


TEST CERTIFICATE

REPORT NUMBER: B/TR/2021/011

	Name of the Stove	Burn Kunioko			
	Manufacturer	Burn Manufacturing Company Address: New Horizons Industrial Park Go Downs 8-11, Ruiru, Kenya			
	Type of Stove	Firewood stove with Pot skirt			
	Sample lab code	2021/B023			
	Test replicates	3			
	Sampling	N/A			
	Fuel type	Eucalyptus grandis			
	Sample receipt date	April, 2021			
	Fuel properties	Gross calorific value (dry fuel). KJ/Kg	18253.45		
		Wood moisture content (% - wet basis)	14.0		
Higher heating value of remaining char (dry). KJ/Kg		29500			
		Test date: May 2021			
Standard referred: WBT 4.2.3 Version		Fan power (W): N/A			
Test environment conditions:		Ambient temperature: 21°C-24°C			
		Humidity: 55%-65%			
		Wind speed: No wind			
Test equipment:		Weighing scale	LEMS	Gravimetric	
Model		Class 111	2029	CX 265	
Serial no/asset no.		CRC/BL/050	CRC/BL/001	CRC/BL/065	
Date of calibration		Dec 2020	Feb 2021	Dec 2020	
Test items		Units	Average	Standard Deviation	Tier rating
Thermal performance	Cooking power, P_c	kW	1.35	0.24	N/A
	Thermal efficiency with Char η_c	%	51.3	0.001	3
Emission factor	PM2.5, per Useful Energy	Mg/MJ	277.397	15.57	2
	CO per Useful Energy	g/MJ	4.338	0.0000	4
Test institution:	CREEC Regional Testing and Knowledge Centre , Located at: College of Engineering, Design, Art and Technology (CEDAT) Makerere University P. O. Box 7062, Kampala, Uganda. Tel: (+256) 41 4532008, E-mail: info@creec.or.ug Website: www.creec.or.ug				

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ISO/IEC 17025:2005 LABORATORY MANAGEMENT SYSTEM

**STOVE TEST REPORT
TEMPLATE**

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Annex 1. Table 1. Detailed Stove performance analyzed according to WBT 4.2.3

Standard Performance Measures						
Fuel to Cook 5L (850/1500)	g	550.4	544.1	547.245	4.4273	1%
CO to Cook 5L (20)	g	45.0	45.0	45.035		0%
PM to Cook 5L (1500)	mg	1953.1	1968.9	1960.974	11.1426	1%
Energy to Cook 5L (15,000/25,000)	kJ	9,320	9,214	9266.745	74.9696	1%
Time to Boil	min	24.7	24.7	24.729		0%
CO ₂ to Cook 5L	g	809.4	809.4	809.394		0%
Basic Operation						
COLD START						
Time to boil Pot # 1	min	21	21	21.117		0%
Burning rate	g/min	10.77	10.62	10.693	0.1080	1%
Thermal efficiency	--	51%	51%	0.510	0.0051	1%
Specific fuel consumption	g/liter	46.80	46.13	46.466	0.4693	1%
Temp-corrected specific consumption	g/liter	47.5	46.8	47.158	0.4763	1%
Firepower	watts	3,040	2,996	3017.950	30.4839	1%
Equivalent Dry Fuel Consumed	g	227.4	224.2	225.810	2.2809	1%
HOT START						
Time to boil Pot # 1	min	28	28	27.617		0%
Burning rate	g/min	8.60	8.66	8.632	0.0463	1%
Thermal efficiency	--	52%	52%	0.517	0.0028	1%
Specific fuel consumption	g/liter	49.88	50.26	50.072	0.2683	1%
Temp-corrected specific consumption	g/liter	50.6	51.0	50.817	0.2723	1%
Firepower	watts	2,427	2,445	2436.199	13.0559	1%
Equivalent Dry Fuel Consumed	g	237.5	239.3	238.391	1.2776	1%
SIMMER						
Burning rate	g/min	5.37	5.27	5.321	0.0689	1%
Thermal efficiency	--	41%	42%	0.416	0.0054	1%
Specific fuel consumption 45 min	g/liter	61.0	59.9	60.462	0.7835	1%
Firepower	watts	1,515	1,488	1501.607	19.4578	1%
Turn down ratio	--	1.80	1.83	1.816	0.0177	1%
Equivalent Dry Fuel Consumed	g	241.6	237.2	239.428	3.1025	1%

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