



Food Service Technology Center Appliance Test Summary Report

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Manufacturer	Lang
Model	OCGFS_1
Appliance	Full-size convection oven - Gas

Report Number	5012.08.06
Test Date	January, 2007
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)	60,000
Measured Energy Input Rate (Btu/h)	62,600
Difference (%)	4.3
Electric Energy Rate (kW)	0.48

Preheat to 350°F

Duration (min.)	11.8
Energy Consumption (Btu)	11,850
Preheat Rate (°F/min.)	22.9
Electric Energy Rate (kW)	0.48

Idle at 350°F

Idle Energy Rate (Btu/h)	9,440
Electric Energy Rate (kW)	0.22

Heavy-Load Energy Efficiency*

Food Product	Russet Potatoes
Oven Temperature (°F)	350
Cook Time (min.)	57.3
Cooking Energy Rate (Btu/h)	41,980
Electric Energy Rate (kW)	0.43
Energy to Food (Btu/lb)	240
Energy to Oven (Btu/lb)	570
Cooking Energy Efficiency (%)	42.1 ± 1.2
Production Capacity (lb/h)	76.3 ± 2.4

* based on a minimum of three test replicates



Lang Manufacturing

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Heavy-Load Potato Test Data

	Test #1	Test #2	Test #3
Measured Values			
Gas Energy to Oven (Btu)	38,453	40,328	41,435
Electric Energy to Oven (Btu)	1,375	1,427	1,403
Cook Time (min)	56.4	58.0	57.4
Initial Weight of Potatoes (lb)	72.380	72.665	73.385
Final Weight of Potatoes (lb)	63.130	63.070	63.330
Initial Temperature of Potatoes (°F)	73.6	72.8	70.8
Final Temperature of Potatoes (°F)	205.0	205.0	205.0
Calculated Values			
Sensible (Btu)	7,989	8,069	8,273
Latent (Btu)	8,973	9,307	9,753
Total Energy to Food (Btu)	16,962	17,376	18,026
Energy to Food (Btu/lb)	234	239	246
Total Energy to Oven (Btu)	39,828	41,754	42,838
Energy per Pound of Food Cooked (Btu/lb)	550	575	584
Cooking-Energy Efficiency (%)	42.6	41.6	42.1
Cooking-Energy Rate (Btu/h)	40,907	41,718	43,312
Electric Energy Rate (kW)	0.43	0.43	0.43
Production Capacity (lb/h)	77.0	75.2	76.7

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