



ENERGY STAR® Program Requirements Product Specification for Commercial Ovens

Eligibility Criteria Version 3.0 Draft 1

Following is the **Version 3.0 Draft 1** product specification for ENERGY STAR certified commercial ovens. A product shall meet all of the identified criteria if it is to earn the ENERGY STAR.

1) **Definitions:** Below are the definitions of the relevant terms in this document.

- A. Oven: A chamber designed for heating, roasting, or baking food by conduction, convection, radiation, and/or electromagnetic energy.¹

Oven Types

- B. Combination Oven: A device that combines the function of hot air convection (oven mode), steam heating (steam mode), and a combination of both (combination mode), which includes high and low temperature steaming, baking, roasting, rethermalizing, and proofing of various food products. In general, the term combination oven is used to describe this type of equipment, which is self-contained.² The combination oven is also referred to as a combination oven/steamer, combi, or combo.
- a. Half-Size Combination Oven: A combination oven capable of accommodating a single 12.7 x 20.8 x 2.5-inch steam table pan per rack position, loaded from front-to-back or lengthwise.
- b. Full-Size Combination Oven: A combination oven capable of accommodating two 12.7 x 20.8 x 2.5-inch steam table pans per rack position, loaded from front-to-back or lengthwise.
- c. 2/3-Size Combination Oven: A combination oven capable of accommodating a single 13.8 x 12.7 x 2.5-inch steam table pan per rack position, loaded from front-to-back or lengthwise. The 2/3-Size Combination oven may also be referred to as a mini-size combination oven.

Note: EPA updated the *Combination Oven* definition in Section 1.B. to align with ASTM F2861-20, *Standard Test Method for Enhanced Performance of Combination Oven in Various Modes*. The Agency also updated the minimum perforated steam pan dimensions in Section 1.B.a-c. to align with the revised ASTM Specification F1495-20, *Classification Capacity Groups*. The minimum perforated steam pan dimensions represent standard pan sizes used to hold food product in a combination oven. For the convection mode cooking energy efficiency test, shallower perforated steam pans are used; however, EPA understands that should not impact the total number of pans the combination oven can accommodate.

Additionally, EPA added clarification to the *2/3-Size Combination Oven* definition noting the term 2/3-size combination oven may also be referred to as a mini-size combination oven.

Stakeholders are encouraged to provide feedback on whether the *2/3-Size Combination Oven* term and definition are synonymous with mini-size combination ovens or if the terms and pan size accommodations are considered separate in the industry.

Pan dimension notation was changed to align with ASTM's notation (i.e., ½ to .5).

¹ NSF/ANSI 170-2019, *Glossary of Food Equipment Terminology*.

² ASTM Standard F2861-20 *Standard Test Method for Enhanced Performance of Combination Oven in Various Modes*.

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- C. Convection Oven: A general-purpose oven that cooks food by forcing hot dry air over the food product's surface. The rapidly moving hot air strips away the cooler air layer next to the food and enables the food to absorb the heat energy. For this specification, convection ovens do not include ovens that can heat the cooking cavity with saturated or superheated steam. However, this oven type may have moisture injection capabilities (e.g., baking ovens and moisture-assist ovens). Ovens that include a *hold feature* are eligible under this specification as long as convection is the only method used to cook the food fully.
 - a. Half-Size Convection Oven: A convection oven capable of accommodating half-size sheet pans measuring 18 x 13 x 1-inch.
 - b. Full-Size Convection Oven: A convection oven capable of accommodating standard full-size sheet pans measuring 18 x 26 x 1-inch.
 - D. Conventional or Standard Oven: An oven that cooks food primarily using the naturally occurring hot air currents to transfer heat over the food product's surface without the use of a fan or blower. The burner or elements heat the air within the oven cavity and the cavity walls, causing currents of hot air that transfer heat to the surface of the food. The hot air's buoyancy carries it upward through cooler air, which then slowly sinks to the bottom of the oven as it cools off.
 - E. Conveyor Oven: An oven designed to carry food product on a moving belt into and through a heated chamber.
 - F. Slow Cook-and-Hold Oven: An oven designed specifically for low-temperature (e.g., less than 300°F) cooking, followed by a holding period at a specified temperature.
 - G. Deck Oven: An oven that cooks food product directly on the floor of a heated chamber. The bottom of each compartment is called a deck and heat is typically supplied by burners or elements located beneath the deck. The oven ceiling, floor, and walls are designed to absorb heat quickly and radiate that heat back slowly and evenly.
 - H. Hearth Oven: An oven designed with an open doorway and dome-shaped interior, usually composed of high-temperature refractory ceramic or concrete. Hearth ovens do not include ovens designed to use interior walls as cooking surfaces.

NOTE — Hearth ovens are designed with an unrestricted open doorway due in part to potentially high operational temperatures. A closed grease-laden oven compartment may present a fire hazard when oven surface temperatures exceed 600 °F (316 °C), and an oven door is opened.³
 - I. Microwave Oven: An oven in which foods are heated and/or cooked when they absorb microwave energy (short electromagnetic waves) generated by a magnetron(s).⁴
 - J. Rack Oven: A high-capacity oven that offers the ability to produce steam internally and is fitted with a motor-driven mechanism for rotating multiple pans inserted into one or more removable or fixed pan racks within the oven cavity.
 - a. Mini Rack Oven: A stand-mounted rack oven designed with a load-in-place rack that cannot be removed. Mini rack ovens can accommodate up to 10 standard full-size sheet pans measuring 18 x 26 x 1-inch.
 - b. Single Rack Oven: A floor-model rack oven that can accommodate one removable single rack of standard sheet pans measuring 18 x 26 x 1-inch.
 - c. Double Rack Oven: A floor-model rack oven that can accommodate two removable single racks of standard sheet pans measuring 18 x 26 x 1-inch or one removable double-width

³ NSF/ANSI 170-2019, *Glossary of Food Equipment Terminology*.

⁴ NSF/ANSI 170-2019, *Glossary of Food Equipment Terminology*.

109 rack.

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- 111 d. Quadruple Rack Oven: A floor-model rack oven that can accommodate four removable
- 112 single racks of standard sheet pans measuring 18 x 26 x 1-inch or two removable double-
- 113 width racks.
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- 115 K. Range Oven: An oven base for a commercial range top (i.e., burners, electric elements or hobs).
- 116 Range ovens may use either standard or convection technologies to cook food.
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- 118 L. Rapid Cook Oven: An oven that utilizes one or more non-traditional heat transfer technologies to
- 119 cook food product significantly faster than would be possible using conventional (e.g., convection,
- 120 conduction, radiant) heat transfer technologies. Heat transfer technologies that may be employed
- 121 include microwave, quartz halogen, and high-velocity or impingement convection.
- 122
- 123 M. Rotisserie Oven: An oven fitted with a mechanism to move or turn food past a fixed heat source
- 124 while the food is slowly being cooked on all sides.
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- 126 N. Reel-type Oven (revolving tray oven): An oven with a motor-driven Ferris wheel device.⁵
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128 **Note:** EPA is proposing additional commercial oven type terms and definitions to further categorize

129 commercial ovens, including: *Hearth Oven* in Section 1.H., *Microwave Oven* in Section 1.I., and *Reel-type*

130 *Oven* in Section 1.N. These proposed terms and definitions are adopted from *NSF/ANSI 170-2019,*

131 *Glossary of Food Equipment Terminology*. These additional oven types remain excluded from scope in this

132 specification and are for clarification purposes only.

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134 EPA is interested in stakeholder feedback regarding the proposed terms and definitions of *Hearth Oven,*

135 *Microwave Oven,* and *Reel-type Oven* and if additional commercial oven types should be identified for

136 further clarification of eligibility.

137 **Preheat Values**

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- 140 O. Preheat Energy: The amount of energy consumed by the convection, combination, or rack oven
- 141 while preheating its cavity from ambient temperature to the specified thermostat set point. It is
- 142 expressed in Btu or kWh.
- 143
- 144 P. Preheat Time: The time required for the oven cavity to preheat from ambient temperature to the
- 145 specified thermostat set point. It is expressed in minutes (min).
- 146

147 **Note:** The energy and time during the preheat sequence(s) are captured based on the referenced ASTM

148 test methods in Table 4 below. EPA has included *Preheat Energy* and *Preheat Time* terms and definitions

149 in Section 1.O-P. EPA is interested in stakeholder feedback on the proposed terms and definitions for

150 *Preheat Energy* and *Preheat Time*.

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152 Additionally, the Agency requests feedback on the proposal of including preheat energy consumption and

153 time as a reporting requirement. Additional information on the preheat reporting requirements for

154 commercial ovens can be found in Section 4.G.e., below.

155 **Energy Efficiency Metrics**

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- 158 Q. Baking-Energy Efficiency: Quantity of energy imparted to the specified load, expressed as a
- 159 percentage of energy consumed by the oven during the baking event.
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- 161 R. Cooking-Energy Efficiency: Quantity of energy imparted to the specified load, expressed as a
- 162 percentage of energy consumed by the oven during the cooking event.
- 163
- 164 S. Idle Energy Rate: The rate of oven energy consumption while it is maintaining or holding at a
- 165 stabilized operating condition or temperature. Also called standby energy rate.

⁵ NSF/ANSI 170-2019, Glossary of Food Equipment Terminology.
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167 T. Total Idle Energy Rate: The rate of oven energy consumption while it is maintaining or holding at
168 a stabilized operating condition or temperature. Total idle energy rate includes gas and electric
169 energy (primary and auxiliary). Also called total standby energy rate.
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171 **Water Consumption**

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173 U. Average Water Rates: The ratio of the average potable water used to the maximum number of
174 steam table pans the oven can accept during heavy-load cooking in steam and convection
175 modes, expressed as gallons per hour (GPH) per pan.
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177 V. Average Condensate Temperature: The condensed steam and cooling water mixture's
178 average temperature exiting the combination oven and directed to the drain during heavy-load
179 cooking in steam and convection modes.
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181 W. Maximum Condensate Temperature: The maximum temperature of the condensed steam and
182 cooling water mixture exiting the combination oven and directed to the drain during heavy-load
183 cooking in steam and convection modes.
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185 **Qualification Terms**

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187 X. Product Family: Individual models offered within a product line based on the same engineering
188 design, including pan capacity, fuel type, and method of steam generation, as applicable.
189 Acceptable differences within a product family for certification purposes include controls, door-
190 opening orientation, and any aesthetic additions that have no impact on oven energy
191 consumption in any operating mode.
192

193 Y. Pan Capacity: The number of steam table pans the combination oven can accommodate as per
194 the ASTM F1495-20 standard specification.
195

196 Z. Single Rack: Single racks shall accommodate 15 full-size sheet pans measuring 18 x 26 x 1-inch,
197 at a 4-inch spacing between rack positions. Single racks accommodate 1 full-size sheet pan per
198 rack position.
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200 AA. Double-Width Rack: Double racks shall accommodate 30 full-size sheet pans measuring 18 x 26
201 x 1-inch, at a 4-inch spacing between rack positions. Double racks accommodate 2 full-size
202 sheet pan per rack position.
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204 BB. Set-Back Idle Mode: A feature that includes automatic temperature reduction after extended
205 periods of non-use. In addition, the feature may also incorporate the reduction or elimination of
206 fan speed, lighting, and automatic rack rotation during periods of non-use.
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208 **Note:** The reference date for ASTM Standard F1495 in Section 1.Y. has been updated to reflect the most
209 recent 2020 revision.

210 **2) Scope:**

211
212 A. Included Products: Products that meet the definitions of a Commercial Oven and Convection
213 Oven, Combination Oven, or Rack Oven as specified herein are eligible for ENERGY STAR
214 certification, except products listed in Section 2.B. The following sub-types are eligible:
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217 a. Full-size gas and half- and full-size electric convection ovens.

218 b. Half- and full-size gas combination ovens with a pan capacity ≥ 5 and ≤ 40 .

219 c. Half- and full-size electric combination ovens with a pan capacity ≥ 3 and ≤ 40 .

220 d. 2/3-size electric combination ovens with a pan capacity ≥ 3 and ≤ 5 .
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225 e. Single and double gas rack ovens.

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227 To ensure only commercial ovens qualify under this specification, products shall be third-party
228 certified to NSF/ANSI Standard 4, *Commercial Cooking, Rethermalization, and Powered Hot Food*
229 *Holding and Transport Equipment*.

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231 B. Excluded Products: This specification is intended for commercial food-grade ovens. Ovens
232 designed for residential or laboratory applications cannot qualify for ENERGY STAR under this
233 specification. The following oven types and sub-types are ineligible for ENERGY STAR:

234
235 a. Half-size gas convection ovens.

236
237 b. Dual-fuel heat source combination ovens.

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239 c. Hybrid ovens not listed in Section 2.A, above, such as those incorporating microwave
240 settings in addition to convection.

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242 d. Conventional or standard ovens; conveyor; slow cook-and-hold; deck; hearth; microwave;
243 range; rapid cook; reel-type; and rotisserie.

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245 e. Half- and full-size gas combination ovens with a pan capacity of < 5 or > 40.

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247 f. Half- and full-size electric combination ovens with a pan capacity < 3 or > 40.

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249 g. Mini and quadruple gas rack ovens.

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251 h. Electric rack ovens.

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253 i. 2/3-size with a pan capacity >5.

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255 **Note:** During the Version 2.0 specification revision process, stakeholders indicated that certain pan size
256 combination ovens should not be included in scope for various reasons, primarily due to the limited market
257 interest in the U.S. However, since the Version 2.0 specification's effective date, EPA has received
258 significant stakeholder requests to consider expanding the scope of the ENERGY STAR specification for
259 combination ovens with a greater pan capacity range. EPA conducted a market assessment of different
260 size combination ovens and determined that based on the increase in market popularity and the energy
261 savings potential, there is an opportunity for scope expansion in this Version 3.0 specification. Following
262 are the proposed scope expansions for this Version 3.0 Draft 1 specification:

263
264 Combination Ovens (Gas)

265 a. Half- and full-size with a pan capacity of ≥ 5 and ≤ 40

266
267 Combination Ovens (Electric)

268 a. Half- and full-size with a pan capacity of ≥ 3 and ≤ 40

269 b. 2/3-size with a pan capacity ≥ 3 and ≤ 5

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271 As EPA continues developing this Version 3.0 specification, stakeholders are invited to submit additional
272 energy performance data to further inform the proposed levels in Tables 1 and 2 below. The Agency also
273 encourages stakeholders to provide feedback on the proposed scope expansion.

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275 **3) Certification Criteria:**

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277 A. Convection Oven Cooking-Energy Efficiency and Idle Energy Rate Requirements:

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Table 1: Energy Efficiency Requirements for Convection Ovens		
Gas		
Oven Capacity	Idle Rate, Btu/h	Cooking-Energy Efficiency, %
Full-Size	$\leq 9,500$	≥ 50
Electric		

Oven Capacity	Idle Rate, kW	Cooking-Energy Efficiency, %
Half-Size	≤ 1.00	≥ 71
Full-Size	≤ 1.20	≥ 75

B. Combination Oven Cooking-Energy Efficiency and Idle Energy Rate Requirements:

Table 2: Energy Efficiency Requirements for Combination Ovens		
Gas: 5-40 Pan Capacity		
Operation	Idle Rate, Btu/h	Cooking-Energy Efficiency, %
Steam Mode	≤ 200P+6,511	≥ 44
Convection Mode	≤ 135P+4,000	≥ 57
Electric: 5-40 Pan Capacity		
Operation	Idle Rate, kW	Cooking-Energy Efficiency, %
Steam Mode	≤ 0.133P+0.6400	≥ 59
Convection Mode	≤ 0.0835P+0.36	≥ 78
Electric: 3-4 Pan Capacity and 2/3-size with 3-5 Pan Capacity		
Operation	Idle Rate, kW	Cooking-Energy Efficiency, %
Steam Mode	≤ 0.60P	≥ 51
Convection Mode	≤ 0.05P+0.55	≥ 70

Note: P = Pan capacity as defined in Section 1.Y, above.

C. Rack Oven Baking-Energy Efficiency and Idle Energy Rate Requirements:

Table 3: Energy Efficiency Requirements for Rack Ovens		
Gas		
Oven Size	Total Energy Idle Rate, Btu/h	Baking-Energy Efficiency, %
Single	≤ 25,000	≥ 48
Double	≤ 30,000	≥ 52

Note: The ENERGY STAR commercial ovens product types represent approximately 51% of the market based on the [ENERGY STAR Unit Shipment and Market Penetration Report Calendar Year 2019 Summary](#), which suggests revisions are appropriate for select classifications within the product types to recognize the most efficient models in the market.

EPA proposes changing criteria levels for some product sub-categories such as combination ovens and full-sized convection ovens while maintaining Version 2.2 levels for half-sized electric convection ovens and gas rack ovens. Changing or maintaining criteria levels was based, in part, on the sub-category's market penetration rates. Additionally, national savings across sub-categories were considered when determining whether to establish criteria levels. For example, proposed criteria levels changed from Version 2.2 for sub-categories with elevated market penetration rates, and high potential savings, while others with market penetrations rates <25% and low potential savings are not proposed for revision. All proposed idle and cooking-energy efficiency levels are in Tables 1 and 2 above are based on data assembled from the ENERGY STAR Qualified Products List (QPL), incentive program QPLs, manufacturers, and other industry sources.

During various meetings and correspondence with stakeholders in advance of this Draft 1 specification, some stakeholders raised concerns about possible adverse quality performance with combination ovens during steam mode cooking operations if the cooking-energy efficiency criteria levels were further enhanced. The available performance data suggests product availability that offers effective steam mode operation with elevated cooking-energy efficiency. As such, the Agency has proposed moderate changes to the combination oven steam mode cooking-energy efficiency levels. Additionally, where possible, convection mode idle rates were adjusted to realize the most energy savings, considering combination ovens often spend significant portions of operating hours in idle mode.

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Note cont.

Levels for electric combination ovens 5-40 pan capacity; 3-4 pan capacity and 2/3-size; and gas combination ovens 5-40 pan capacity recognize the most energy-efficient 30%, 31%, and 24% of models available in the market, respectively. EPA has proposed slightly more inclusive levels for the noted electric combination ovens to ensure an ample selection of ENERGY STAR certified pan sizes from multiple manufacturers.

The new scope expansion of smaller electric combination ovens 3-4 pan capacity were binned with 2/3-size electric combination ovens based on similar performance, size, and production capacities. This binning allowed greater consumer choice in pan size and manufacturer brands rather than aggregating these models with the 5-40 pan capacity models.

Levels for full-sized electric convection and gas convection recognize 26% and 23% of the most energy efficient models available in the market, respectively. Levels for half-sized electric convection ovens and single and double gas rack ovens remain unchanged from Version 2.2. These criteria levels remained constant after considering individual market penetration and relatively low overall national savings potential for these products compared to other commercial oven categories.

Stakeholders are encouraged to provide feedback on these new and revised proposed levels. EPA is also interested in reviewing any additional energy performance data to ensure that the dataset represents currently available products in the marketplace.

D. Additional Idle Calculation Guidance: Compliance with the convection oven and combination oven idle rate requirements shall be based on gas energy only for purposes of qualifying gas models. When calculating the gas oven idle rates, electric energy consumed by auxiliary components shall not be considered. However, the electric energy consumption measured during idle tests shall be reported separately, as per Section 4.G.c.

E. Additional Total Idle Calculation Guidance: Compliance with the rack oven total idle rate requirements shall be based on gas and electric energy for purposes of qualifying gas models. When calculating the gas rack oven total idle rates, electric energy consumed by auxiliary components shall be converted to Btu/h and added to the gas idle rate expressed in Btu/h. The electric energy consumption measured during idle tests shall also be reported separately as expressed in kW, as per Section 4.G.c.

Example: Consider a double-sized gas rack oven with a gas idle energy rate of 30,000.11 Btu/h; and the electric idle energy rate of 1.51 kW. First, convert the 1.51 kW electric idle energy rate to Btu/h by multiplying the 1.51 kW by 3,412.14. Then add the result to the 30,000.11 Btu/h gas idle rate.

$$1 \text{ kW} = 3,412.14 \text{ Btu/h}$$

$$\text{Electric idle energy rate, converted to Btu/h: } 1.51 \text{ kW} \times 3,412.14 \text{ Btu/h} = 5,152.3314 \text{ Btu/h}$$

$$\text{Total idle energy rate: } 30,000.11 \text{ Btu/h} + 5,152.3314 \text{ Btu/h} = 35,152.44 \text{ Btu/h}$$

F. Significant Digits and Rounding:

- a. All calculations shall be carried out with directly measured (unrounded) values. Only the final result of a calculation shall be rounded.
- b. Unless otherwise specified in this specification, compliance with certification criteria in Section 3 shall be evaluated using exact values without any benefit from rounding.
- c. Cooking and Baking-Energy Efficiency: Calculated values that are submitted for reporting on the ENERGY STAR website shall be rounded to the nearest significant digit as expressed in the certification criteria in Section 3.

- 372 d. Idle Energy Rate: Calculated values for gas convection, combination, and rack oven idle
 373 rates submitted for reporting on the ENERGY STAR website shall be rounded to the nearest
 374 whole number. The calculated energy consumption values for electric convection and
 375 combination ovens shall be rounded to 0.01 for idle rates.

Note: The example has been updated to reflect measurements often seen in labs (e.g., three significant digits). Text clarifications were made to sections F.b. and F.c.

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 378 **4) Test Requirements:**

- 379 A. Representative models shall be selected for testing per the following requirements:
- 380 a. For certification of an individual product model, the representative model shall be equivalent
 381 to that which is intended to be marketed and labeled as ENERGY STAR.
- 382 b. For a product family certification, any model within that product family can be tested and serve
 383 as the representative model. When submitting product families, manufacturers continue to be
 384 held accountable for any efficiency claims made about their products, including those not
 385 tested or for which data was not reported.
- 386 B. When testing commercial ovens, the following test methods shall be used to determine ENERGY
 387 STAR certification
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Table 4: Test Methods for ENERGY STAR Certification		
Oven Types	ENERGY STAR Requirements	Test Method Reference
Convection Ovens	Cooking-Energy Efficiency, Idle Energy Rate, Production Capacity, Preheat Energy Consumption, and Preheat time	ASTM F1496-13(2019), <i>Standard Test Method for Performance of Convection Ovens</i>
Combination Ovens	Cooking-Energy Efficiency, Idle Energy Rate, Production Capacity, Water Consumption, Condensate Temperature, Preheat Energy Consumption, and Preheat time	ASTM F2861-20, <i>Standard Test Method for Enhanced Performance of Combination Oven in Various Modes</i>
Rack Ovens	Baking-Energy Efficiency, Total Idle Energy Rate, Production Capacity, Preheat Energy Consumption, and Preheat time	ASTM F2093-18, <i>Standard Test Method for Performance of Rack Ovens</i>

394 **Note:** Table 4 has been updated to include preheat energy consumption and time as part of the ENERGY
 395 STAR requirements. In addition, the reference date for ASTM Standard F1496 has been updated to reflect
 396 the most recent reapproved 2019 standard. Similarly, the reference revision dates for ASTM Standards
 397 F2861 and F2093 have been updated to reflect the 2020 and 2018 versions. EPA will continue to follow
 398 the F26 committee's future revision efforts of these standard test methods. Upon the final publication of
 399 future standards, EPA will determine if there will be an impact on the energy performance test results. If
 400 the changes to the test methods do not impact the energy performance results, EPA will release an
 401 amendment to Version 3.0, aligning with the updated standards. However, should any changes to the test
 402 methods impact energy performance results, the new test method may trigger a new specification revision
 403 process.

- 404 C. For ovens with variable Btu/h or kW input, each available input shall be tested and reported
 405 individually. Ovens need to meet the idle energy rate or total idle energy rate and cooking- or
 406 baking-energy efficiency requirements presented in Table 1, Table 2, or Table 3, of this
 407 specification at each input setting.
- 408 D. For electric ovens with multiple voltage-versatility and those that are available in different voltage
 409 configurations, the representative oven shall be tested at the most energy consumptive voltage
 410 according to the manufacturer.
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- 414 E. If the representative combination oven model under test is designed to hold 18 x 26-inch sheet
415 pans, the manufacturer-supplied wire racks shall be positioned in the oven to accommodate 12 x
416 20x 2.5 -inch steam table pans.
417
- 418 F. Combination ovens with roll-in, removable racks shall have the racks positioned in place during
419 steam mode and convection mode idle tests.
420
- 421 G. Additional Reporting Requirements:
422
- 423 a. The average water consumption rates, the average condensate drain temperatures, and the
424 maximum condensate drain temperatures shall be reported for all combination ovens. If the
425 oven does not require condensate cooling water during convection mode operation, then it
426 shall be reported as "0".
427
- 428 b. The production capacity for all convection oven, combination oven, and rack oven cooking or
429 baking-energy efficiency tests shall be reported.
430
- 431 c. The electric energy idle rate for gas convection, combination, and rack oven idle rate tests
432 shall be reported.
433
- 434 d. Rack ovens that include energy saving feature(s) and meet the minimum requirement of the
435 set-back idle mode definition in Section 1.BB. shall be reported.
436
- 437 e. Preheat energy consumption and time for all convection, combination, and rack ovens shall
438 be reported in Btu or kWh for energy consumption and in minutes for preheat time. For
439 combination ovens, both steam and convection preheat energy consumption and time shall
440 be reported. For gas ovens, the auxiliary components (e.g., fan energy consumption) that
441 use electrical energy shall also be reported.
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444 **Note:** To capture a more comprehensive total energy profile for all oven types within scope, EPA is
445 proposing in Section 4.G.e. to require collecting the preheat energy consumption and time from partners.
446 EPA requests feedback on the proposed reporting requirement for preheating values.
447

448 The current ENERGY STAR specification (Version 2.2) includes a set nominal temperature for steam
449 mode idle and cooking-energy efficiency tests. This is no longer needed and was deleted from Section 4
450 because of the recent updates in ASTM F2861-20 which sets the steam mode to 212°F.
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- 453 **5) Effective Date:** This ENERGY STAR Version 3.0 Commercial Ovens specification shall take effect
454 on TBD. To certify to ENERGY STAR, a product model shall meet the ENERGY STAR specification
455 in effect on the model's manufacture date. The date of manufacture is specific to each unit and is the
456 date on which a unit is considered to be completely assembled.
457

458 **Note:** EPA anticipates finalizing this Version 3.0 specification in Q3 2021. Once a final specification is
459 released, manufacturers may immediately begin certifying products to the new Version 3.0 specification,
460 but will have nine months to transition to it, understanding that certification to the current version must
461 cease 4.5 months after the final specification is published. Once the specification takes effect, ovens that
462 do not meet the Version 3.0 criteria will be removed from the ENERGY STAR Product Finder and may no
463 longer be marketed or labeled as ENERGY STAR unless retested and recertified.
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- 466 **6) Future Specification Revisions:** EPA reserves the right to change the specification should
467 technological and/or market changes affect its usefulness to consumers, industry, or the environment.
468 In keeping with current policy, revisions to the specification are arrived at through industry
469 discussions. In the event of a specification revision, please note that ENERGY STAR certification is
470 not automatically granted for the life of a product model.