



CENTRE FOR RESEARCH IN ENERGY AND ENERGY CONSERVATION

ICSEA WBT Protocol - Initial Rating for Africa Energy Saving Stove (AES Medium Size)

Date of Test: 25/11/2015 - 04/12/2015

AES STOVE 1

WBT	Thermal Efficiency - Test 1		
	Cold-start	Hot-start	Simmering
Thermal Efficiencies	27%	27%	46%
Thermal Efficiency - Power Averages	High Power 26.9% Low Power 46.4%		
Stove Thermal Efficiency	36.6%		

AES STOVE 2

WBT	Thermal Efficiency - Test 1			Thermal Efficiency - Test 2			Thermal Efficiency - Test 3		
	Cold-start	Hot-start	Simmering	Cold-start	Hot-start	Simmering	Cold-start	Hot-start	Simmering
Thermal Efficiencies	27%	27%	45%	26%	31%	46%	26%	33%	45%
Thermal Efficiency - Power Averages	High Power 27.1% Low Power 44.6%			High Power 28.6% Low Power 45.9%			High Power 29.7% Low Power 45.4%		
Stove Thermal Efficiency	35.9%			37.2%			45.9%		
Average three tests	36.9%								

AES STOVE 3

WBT	Thermal Efficiency - Test 1		
	Cold-start	Hot-start	Simmering
Thermal Efficiencies	27%	33%	45%
Thermal Efficiency - Power Averages	High Power 30.2% Low Power 45.4%		
Stove Thermal Efficiency	37.8%		

AES STOVE 4

WBT	Thermal Efficiency - Test 1		
	Cold-start	Hot-start	Simmering
Thermal Efficiencies	27%	33%	43%
Thermal Efficiency - Power Averages	High Power 29.7%		Low Power 42.9%
Stove Thermal Efficiency	36.3%		

Safety Test Result:

AES Medium: Stove secured 85 points
Stove rating: Good
Stove safety IWA Tier: 2

Remarks:

The AES medium stove was rated was rated 36.9 % for thermal efficiency (based on an average of three tests). On safety rating, it was rated good and placed into tier 2 indicating a substantial improvement over the baseline stove. A 6 Liter Pot of 288g with 26cm diameter and 12 cm was used. Charcoal ranging between 4-7cm with a gross Calorific value of 31917.66KJ/Kg and moisture content of 5.9% was used. The charcoal used was purchased from the same company in bulk.

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