



Q: Does NSF have additional certification programs for laundry appliances?

A: In addition to certifying the allergen removal capabilities of washing machines, NSF also certifies the sanitization performance of washing machines (NSF Protocol P172) and dryers (NSF Protocol P154).

Q: How do you know if a washing machine has been certified to NSF Protocol P351?

A: Look for the NSF Mark displayed prominently on the product as well as the sales/marketing information and user guides. Also visit the Listings Page on the NSF website: www.nsf.org/info/listings. For more information on the P351 protocol, visit www.nsf.org/info/ers.



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Questions & Answers about NSF Protocol P351:

Allergen Reduction Performance of Residential and Commercial, Family-Sized Clothes Washers





NSF International, The Public Health and Safety Company™, has recently released Protocol P351: Allergen Reduction Performance of Residential and Commercial, Family-Sized Clothes Washers. Following an extensive protocol development and testing process, NSF is pleased to announce that Whirlpool Corporation is the first company to receive NSF certification.

Following are helpful Questions and Answers about NSF, the new Protocol and the certification process.

Q: Who is NSF International?

A: NSF International, formerly the National Sanitation Foundation, is an independent, not-for-profit standards development and testing and certification organization. For over 65 years, NSF's mission has been to protect public health. NSF is headquartered in Ann Arbor, Michigan, and has offices in Europe, Asia and South America.

Q: What is an NSF Protocol? How is it useful?

A: A protocol is a document that establishes health, safety and performance objectives for innovative or new product or product features not eligible for testing or certification under existing industry standards. Protocols are typically developed collaboratively by NSF, the product inventor and a technical panel which may include regulators, academicians, engineers and scientists, or public health experts. Certification of a product to a protocol is voluntary and serves as a method for product manufacturers to demonstrate that their product has been independently tested and certified for performance or health effectiveness.

Q: How long has NSF been doing this? Is NSF accredited?

A: NSF has developed over 70 standards and protocols, and annually tests and certifies over 225,000 products in 100 countries. NSF's standards are accredited by the American National Standards Institute (ANSI) as well as the International

Accreditation Service (IAS), the International Standardization Organization (ISO) and Standards Council of Canada (SCC), among others.

Q: What are the requirements to be certified to NSF Protocol P351?

A: The protocol specifies that washing machines must demonstrate the ability to kill dust mites and wash away a minimum of 95% of pet dander and dust mite allergen loadings in a common load of household laundry. Manufacturers may also choose to certify for removal claims for canine dander, cockroach allergen and birch pollen.

The wash water temperature is evaluated to determine its ability to kill dust mites. Published industry research has shown that dust mites are unable to survive in a water temperature of 55° Celsius (131° Fahrenheit), so the protocol requires that the wash cycle must be sustained at this temperature for at least three minutes.

NSF Protocol P351 also requires that the washing machine be designed to avoid accumulation of dirt and debris, be easily cleanable, and corrosion resistant.

Q: What type of testing is performed for NSF Protocol P351?

A: Testing is conducted at NSF International's laboratories, located in Ann Arbor, Michigan. The allergen loading removals are evaluated by inoculating cloth swatches with the test allergen, adding the swatches to a batch of laundry in a washing machine, and washing the laundry in accordance with the manufacturer's instructions. The swatches are then retrieved from the washed laundry and analyzed.

Q: How was this protocol developed?

A: To develop this protocol, NSF convened a technical panel of the world's preeminent experts in airborne allergy testing, as well as public health professionals. This included representatives from Wright State University; Ohio State University; Michigan Technological University; Indoor Biotechnologies, Inc.; The Ecology Works; Whirlpool Corporation; wfk Institute for Applied Research (Germany); Allergopharma J. Ganzer KG (Germany); Consumers Union; and NSF International.