Consumer Reports conducts several different tests to evaluate dishwasher performance. They include tests for:

**WASH PERFORMANCE TESTING**

**General Information**

Wash performance tests are used to determine how well each machine cleans dishes.

Cleaning ability is determined from digital photo analysis. Each dishwasher is run and judged multiple times.

The dishware is soiled following a controlled methodology to ensure that each machine sees the same level of food soils. Twelve soiled dishes are put into each 24” machine and 9 soiled dishes are placed in each 18” machine under test along with the balance of dishware and glassware to comprise 10 place settings.

**Dishware Required**

Ten each (except as noted) of the following, multiplied by the number of machines to be tested at a time:

1. Dinner Plates
2. Saucers
3. Coffee Mugs
4. Dessert Dishes
5. Glasses (10-oz. Collins Glass Tumblers, Libby glassware, 8 per machine)
6. Rubbermaid Sipper Cups plastic tumblers (9-oz., 2 per machine)

**Flatware Required**

Ten each per machine of the following:

Dinner forks
Salad forks
Knives
Tablespoons

Tests are run with city supplied water heated to a temperature of 120F.

**Prepared Food Items**

Three different soil mixtures are prepared for each dishwasher test. The soil applied to dishware is used to
measure the cleaning performance of the machine. A second soil is designed to assess the soil handling capability of the dishwasher. The third soil can trigger the soil sensor on sensor machines.

**Filter load:** (Typical for 1 machine) placed in 10-ounce Collins Glass Tumbler, Libby glassware. 1 to 4 glasses are used per cycle.

Prepare in advance:
Oatmeal mix: Instant Oatmeal and water. Mix until oatmeal is fully wetted.

80/20 Ground beef: cooked and browned ground beef drained and cooled.

Filter load is prepared as follows:
70°F water to 10-oz Collins glass.
80/20 browned ground beef
thawed Chopped spinach
Oatmeal mix.
raspberry preserve (with seeds)
Mix and cover with plastic wrap. Place in refrigerator (37 +/-2°F.) for up to 72 hours.

**Sensor load:** (Typical for 1 machine) Dessert bowls (1 to 4 can be used) Amount below is based on 1 bowl.

Sensor load is prepared as follows
Instant Potato flakes
Cocoa powder
water
Mix until potatoes are fully blended.
Add mixture to a Desert bowl.

Cover with plastic wrap use fresh or place in refrigerator (37+/−2°F) for up to 72 hours.

**Soil load:** Dinner dishes (enough for approx. 12 dishes)

In a mixing bowl add:
Unbleached Flour
Rice Flour
Powdered Egg yolks
Shortening
Cocoa powder
Cola
Combine in mixing bowl and use electric mixer to mix until well blended.

**Soiling Procedure:**

For 24-inch models:
Add Soil load to each of 8 dinner dishes. Add Soil load to 4 salad plates.

For 18-inch models:
Add soil load to each of 6 dinner dishes. Add soil load to 3 salad plates.

Using a soil applicator, spread out the soil in a uniform pattern.

Once soil is applied to plates, it should be baked on in an oven.

**Machine Loading/Running Procedure**

The layout of how the soiled tableware should be loaded into each machine should be based on the rack design and information in the user manual. Based on 10-place setting. NOTE: before loading soiled dishware into dishwasher, images of each plate are taken.

For 24-inch models:
Eight soiled dinner dishes on the lower rack. Four soiled salad plates are placed on the upper rack.

For 18-inch models:
Six soiled dinner dishes are placed on the lower rack. Three soiled salad plates are placed on the upper rack.

Plastic sipper cups have their positions changed from front to center to rear of the top rack for the multiple runs on the machine.

Pour IEC dishwasher detergent into the detergent dispenser or tub as appropriate.

**Machine Cycle Settings:**
- Use the Normal Cycle if no Automatic cycle is available.
- **Heat Boost:** Use the heat boost option when available
- **Drying:** Use the heated drying option when available

**Cleanliness Judgments**
Assess the dishes “Before” and “After” being washed. After the dishwasher completes the cleaning cycle, take photos of each plate again. Cleaning performance is based upon the difference in the “before” and “after” images.

**Energy and Water Efficiency:**
During the cleaning cycle test we record water and energy use for the duration of the cycle.
External Audience Protocol (EAP) - Dishwashers

Noise Judgements:
Judgments based upon sound quality shall be made for each key portion of the dishwasher cycle: filling, washing, draining.

Drying Judgements:
Drying is our assessment of how thoroughly a model dries plastic items. We evaluate drying performance using the same cycle we use for our Washing test.

Special loading:
Judgments:
1. Inspect the dishwasher for adjustable tines
2. Inspect the dishwasher for adjustable racks
3. Inspect the dishwasher for removable racks
4. Inspect the dishwasher for fold down shelves
5. Inspect the dishwasher for stemware holders

Irregular sized dishware Plates:
1. Can rack hold a 10-inch diameter dinner plate in the upper rack - will it remain upright without tipping over and can the rack be pushed back in.
2. Repeat on the bottom rack with an 11-in. Plate to 13½-in. platter