



Food Service Technology Center Appliance Test Summary Report

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Manufacturer	Gemini
Model	V42LN
Appliance	Double rack oven - Gas

Report Number	5012.09.32
Publish Date	October, 2009
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 F2093-06.

Energy Input Rate

Rated Energy Input Rate (Btu/h)	340,000
Measured Energy Input Rate (Btu/h)	331,250
Difference (%)	2.6

Preheat to 400°F

Duration (min.)	16.2
Energy Consumption (Btu)	84,134
Preheat Rate (°F/min.)	19.6
Fan/Control Energy Rate (kW)	1.6

Idle at 400°F

Idle Energy Rate (Btu/h)	28,292
Electric Energy Rate (kW)	1.20

Heavy-Load Energy Efficiency*

Food Product	Apple Pie
Oven Temperature (°F)	400
Cook Time (min.)	56.0
Baking Energy Rate (Btu/h)	131,194
Fan/Control Energy Rate (kW)	1.3
Energy to Food (Btu/lb)	236
Energy to Oven (Btu/lb)	484
Baking Energy Efficiency (%)	52.0 ± 2.0
Production Capacity (lb/h)	280.3 ± 2.5

* based on a minimum of three test replicates



Gemini Bakery Equipment Company

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Heavy-Load Pie Test Data

	Test #1	Test #2	Test #3
Measured Values			
Bake Time	56.0	56.0	56.0
Oven Energy Consumption (Btu)	123,611	123,000	120,734
Fan /Control Energy Consumption (Wh)	1,184	1,201	1,172
Initial Temperature of Frozen Pies (°F)	-2.3	-2.3	1.1
Final Temperature of Baked Pies (°F)	185.5	186.4	184.9
Weight of Sheet Pans (lb)	108.51	108.72	107.73
Initial Weight of Raw Frozen Pies (lb)	262.1	262.2	260.5
Final Weight of Baked Pies (lb)	250.7	252.3	248.5
Initial Moisture Content of the Apple Pies (%)	53.9	53.9	53.9
Calculated Values			
Initial Weight of Water (lb)	140.8	140.9	140.0
Weight Loss During Baking (lb)	11.4	9.9	12.0
Sensible Heat (Btu)	31,011	31,166	30,168
Latent - Heat of Fusion (Btu)	20,282	20,286	20,160
Latent - Heat of Vaporization (Btu)	11,039	9,545	11,640
Total Energy to Food (Btu)	62,332	60,997	61,968
Energy to Food (Btu/lb)	238	233	238
Energy to Pans (Btu)	4,076	4,103	3,960
Total Energy to Oven (Btu)	127,652	127,099	124,734
Energy per Pound of Food Cooked (Btu/lb)	487	485	479
Baking-Energy Rate (Btu/h)	132,440	131,785	129,357
Fan/Control Energy Rate (kW)	1.27	1.29	1.26
Baking-Energy Efficiency (%)	52.0	51.2	52.9
Production Capacity (lb/h)	280.8	280.9	279.1

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