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**ANSI/ASHRAE Standard 154-2022**  
**Ventilation for Commercial Cooking Operations**

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**NOTE**

**Approved addenda, errata, or interpretations for this standard can be downloaded free of charge from the ASHRAE website at [www.ashrae.org/technology](http://www.ashrae.org/technology).**

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## FOREWORD

*ASHRAE Standard 154 provides design criteria for acceptable performance in commercial cooking ventilation systems and is intended to serve as a template for standardization, harmonization, and ongoing revision of related model and adopted codes and to bring consistency to design requirements and applications of commercial kitchen ventilation systems.*

*The 2022 revision includes numerous changes to harmonize the standard with the International Mechanical Code® (IMC), 2019 ASHRAE Handbook—HVAC Applications, and NFPA 96, Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations. For a complete description of these and other changes, see Informative Appendix H.*

## 1. PURPOSE

The purpose of this standard is to provide design criteria for acceptable performance in commercial cooking ventilation systems.

## 2. SCOPE

2.1 This standard covers

- a. kitchen hoods,
- b. exhaust systems, and
- c. replacement air systems.

2.2 This standard shall not be used to circumvent any safety, health, or environmental requirements.

## 3. DEFINITIONS

**appliance:** a cooking device or apparatus used in a kitchen that consumes energy provided by gas, electricity, solid fuel, steam, or another fuel source.

**appliance duty level:** an appliance rating category based on the exhaust airflow required to capture, contain, and remove the cooking effluent and products of combustion under typical operating conditions with a non-engineered wall-mounted canopy hood (based on ASHRAE RP-1362<sup>1</sup>). This is different from the historical approach in which duty levels were based on the temperature of the cooking surface. The following appliance duty classifications are used in this standard:

- a. **light:** a cooking process requiring an exhaust airflow rate of less than 200 cfm/ft (310 L/s/m) for capture, containment, and removal of the cooking effluent and products of combustion.
- b. **medium:** a cooking process requiring an exhaust airflow rate of 200 to 300 cfm/ft (310 to 460 L/s/m) for capture, containment, and removal of the cooking effluent and products of combustion.
- c. **heavy:** a cooking process requiring an exhaust airflow rate of 300 to 400 cfm/ft (460 to 620 L/s/m) for capture, containment, and removal of the cooking effluent and products of combustion.
- d. **extra-heavy:** a cooking process requiring an exhaust airflow rate greater than 400 cfm/ft (620 L/s/m) for capture, containment, and removal of the cooking effluent and products of combustion.

**approved:** acceptable to the authority having jurisdiction.

**balancing damper:** a mechanical device located in a duct that is intended to regulate airflow.

**capture area:** area within an exhaust hood that contains cooking effluent until it is exhausted.

**capture and containment:** an exhaust hood's ability to capture and contain the cooking effluent and heat generated during cooking operations.

**centrifugal fan:** see *exhaust fan*.

**certified:** see *listed*.

**commercial cooking appliance:** an appliance specifically designed to be used in a food service establishment kitchen, such as a restaurant or cafeteria kitchen. Appliances designed for residential use shall be treated as commercial appliances when installed in commercial food service establishments.