Public Review Draft

Proposed Addendum aj to Standard 189.1-2017

Standard for the Design of High-Performance Green Buildings

Except Low-Rise Residential Buildings

First Public Review Draft (August 2019)
(Draft Shows Proposed Changes to Current Standard)

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(This foreword is not part of this standard. It is merely informative and does not contain requirements necessary for conformance to the standard. It has not been processed according to the ANSI requirements for a standard and may contain material that has not been subject to public review or a consensus process. Unresolved objectors on informative material are not offered the right to appeal at ASHRAE or ANSI.)

Foreword

This addendum to ASHRAE 189.1-2017 modifies the requirements for low-capacity exhaust fans, including bathroom and utility room exhaust fans greater than 90 cfm as well as fan systems with exhaust air energy recovery. While these fans are typically designed and sold for use in single family residences, mid-rise residential occupancies and small commercial buildings often utilize the same small ventilation fans. These fans are frequently utilized as part of a ventilation strategy in multifamily buildings for point-of-source contaminant exhaust. These fans are a common load, and potentially sum to a significant load in those multifamily buildings regulated by ASHRAE 189.1.

Currently in ASHRAE 189.1, the exhaust fans covered by this addendum must meet an EnergyStar requirement of 3.5 cfm/W for 90 to 200 cfm fans, or 4.0 cfm/W for fans up to 500 cfm. These efficiencies are substantially lower than efficiency levels of many fans now available on the market. For example, according to the HVI database of fans, the average efficiency of bath fans greater than 90 cfm is approximately 8 cfm/W with the top quartile averaging 11.5 cfm/W. These substantially exceed the 3.5 or 4.0 cfm/W required by EnergyStar.

There is currently no requirement in Standard 189.1 for the efficiency of HRV systems. This addendum adds the efficiency value currently included in the IECC into Standard 189.1.

[Note to Reviewers: This addendum makes proposed changes to the current standard. These changes are indicated in the text by underlining (for additions) and strikethrough (for deletions) except where the reviewer instructions specifically describe some other means of showing the changes. Only these changes to the current standard are open for review and comment at this time. Additional material is provided for context only and is not open for comment except as it relates to the proposed changes.]

Addendum aj to 189.1-2017

Add new definition to Section 3:

nameplate rating: the design load operating conditions of a device as shown by the *manufacturer* on the nameplate or otherwise marked on the device.

Add new section as follows:

7.4.3.6.3 Low-power ventilation systems. Ventilation systems shall meet the fan efficacy requirements of Table 7.4.3.6.3.

Table 7.4.3.6.3 Minimum Ventilation Fan Efficacy Requirements

Fan Type	**Minimum Efficacy *nameplate rating,***	**Test method and rating conditions**
Fan system with exhaust air energy recovery	1.2 cfm/W (0.6 l/s/W)	CAN/CSA 439-18 – Efficacy for a fan system providing exhaust air energy recovery is that associated with the average of the system's supply and exhaust flow rate.
Bathroom, utility room ≥ 90 cfm (40 l/s)	6.0 cfm/W (2.8 l/s/W)	ENERGY STAR Specification for Residential Ventilating Fans – Eligibility Criteria Version 4.1

Exceptions to 7.4.3.6.3

1. Fans in fan-coils and terminal units that operate only when providing heating to the *space* served.
2. Fans in in *space*-conditioning equipment certified under Section 6.4.1 of ASHRAE/IES Standard 90.1.
3. Intermittently operating dryer exhaust duct power ventilators, domestic range hoods, or domestic range booster fans.
4. Ventilation systems with fan motor nameplate horsepower ≥ 1/12 hp (62.1 W).
5. Ventilation fans with fan nameplate electrical input power ≥ 180 W.

Add new reference standards to Chapter 11 as follows:

Reference	**Title**	**Section**
…		
Canadian Standards Association (CSA) 5060 Spectrum Way, Suite 100 Mississauga, Ontario, L4W 5N6, Canada 1-800-463-6727 and 1-416-747-4000; www.csa.ca		
CSA S478-95 (R2007)	Guideline on Durability for Buildings	9.4.1, 10.3.2.3
CAN/CSA 439-18	Standard laboratory methods of test for rating the performance of heat/energy-recovery ventilators; January 2018	7.4.3.6.3
…		
United States Environmental Protection Agency (EPA) 1200 Pennsylvania Ave NW Washington, DC 20460, United States 1-888-782-7937 and 1- 202-775-6650; www.energystar.gov		
	Portfolio Manager	10.3.2.1.3.2

Version 4.1, February 21, 2018	ENERGY STAR Specification for Residential Ventilating Fans Eligibility Criteria	7.4.3.6.3