

A Summary of UL 900 for HVAC Air Filters

Underwriters Laboratories, Inc. (UL) is an agency that lists products they have tested against criteria deemed appropriate for public safety.

The UL 900 requirements classify smoke and flammability standards for both washable and throwaway air filters used for removal of dust and other airborne particles from air circulated mechanically in HVAC equipment. Since the combustibility and smoke generation of air filter media will vary over time depending on the material collected by the filter, the test requirements of this standard apply only to air filter media in a clean condition. It's important to note that the toxicity of the products of combustion resulting from a filter's exposure to flame is outside the scope of UL 900, as is the filter's filtration capability before or after flame exposure.

For HVAC and HEPA type air filters, UL 900 establishes smoke and flammability limits for clean air filters according to two classifications:

UL Class 1

Summary: Air filters which, when clean, do not contribute fuel when attacked by flame and emit only negligible amounts of smoke.

Details: Class 1 air filter media shall not produce flame or sparks when subjected to the flame exposure. Spotflame tests described in the testing standard and during the flame-exposure test shall not cause the development of an area of more than 2 1/2 square inches as measured below the smoke-density time curve.

UL Class 2

Summary: Air filters which, when clean, burn moderately when attacked by flame, or emit moderate amounts of smoke, or both.

Details: Class 2 air filter media shall not produce flame or extensive sparks which are sustained beyond the discharge end of the test duct when subjected to the flame exposure test and shall not cause the development of an area of more than 9 square inches as measured below the smoke-density time curve. Additionally, the adhesive material used for coating the filtering medium or other part of Class 2 air filter media shall have a flash point of not less than 325 degrees F.