it;

- Under the bottomgrate has ash niche with ashtray, made of sheet steel with capacity of 5,18 dm^3;
- An oven for baking has door with an in-built fireproof glass. The door is opening to an angle greater than 90°. The glass has sealed with insulation tape. Capacity the oven is 37,76 dm^3. There is an oven shelf regulated in two levels;
- The flue gas diverter for oven;
- Manually adjusted primary and secondary air, and unregulated tertiary air;
- Manual loading of burning material and ash cleaning;
- Operation is permissible only with a closed door;
- The sheet steel vertical protector (grate) – is stationary, part of the appliance.

For additional data the cooker plans presented by the producer have to be used.

2.2 Overall dimensions in cm.: 80,0 x 51,8 x 75,9
(width x depth with handles x height with flue connector)

2.3 Air for burning:

2.3.1 Primary air: air for burning which comes in through six square openings located at the bottom of the fire door opposite the ashtray. The regulation is made manually by means of a regulator. The primary air can be regulated from a completely closed position to a 3,84 cm^2 opened one.

2.3.2 Secondary air: air for burning which comes in through six square openings located above the glass of the fire door. The regulation is made manually by means of a regulator. The secondary air can be regulated from a completely closed position to a 3,84 cm^2 opened one.

2.3.3 Tertiary air: unregulated air for burning which comes in through a rectangular hole located on the back of the cooker, passes through 5 pcs. openings Ø4 mm located on the rear wall of the combustion chamber and reaches the hearth. S = 0,63 cm^2.

2.4 Leading out the flue gases and connecting with the chimney: Above the burning chamber (the place for burning) the flue gases change their direction with flue gas diverter for oven. When the diverter of the oven is opened (position cooking) flue gases pass under top plate and through the pipe extension go into the flue pipe, and when it is closed (position baking) they pass under the oven and heat it up. The flue connector is mounted vertically and its inner Ø is 130 mm.

2.5 Marking: A printed design is presented at the moment of issuing the test report for the CE label. The data on the label has to be fulfilled by the producer in accordance with the data in this test report. The CE label has to be clearly and durably marked and it has to be mounted on such a place that the marking is preserved.

2.6 Electric safety: inapplicable

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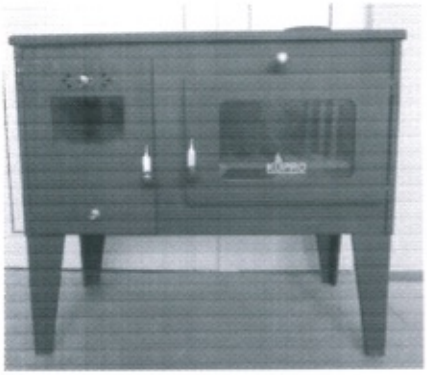
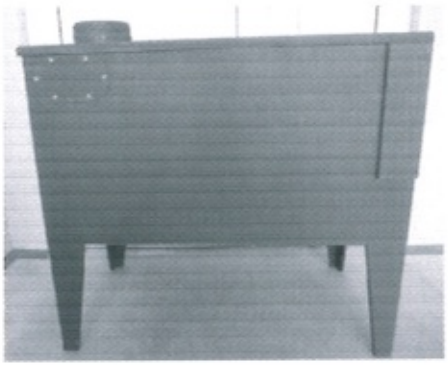
Product photos:



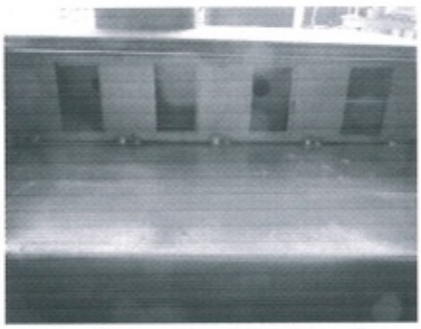
The front view



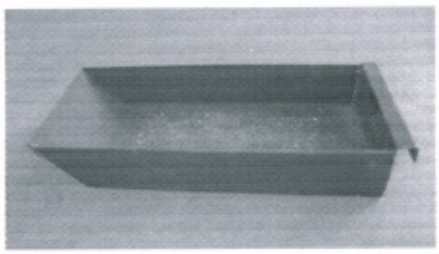
The back view

The combustion chamber and openings for tertiary air

The oven



Holes through which the flue gases pass, regulated by the damper of the oven



The ashtray

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Verification of conformity of materials, design and construction, according to item 4

Requirement	Requirement in compliance with	Requirement is met
BDS EN 12815:2006 (BDS EN 12815:2006/A1:2006; BDS EN 12815:2001/AC:2020)		
1	**2**	**3**
Construction documentation	4.1	
♦ Documentation and plans (drawings);		Yes
♦ Material specifications;		Yes
♦ The nominal heat output using fuels recommended by the manufacturer;		Yes
♦ The welding process used in the manufacture of the boiler shell (suffice it to indicate a symbol of the used welding);		NA
♦ Maximum allowable values of water temperature, °C;		NA
♦ Maximum allowable values of working pressure, bar;		NA
♦ Test pressure, bar;		NA
♦ The water heating in kW.		NA
General construction	4.2	
♦ To ensure reliable and safe operation of the appliance;		Yes
♦ The combustion gases cannot escape into the room and nor can embers fall out;		Yes
♦ The surface temperature of operating component parts do not exceed the temperature specified by the manufacturer or this standard;		Yes
♦ Do not use hazardous materials such as asbestos and brazing materials containing cadmium;		Yes
♦ Where thermal insulation is used, it shall be made of non-combustible material and shall not be a known hazard to health in its applied position;		Yes
♦ Parts which need to be changed periodically have to be marked properly;		NA
♦ Provision shall be made for parts, which form a seal, to be located securely by means of bolts, gaskets or welding to prevent the leakage of air/water or combustion products;		Yes
♦ Where a seal is made with fire-cement, it shall be well supported by adjacent metal surfaces.		NA
Integral boiler		NA
Boilers constructed of steel	4.3	
♦ Parts subject to water pressure must the manufacture of the steel materials in compliance with Table 1;	4.3.1	
♦ The boiler be capable of operating at the maximum operating pressure declared by the manufacturer;		

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Verification of conformity of materials, design and construction, according to item 4

1	2	3
♦ Minimum wall thicknesses: - for surfaces in direct contact to water, fire and combustion products - 4 mm; - for all other surfaces - 3 mm. The tolerances shall be as specified in EN 10029.	4.3.2	
Boiler constructed of cast iron ♦ Minimum wall thicknesses – 5 mm. ♦ The mechanical properties of cast iron – Table 2.	4.4	NA
Boiler shell tapping ♦ The minimum thread size of boiler shell tapings for hot and cold water pipes – Table 3; ♦ The tapered threads shall be in accordance with ISO 7-1 and ISO 7-2; ♦ The parallel threads shall be in accordance with the requirements of EN ISO 228-1 and EN ISO 228-2; ♦ The design and position of flow tapings shall be such that air will not be retained within the boiler shell; ♦ The minimum depth of tapings or length of thread – Table 4; ♦ If boilers are supplied with reducing bushes in horizontal flow tapings, these shell be eccentric and fixed so that the reduced outlet is uppermost.	4.5	NA
Draining of boiler shell ♦ Where a drain socket is provided in the boiler shell, it shall be a minimum thread size of ½" and shall be in accordance with ISO 7 and EN ISO 228.	4.6	NA
Boiler waterways **Venting of water sections:** ♦ The boiler shall be designed that the water sections can be vented; ♦ To minimize the buildup of sediments, sharp or wedge-shaped waterways with a taper towards the bottom shall be avoided; ♦ The design of the boiler shall under normal operation in accordance with the manufacturer's instructions, no undue boiling noises occur.	4.7 4.7.1	NA
Boilers used with direct water systems ♦ The minimum internal dimension of waterways in boilers shall be not less than 25 mm.	4.7.2	NA

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Verification of conformity of materials, design and construction, according to item 4

1	2	3
Boilers used with indirect water systems ♦ The minimum internal dimension of waterways shall be not less than 20 mm. Where waterways have to locally reduce to facilitate manufacture or are in areas not in direct contact with burning fuel, in these cases the width of the waterways shall not be less than 15 mm.	4.7.3	NA
Water tightness ♦ Holes for screws and similar components, which are used for the attachment or removal of parts, shall not open into waterways or spaces through water flows.	4.7.4	NA
Ashpan and ash removal ♦ It can be easily and safely withdrawn, carried and emptied when hot, using the tool(s) provided; ♦ An ashpan should be it effectively collects the residue material from beneath the bottomgrate and its capacity shall be not less than: - 0,75 dm^3 per kW nominal output for appliances without a boiler; - 0,3 dm^3 per kW nominal output for appliances with a boiler. ♦ When placed in the ash pit in such a way that it allows the free passage of primary air and primary air inlet control.	4.8	Yes Yes NA Yes
Firedoors and charging doors ♦ Firedoors and charging doors shall be designed to prevent accidental opening and to facilitate positive closure; ♦ Door seals shall be either metal to metal or of flexible non-combustible material. Means shall be provided to maintain the fit of any door sealed with flexible non-combustible material; ♦ When open, fire doors shall not obstruct the firebox opening and shall be capable of opening to an angle greater than 90°.	4.9	Yes Yes Yes
Oven door ♦ Open the oven door: * When open, side hinged oven doors shall not obstruct the oven opening and shall be capable of opening to an angle greater than 90°; * Down doors: - When drop down doors are completely open, they shall form an angle of between 85° and 90° to the vertical and remain in this position; - When tested a total mass of 9±0,1 kg, the drop-down door shall not sag by more than 15 mm, and the cooker shall not tilt.	4.10	Yes NA

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Verification of conformity of materials, design and construction, according to item 4

1	2	3
Flue spigot or socket	4.11	
♦ Must to provide a safe and tight connection;		Yes
♦ Length of the connection:		
≥ 40 mm where the flue gas connector fits over an outlet spigot.		Yes
≥ 25 mm where the flue spigot connector fits into a socket.		NA
Internal flue gas diverter	4.12	NA
♦ The position can be fixed;		
♦ Shall not isolate the firebox from the flue outlet;		
♦ To allow proper installation, if the flue gas diverter is moving;		
♦ The position is highly visible and durably marked.		
Control of flue gas	4.13	
If a flue damper is fitted:		
♦ It does not block the flue totally.		Yes
♦ It has to be easily controllable and in closed position to ensure a light section with area no less than 20 cm² or 3% of the chimney area.		Yes
♦ The position of the damper shall be recognizable from costumers.		Yes
Combustion air supply	4.14	
Primary air inlet control	4.14.1	
♦ The appliance shall be fitted with either a thermostatically or a manual primary air inlet control;		Yes
♦ For appliances with a boiler, a manual primary air inlet control shall be allowed for boiler outputs up to 7,5 kW;		NA
♦ The adjusting control shall be clearly visible or shall be permanently marked;		Yes
♦ The ash or unburned fuel cannot prevent the movement or closure of the air inlet control;		Yes
♦ The "closed" setting of the air inlet control shall be clearly visible or permanently marked;		Yes
♦ The method of adjustment of the air inlet control shall be described in the user instructions;		Yes
♦ The thermostat shall have a variable temperature range and be of immersion or dry pocket type;		NA
♦ The pocked shall be positioned so that the thermostat senses the temperature of the flow water.		NA

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Verification of conformity of materials, design and construction, according to item 4

1	2	3
Secondary air inlet control ♦ Where a secondary air inlet control is provided of air entry shall be so designed that the passage of air is not restricted when the firebox is fitted to the manufacturer's recommended capacity.	4.14.2	Yes
Flueways ♦ It shall be possible to clean the flueways of the appliance completely using commercially available tools or brushes; ♦ Unless special tools or brushes are provided by the appliance manufacturer; ♦ The size of the flueway in its minimum dimension shall be not less than 30 mm; ♦ For fuels different from bituminous coal and peat briquettes not less than 15 mm and available opening for cleaning.	4.15	Yes NA Yes NA
Front firebars and/or deepening plate ♦ If front firebars and/or deepening plate are removable, they shall be of a design such that they can neither be incorrectly fitted nor accidentally dislodged; ♦ Front firebars shall be designed to retain the fuel or ash such that there is no undue spillage of ash or burning fuel from the cooker, particularly during refueling or de-ashing.	4.16	NA Yes
Hotplate and top plate ♦ Must be made of metal or ceramic surface in the form of a hot plate; ♦ The height from the floor to the cooking surface(s) shall be between 800 mm and 930 mm.	4.17	Yes 697 mm
Main / additional ovens ♦ Where a compartment or compartments are provided as an oven or ovens, their purpose shall be specified in the appliance operating instructions; ♦ The main oven and any additional oven shall be provided with at least two shelf runner positions.	4.18	Yes there are two positions
Bottomgrate ♦ Where the bottomgrate is removable it shall be so designed or marked as to ensure correct fitting; ♦ A de-ashing mechanism shall be fitted where fuels other than wood are burned; ♦ The bottomgrate shall not become dislodged during the deashing process.	4.19	Yes NA Yes

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Verification of conformity of materials, design and construction, according to item 4

1	2	3
Ashpit and ashpit cover / door	4.20	
♦ The ashpit shall be so designed that when the ashpan is in position it shall not restrict the primary air inlet;		Yes
♦ The ashpit cover / door shall be designed to ensure that:		
- its closure is not prevented by spilled residue material;		Yes
- it cannot be accidentally dislodged;		Yes
- when hot it can be handled safely with the tools provided;		Yes
♦ The ashpit is of sufficient size to accommodate the ashpan.		Yes
Provision for cleaning the boiler heating surfaces and flue connector	4.21	
♦ All heating surfaces have to be accessible for cleaning;		Yes
♦ When the maintenance and cleaning of the heating surfaces and flue connector requires special instruments, they have to be provided by the producer of appliance;		NA
♦ Advice on how this cleaning is to be carried out shall be given in the appliance operating instructions.		Yes
Oven temperature indicators	4.22	
♦ When to which an oven temperature indicator is fitted, the indicator shall be readable without opening the oven door.		There is not

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Test requirements for safety, according item 5

Requirement	Requirement in compliance with		Requirement is met
BDS EN 12815:2006 (BDS EN 12815:2006/A1:2006; BDS EN 12815:2001/AC:2020)			
1	**2**	**3**	**4**
Temperature in integral fuel storage container ♦ The temperatures measured in the niche for keeping wood shall not exceed the ambient room temperature by more then 65 K (65 + t_r).	5.1	A.4.9/ A.4.10 A.4.11/ A.4.16	NA
Temperatures of adjacent combustible materials ♦ The temperature of the bottom, walls and/or ceiling of the tested corner should not exceed the room temperature by more than 65 K (65 + t_r).	5.2	A.4.9/ A.4.10 A.4.11/ A.4.16	See item 9.2 and item 9.4 of test report
Temperature rise of the operating components ♦ The measured temperatures of the working parts should not exceed the temperature of the room by more than: - 35 K (35 + t_r) for metal; - 45 K (45 + t_r) for porcelain, enamel and other similar materials; - 60 K (60 + t_r) for plastic, rubber or wood. If these temperatures are higher, the producer has to provide a special device. It has to be delivered with the appliance.	5.3	A.4.9/ A.4.10 A.4.11	See item 9.2 of test report Yes
Safety test at natural draught ♦ The draught throughout the whole test period should not be less than 3 Pa. ♦ If it goes down below 3 Pa, then from the moment of its reducing to minimum 10 hours after that, the full quantity of CO should not exceed 250 dm^3.	5.4	A.4.15/A.6.2.8	NA
Strength and leak tightness of boiler shell ♦ The boiler shell and its water carrying components shall not leak or become permanently deformed when subjected to the type pressure test and during the nominal heat output test.	5.5	A.4.17/A.4.9	NA

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Test requirements for safety, according item 5

1	2	3	4
Thermal discharge control ♦ For appliances with a water heater with an in-built cooler control, designed to work in hermetically closed system, the cooler control has to start working when the temperature at the output of the hot water reaches 105 °C or at a lower one, indicated by the producer.	5.6	A.4.9.6	NA
Electrical safety ♦ When there is electric equipment built in the appliance, it has to meet the requirements for electric safety in compliance with EN 60335-2-102.	5.7	EN 60335-2-102	NA

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Conditions and requirements for measuring performance, according item 6

Requirement			Requirement in compliance with		Requirement is met
BDS EN 12815:2006 (BDS EN 12815:2006/A1:2006; BDS EN 12815:2001/AC:2020)					
1			**2**	**3**	**4**
Flue draught ♦ The flue draught values, related to the appliance's nominal heat output, given in Figure 1.			6.1	A.4.9 A.4.12 A.4.16	Yes
Temperature of flue gases ♦ The temperature of the flue gases has to be measured and averaged and this value has to be registered in the instruction for mounting and operation.			6.2	A.4.9	Yes
Carbon monoxide emissions ♦ Average concentration of carbon monoxide, calculated at 13%O_2 in the flue gases, has to be no more than 1,0%.			6.3	A.4.9	Yes
Efficiency ♦ The efficiency has to be more than or equal to 60%.			6.4	A.4.9	Yes
Interval for refueling at nominal heat output			6.5		
Type of appliance	**Type of fuel**	**Minimum intervals for refueling**			
Automatically controlled wet or dry cooker	Wood logs or peat briquettes	1 h		A.4.9	NA
	All other test fuels	3 h		A.4.9	NA
Manually controlled wet or dry cooker	Wood logs or peat briquettes	1 h		A.4.9	Yes
	All other test fuels	2 h		A.4.9	NA
Nominal heat outputs ♦ The mean value for the nominal heat output at least two separate valid tests shall be not less than the manufacturer's claimed value.			6.6	A.4.9	Yes

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Conditions and requirements for measuring performance, according item 6

1			2	3	4
Oven heating ♦ Even baking strips of shortbread.			6.7	A.4.11	Yes
Slow combustion and recovery ♦ Recovery of fire must be made within 30 minutes.			6.8		NA
Type of appliance	**Type of fuel**	**Minimum intervals for refueling**			
Continuous operating appliance	Wood logs or peat briquettes	10 h		A.4.12	NA
	All other test fuels	12 h		A.4.12	NA
Intermittent operating appliance	All other test fuels	No minimum requirement		A.4.12	NA
Boiling test ♦ Temperature of the water in the specified boiling utensil shall rise by 75 K (75 + t_r) within 15 minutes of the start of the test.			6.9	A.4.10	Yes
Appliances with alternative bottomgrate positions ♦ If the unit can run on winter / summer mode testing required is carried at lower and upper position of the bottomgrate.			6.10	A.4.9 A.4.10	NA

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Verification of compliance with the instructions of the appliance, according item 7

Requirement	Requirement in compliance with	Requirement is met
BDS EN 12815:2006 (BDS EN 12815:2006/A1:2006; BDS EN 12815:2001/AC:2020)		
Appliance instructions **General**	7 7.1	 Yes
♦ The instructions have to be written in the language of the respective country for which the appliance is meant;		Yes
♦ They have to accompany the appliance as they describe its mounting, operation, maintenance and if necessary its way of assembling;		Yes
♦ The instructions should not contradict the requirements or results from the tests in compliance with this standard.		
♦		
Installation instructions ♦ Check of requirements The installation instruction has to include at least all requirements under item 7.2. (if the requirements under item 7.2 are not met, see below *1).	7.2	Yes
Instruction for operation ♦ Check of requirements The instruction for operation has to include at least all requirements under item 7.3 (if the requirements under item 7.3 are not met, see below *2).	7.3	Yes
*1 The following requirements under item 7.2 have not been met: there are no such		
*2 The following requirements under item 7.3 have not been met: there are no such		

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Verification of conformity marking the appliance, according item 8

Requirement	Requirement in compliance with	Requirement is met
BDS EN 12815:2006 (BDS EN 12815:2006/A1:2006; BDS EN 12815:2001/AC:2020)		
Marking on the appliance ♦ The marking has to be durable, clear and placed on a visible spot; ♦ The plate has to be durable and indelible; ♦ There should be no damages, caused by the testing; ♦ The information on the plate of the appliance has to be complete – check of information. (If the requirements under item 8 are not met, see below *1).	8	At the moment of issuing the test report for CE label is presented a printed design. Yes
*1 The following data is missing: there is no such		

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TEST FUELS

Test fuel specifications according Table B.1 of:							
Characteristics / Standard	Wet	Carbon	Hydro-gen	Volatile matter	Ash	Net calorific value	Size, Length
	W, %	C, %	H, %	%	A, %	Hu, kJ/kg	mm
BDS EN 12815:2006 (BDS EN 12815:2006/A1:2006; BDS EN 12815:2001/ AC:2020)	16 ± 4	40 ± 5	5 ± 1	84 ± 4	< 1	Calculation from dry basis to as fired basis	Commercial size in accordance with manufacturer's instructions. A maximum of 5 % oversize and undersize only is permissible in the test fuel.
Analysis and calorific value for fuels used during the test							
Beech wood logs[1)]	12,50*	45,09**	5,02**	86,39**	0,71	14605***	variable
Fir timber[2)]	9,54	-	-	-	-	16610	50x50

1) According Test report № 32-L-PI-654 / 30.09.2019 issued by the „Laboratory for testing of solid biofuels and compost", Plovdiv - Certificate for Accreditation Reg. № 192 ЛИ / 07.01.2020 valid until 07.01.2024, issued by EA BAS, according to the requirements of standard BDS EN ISO/IEC 17025:2018.
2) According Test report № 5735 / 04.03.2014 issued by Independent laboratory analysis to "Eurotest Control" Ltd., Sofia - Certificate for Accreditation Reg. № 9 ЛИ / 29.05.2020 valid until 29.05.2024, issued by EA BAS, according to the requirements of standard BDS EN ISO/IEC 17025:2018.

* - Parameter is measured before each test
** - Values, calculated on a working fuel basis
*** - Calculation input data is adjusted according to moisture content measured prior to test

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List of technical means used during the test:

№	Name of technical equipment for testing and measuring	Identification number
1	Gas Analyzer "MGA" Type: "Prime"	063531
2	Thermometer Type: "Testo 925" by technical means Type: K for temperature measurement № 0602 0393 and № 0602 0645	34726599/304
3	Multipurpose device Type: "AT 4532" with electric thermocouples Type: T - 32 pcs. with reference numbers from 001 to 032 and L = 3 m	453201311060
4	Multipurpose device Type: "AT 4532X" with electric thermocouples (thermocouples) Type: T - 32 pcs. with conditional numbers from № 001 to № 032 and length L = 3 m and 32 pcs. with reference numbers from 001 to 032 and length L = 4 m	4532X1705113
5	Pressure gauge Type: "Testo 512"	AD111330/403
6	Combined measuring instrument "HD2303.0" with measuring probe, model "AP471S1"	DO 4-1211/ 12028167/12110594
7	Wood humidity meter "Testo 606-1"	38604963/712
8	Balance Electronic Type: "WTP 150/300"	445556
9	Weighing machine with non-automatic action-electronic Type: "GAB 30K0.2N"	WF1425618
10	Weighing machine with non-automatic action-electronic Type: "ABJ 220-4NM"	WB15AL0745
11	Electronic Stopwatch "Q&Q" Type: HS 43	159/07
12	Measuring steel roller blinds Type: Class II	P-01
13	Thermohygrometer Type: "Testo 608-H1"	34863016
14	Barometer type: „MP55"	1P150928532
15	Digital thermometer "TESTO 735-2" radio-probe submersible	60457627 34404154
16	A device for taking a sample for measurement of dust "Wöhler SM 96"	560

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Oven shelf test and the results from the measurement, according item A.4.13

Loading the oven shelf with a weight of 9 ± 0,1 kg	**Requirement in compliance with**	**The angle of inclination from the horizontal according item 4.18**	
		Requirement	**Results of the test**
Top position on the shelf	A.4.13	< 10°	6°
Lower position on the shelf			5°

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This annex is made at the request of the applicant and is informative only, as it is not related to the requirements of standard BDS EN 12815:2006 (BDS EN 12815:2006/A1:2006; BDS EN 12815:2001/AC:2020).

Measuring emissions

Applicant's name: "Kupro Email" Ltd., Shumen, Industrial Zone, Trakia - South, Bulgaria

Producer: "Kupro Email" Ltd., Shumen, Industrial Zone, Trakia - South, Bulgaria

Object of test: „Alegra" (a cooker with manually controlled regime for operation with closed door)

Nominal power: 6,04 kW

Specific ecodesign requirements for solid fuel local space heaters according Regulation (EU) 2015/1185

Emissions	Unit	Limits	Average data	O_2 emission	Fuel
The mean value of dust in the flue gas	mg/m^3	≤40	36	13% O_2	Beech wood logs
The mean value of CO	mg/m^3	≤1500	1466		
The mean value of OGC	mg/m^3	≤120	111		
The mean value of NOx	mg/m^3	≤200	101		
Seasonal energy efficiency	%	≥65	68,9		

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Determining energy efficiency classes of local space heaters, according to DELEGATED REGULATION (EU) 2015/1186

Name of appliance: „Alegra"			**Factory №** 74211
Fuel			Beech wood logs
Heat output	**nominal**	kW	6,0
	space	kW	-
	water	kW	-
Seasonal space heating energy efficiency	**at nominal heat output**	%	78,9
	at minimum heat output	%	-
Electric power	**at nominal heat output**	kW	-
	at minimum heat output	kW	-
	in standby mode	kW	-
The pilot flame consumption		kW	-
The energy efficiency index (*EEI*)		%	104
Energy efficiency class			**A**

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Summary results of the measurement and calculation of the performance of the appliance

Model:	**„Alegra"**		**Factory № 74211**	
		Unit	***Nominal heating output***	
			Respond to: BDS EN 12815:2006 (BDS EN 12815:2006/A1:2006; BDS EN 12815:2001/ AC:2020)	**Data**
Fuel		-	Beech wood logs	
Draught 12 ± 2		Pa	6.1	13,0
Fuel consumption		kg/h	A.4.2	1,887
Heating output		kW	A.4.9, A.6.2.2	6,04
The mean CO emission		ppm	-	843
The mean CO emission at 13%O_2		%	A.6.2.6	0,1173
		mg/m^3	-	1466
Efficiency		%	A.6.2.1	78,90
The mean CxHy emission		ppm	-	46,67
The mean OGC emission at 13%O_2		mg/m^3	item 4 of CEN/TS 15883:2009	111,3
The mean NOx emission		ppm	-	34,72
The mean NOx emission at 13%O_2		mg/m^3	item 5 of CEN/TS 15883:2009	100,6
The mean value of dust in the flue gas at 13%O_2		mg/m^3	item A1 of CEN/TS 15883:2009	35,9
The mean O_2 emission		%	A.4.4.2	15,3
The mean CO_2 emission		%	A.4.4.2	5,3
Flue gases temperature		°C	A.2.3.2	155
Mass of the flue gases		g/s	A.6.2.5	8,9
Minimum distances of the heating appliance to burning materials:				
At the side		mm	A.4.9, A.4.16	550
At the rear		mm		550
In front of		mm		700
At the floor - legs		mm		284
At the top		mm		950

As according to the presented documents (certificates) during the appliance manufacturing, materials are used which are not expected to release dangerous substances. The manufacturer must keep this information as a proof.

Safety requirements, relevant design requirements and additionally requested tests of the heating appliance are specified in Annexes A1 to A8.3.

The results obtained indicate that the appliance complies with the requirements specified in item 4, item 5, item 6, item 7 and item 8 of BDS EN 12815:2006 (BDS EN 12815:2006/A1:2006; BDS EN 12815:2001/AC:2020).

The results from the test refer only to the tested sample.

Head of Laboratory:.....
/ Dipl. Eng. M. Raev /