



# Food Service Technology Center Appliance Test Summary Report

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<b>Manufacturer</b>	Vulcan
<b>Model</b>	VC4ED
<b>Appliance</b>	Full-size convection oven - Electric

<b>Report Number</b>	50130913
<b>Report Date</b>	December, 2010
<b>Tested By</b>	A.Spitz

## 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.

## Cavity Volume

Internal Oven-Cavity Volume (Ft <sup>3</sup> )	7.97
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## Energy Input Rate

Test Voltage (V)	207.7
Rated Energy Input Rate (kW)	12.5
Measured Energy Input Rate (kW)	12.6
Difference (%)	0.01

## Preheat to 340°F

Duration (min)	8.92
Energy Consumption (kWh)	1.5
Preheat Rate (°F/min)	30.1

## Idle at 350°F

Idle Energy Rate (kW)	1.89
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## Heavy-Load Cooking Energy Efficiency <sup>a</sup>

Food Product	Russet Potatoes
Oven Temperature Set-point (°F)	350
Cook Time (min)	46.94
Cooking Energy Rate (kW)	8.95
Energy to Food (Btu/lb)	229
Energy to Appliance (Btu/lb)	328
Cooking-Energy Efficiency (%)	69.8 ± 3.2
Production Capacity (lb/hr)	93.2 ± 4.2

<sup>a</sup> based on a minimum of three test replicates.



## Vulcan Hart Corporation

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## Heavy-Load Potato Test Data

	Test #1	Test #2	Test #3	Test #4
<b>Measured Values</b>				
<b>Test Voltage (V)</b>	<b>208</b>	<b>208</b>	<b>208</b>	<b>208</b>
<b>Cook Time (min)</b>	<b>45.42</b>	<b>47.10</b>	<b>48.30</b>	<b>45.42</b>
<b>Electric Energy to Oven (kWh)</b>	<b>6.87</b>	<b>7.05</b>	<b>7.08</b>	<b>6.75</b>
Initial Weight of Potatoes (lb)	72.790	72.390	73.370	76.650
Final Weight of Potatoes (lb)	64.767	62.900	64.610	64.580
Initial Temperature of Potatoes (°F)	72.2	72.0	70.1	74.0
Final Temperature of Potatoes (°F)	205	205	205	205
<b>Calculated Values</b>				
Sensible Heat (Btu)	8,120	8,087	8,314	8,104
Latent - Heat of Vaporization (Btu)	7,782	9,205	8,497	8,798
Total Energy to Food (Btu)	15,902	17,293	16,811	16,902
<b>Energy to Food (Btu/lb)</b>	<b>218</b>	<b>239</b>	<b>229</b>	<b>229</b>
Total Energy to Oven (Btu)	23,447	24,062	24,164	23,038
<b>Energy per Pound of Food Cooked (Btu/lb)</b>	<b>322</b>	<b>332</b>	<b>329</b>	<b>313</b>
<b>Cooking-Energy Efficiency (%)</b>	<b>67.8</b>	<b>71.9</b>	<b>69.6</b>	<b>73.4</b>
<b>Cooking-Energy Rate (kW)</b>	<b>9.08</b>	<b>8.98</b>	<b>8.80</b>	<b>8.92</b>
<b>Production Capacity (lb/h)</b>	<b>96.2</b>	<b>92.2</b>	<b>91.1</b>	<b>97.3</b>

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