Home & Appliance

External Audience Protocol (EAP) - Dishwasher Detergents June 2021

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Consumer Reports conducts several different tests for its dishwasher detergent ratings.

General Information

Cleaning performance tests are used to determine how well a dishwasher detergent cleans baked on soil from dinner plates. Cleaning ability is determined from digital analysis. Each dishwasher detergent is run and judged multiple times following a statistical design to determine a cleaning performance score. The plates are soiled following a controlled methodology to ensure that each detergent sees the same level of soils. A number of soiled plates are put into each machine used in a test run. An evaluation of water spotting is also done during this test. Cleaning tests are run with a well water/city hot water mixture creating moderately hard water.

We also perform cycling tests to determine how well the dishwasher detergent prevents mineral deposit build-up on plates and discoloration of aluminum when used with very hard water. For the cycle test, we use very hard well hot water.

Cleaning Test

Setup for Cleaning Test

Dishware for cleaning test:

10” Dinner dishes
Glass Tumblers
Glass bowls

Multiple identical dishwashers are used for the cleaning tests.

Soiling Ingredients for Cleaning Test Dinner Dishes include:

Flour
Egg yolks
Shortening
Cocoa powder
Cola

Running the Cleaning Test

The mixed soil load is applied to each of the dinner dish, then baked in an oven. A photo is taken of soiled dishes which are then loaded into the test machines.

Detergent dosage is standardized by filling each machine’s main wash with a set amount of the
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detergents under test (liquid, gel or powder).

Once cool the glasses and glass bowls are evaluated for water spotting. Photos can now be taken of the soiled plates.

Cycling Test

Setup for Cycling Test

Dishware for cycling test

Glass dinner plates
Glass salad plates
metal panels

A separate set of identical dishwashers are used for the cycle tests.

Running the Cycling Test

The lower rack should be loaded with dinner plates, salad plates and a metal panel. The other metal panel is placed in the upper rack.

Detergent dosage is standardized by filling each machine’s main wash with a set amount of the detergents under test (liquid, gel or powder).

After numerous cycles, the glass dishware is evaluated to measure the glassware’s haze build up. The metal panels are compared to references and are judged by color change.