



Food Service Technology Center Appliance Test Summary Report

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Manufacturer	Alto Shaam
Model	ASC-4G
Appliance	Full-size convection oven - Gas

Report Number	5012.08.01
Test Date	March, 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)	50,000
Measured Energy Input Rate (Btu/h)	51,800
Difference (%)	3.6
Electric Energy Rate (kW)	0.87

Preheat to 350°F

Duration (min.)	10.0
Energy Consumption (Btu)	8,633
Preheat Rate (°F/min.)	27.1
Electric Energy Rate (kW)	0.87

Idle at 350°F

Idle Energy Rate (Btu/h)	21,013
Electric Energy Rate (kW)	0.80

Heavy-Load Energy Efficiency*

Food Product	Russet Potatoes
Oven Temperature (°F)	350
Cook Time (min.)	53.5
Cooking Energy Rate (Btu/h)	46,900
Electric Energy Rate (kW)	0.79
Energy to Food (Btu/lb)	252
Energy to Oven (Btu/lb)	600
Cooking Energy Efficiency (%)	42.0 ± 4.8
Production Capacity (lb/h)	82.7 ± 1.3

* based on a minimum of three test replicates



Alto-Shaam, Inc.

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Heavy-Load Potato Test Data

	Test #1	Test #2	Test #3
Measured Values			
Gas Energy to Oven (Btu)	50,965	51,483	51,768
Electric Energy to Oven (Btu)	1,823	1,747	1,788
Cook Time (min)	46.3	44.4	45.5
Initial Weight of Potatoes (lb)	73.677	73.371	73.213
Final Weight of Potatoes (lb)	64.0155	64.362	63.697
Initial Temperature of Potatoes (°F)	76	71.9	77.8
Final Temperature of Potatoes (°F)	205.0	205.0	205.1
Calculated Values			
Sensible (Btu)	7,984	8,203	7,829
Latent (Btu)	9,372	8,739	9,231
Total Energy to Food (Btu)	17,355	16,942	17,059
Energy to Food (Btu/lb)	236	231	233
Total Energy to Oven (Btu)	41,176	39,845	41,046
Energy per Pound of Food Cooked (Btu/lb)	559	543	561
Cooking-Energy Efficiency (%)	42.1	42.5	41.6
Cooking-Energy Rate (Btu/h)	50,965	51,483	51,768
Electric Energy Rate (kW)	0.69	0.69	0.69
Production Capacity (lb/h)	95.4	99.2	96.5

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