



SCA Standard 320-2021

**Home Coffee Grinders:
Specifications and Test Methods**

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01. Preface

This SCA standard is derived from the ECBC Coffee Grinder Certification Standard issued in April 2021, which has been adapted to current SCA Standards format. This standard assumes the home coffee grinder's primary use shall be to grind coffee for a brewer complying with *SCA-310 (2021)*.

02. Scope

This standard covers the specifications and test methods for coffee grinders designed for home use and designed to achieve a grind suitable for atmospheric pressure brewing, namely using an electric coffee brewer. Espresso grinders are excluded from this standard.

03. Normative References

None.

04. Terms and Definitions

ECBC. European Coffee Brewing Centre.

Grounds receiver. The grinder part or container where the coffee grounds are received immediately after grinding.

Home coffee grinder. A device, intended for household use, designed to grind coffee to a grind suitable for atmospheric brewing methods. The terms "coffee grinder" or "grinder" always refer to a home coffee grinder in this standard.

Hopper. The grinder part designed to hold an amount of whole coffee beans and feed them to the grinding mechanism.

Target particle size distribution. The distribution defined by Table 2 of this standard: $\leq 17\%$ larger than 1200 μm ; $\geq 65\%$ in 600-1200 μm , and $\leq 18\%$ smaller than 600 μm .

05. Classification

5.1 By Their Power Source

Home coffee grinders are classified, based on their power source, into "manual grinders" (when they are designed to be powered manually by the user) and "electric grinders" (when they are powered by an electric motor).

06. Specifications

The specifications of home coffee grinders are summarized in Table 1.

Table 1: Specifications of home coffee grinders

Note (a). Uniformity of performance in the case of manual grinders will be tested with 0.075 kg.

Item	Summary of Specifications	Test Method
6.1 Coffee volume	Minimum hopper capacity of 20 g	7.1
6.2 Temperature of ground coffee	$\Delta T \leq 10^{\circ}\text{C}$	7.2
6.3 Grind retention	Under 5% for both average and total retention	7.3
6.4 Grind quality	Within 5% from target particle size distribution and <18% particles smaller than 600 μm	7.4
6.5 Uniformity of performance	Maximum deviation of 5% in three points within 0.600 kg grind ^a	7.5
6.6 Documentation	Include proper grinding instructions, coffee/water ratio and cleaning instructions. Documentation to suggest a range of settings suitable for automatic drip coffee.	7.6

6.1 Coffee Volume

The grinder's hopper shall have a minimum capacity of 20 g of coffee beans. The hopper volume shall be equal or larger than the grounds receiver's maximum capacity as stipulated by the manufacturer.

6.2 Temperature of Ground Coffee

The coffee grinder shall not heat up coffee more than 10°C above the whole bean temperature in the hopper.

6.3 Grind Retention

The maximum average retention of coffee grounds in the grinder shall be 5% for both 30 g and 60 g grinds (1.5 g and 3.0 g of maximum retention, respectively). Total grind retention after ten (10) rounds of 60 g each shall be no more than 3.0 g.

6.4 Grind Quality

The coffee grinder shall meet the target particle size distribution in Table 2 within $\pm 5\%$, when operating at least one setting. In addition, less than 18% of particles shall be smaller than 600 μm .

Table 2 Target Particle Size Distribution

Size Range (μm)	Percent (%) by weight
>1200	≤ 17
600-1200	≥ 65
<600	≤ 18

6.5 Uniformity of Performance

The maximum particle distribution deviation across three different points shall be $\pm 5\%$, within a 0.600 kg grind (0.075 kg for manual grinders).

6.6 Documentation

Documentation shall be supplied with the coffee grinder. Documentation may be in the form of operating manuals, pamphlets, or promotional items. The documentation shall include proper grinding instructions, specifically a suggested grind setting for certified coffee brewers, some suggestion of a coffee/water ratio, and cleaning instructions. Manufacturers shall suggest a range of settings suitable for brewing coffee in an automatic drip machine.

07. Test Methods

Note 01: To avoid for the coffee beans used in testing to be too brittle or too hard, coffee will be roasted to the sample roast specifications of the SCA Cupping Protocol.

Note 02: For home grinders tested "out of the box," grind at least 60 g before testing ("curing").

7.1 Coffee Volume

Locate the grounds receiver's maximum capacity stated by the manufacturer in the grinder's documentation. If the maximum capacity is not stated in the documentation, determine the capacity by grinding an amount of coffee to fill the grounds receiver and weighing out the resulting ground coffee. Empty the hopper. Weigh out a mass of whole coffee beans equivalent to the ground's receiver capacity +5%. Fill the hopper with the whole beans, ensuring the whole amount fits in the hopper. Fill the hopper to capacity with a known mass of whole beans. Report both the grounds receiver capacity and the hopper capacity.

7.2 Temperature of Ground Coffee

Measure the coffee beans temperature immediately before grinding, preferably at the center of hopper. Grind 50 g of coffee. Measure the temperature of the ground coffee immediately after grinding. Burrs should be at room temperature prior to the test sample being run.

7.3 Grind Retention

1. Grind 10 rounds of 30 g coffee. For each round, weigh out the initial amount of whole beans (in) and the final amount of ground beans (out). Each round's retention is calculated as the difference in mass between the initial and final coffee mass. Average the retention of the ten rounds. Report as average weight and as percentage.
2. Repeat the procedure in (1) with 10 rounds of 60g coffee.
3. To test for total retention, grind 10 rounds of 60 g coffee. Weigh out all coffee residues contained inside the grinder after the 10 rounds have been ground. The weight of residue is taken as total retention.

7.4 Grind Quality

Grind distribution and particle size analysis tests shall be made using the air jet sieve analysis method. For this test, 25 g coffee samples are tested individually sieve-by sieve at 3000 Pa for three (3) minutes.

7.5 Uniformity of Performance

For this test, 0.600 kg coffee shall be grinded and grind size distribution shall be analyzed three (3) times on the same setting used for grind quality test. Sample for analyzing shall be collected every 0.200 kg of coffee grinded, at 0.200 kg, 0.400 kg, and 0.600 kg. In the case of manual grinders, uniformity of performance will be tested with 75 g, collecting samples at 25 g, 50 g, and 75 g.

7.6 Documentation

Locate all documentation in the form of package instruction and operating manuals as well as any online manuals or instructional videos linked from the product documentation. Verify that documentation includes proper grinding instructions, specifically a suggested grind setting for certified coffee brewers, some suggestion of a coffee/water ratio, and cleaning instructions.



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