



Food Service Technology Center Appliance Test Summary Report

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Manufacturer	Southbend
Model	GS-15
Appliance	Full-size convection oven - Gas

Report Number	5012.08.08
Test Date	October, 2006
Tested By	G. Sorensen

Purpose of Testing

This testing determined the energy input rate, preheat time and energy, idle energy rate and heavy-load cooking-energy efficiency of the oven by applying ASTM F1496-99.

Energy Input Rate

Rated Energy Input Rate (Btu/h)	90,000
Measured Energy Input Rate (Btu/h)	89,225
Difference (%)	0.9
Electric Energy Rate (kW)	0.50

Preheat to 350°F

Duration (min.)	6.1
Energy Consumption (Btu)	8,680
Preheat Rate (°F/min.)	44.1
Electric Energy Rate (kW)	0.50

Idle at 350°F

Idle Energy Rate (Btu/h)	13,990
Electric Energy Rate (kW)	0.50

Heavy-Load Energy Efficiency*

Food Product	Russet Potatoes
Oven Temperature (°F)	350
Cook Time (min.)	49.0
Cooking Energy Rate (Btu/h)	46,700
Electric Energy Rate (kW)	0.50
Energy to Food (Btu/lb)	250
Energy to Oven (Btu/lb)	542
Cooking Energy Efficiency (%)	46.2 ± 1.6
Production Capacity (lb/h)	89.4 ± 7.5

* based on a minimum of three test replicates



Southbend

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Heavy-Load Potato Test Data

	Test #1	Test #2	Test #3
Measured Values			
Gas Energy to Oven (Btu)	37,928	38,872	37,642
Electric Energy to Oven (Btu)	1,399	1,406	1,410
Cook Time (min)	49.5	50.3	47.3
Initial Weight of Potatoes (lb)	73.120	72.765	73.055
Final Weight of Potatoes (lb)	62.780	62.215	62.675
Initial Temperature of Potatoes (°F)	71.7	72.9	71.8
Final Temperature of Potatoes (°F)	205.0	205.0	205.0
Calculated Values			
Sensible (Btu)	8,187	8,074	8,174
Latent (Btu)	10,030	10,234	10,069
Total Energy to Food (Btu)	18,217	18,308	18,243
Energy to Food (Btu/lb)	249	252	250
Total Energy to Oven (Btu)	39,327	40,278	39,052
Energy per Pound of Food Cooked (Btu/lb)	538	554	535
Cooking-Energy Efficiency (%)	46.3	45.5	46.7
Cooking-Energy Rate (Btu/h)	45,973	46,368	47,749
Electric Energy Rate (kW)	0.50	0.49	0.52
Production Capacity (lb/h)	88.6	86.8	92.7

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