

ADDENDA

**ANSI/ASHRAE/IES Addendum aa to
ANSI/ASHRAE/IES Standard 90.1-2019**

Energy Standard for Buildings Except Low-Rise Residential Buildings

Approved by ASHRAE and the American National Standards Institute on May 28, 2021, and by the Illuminating Engineering Society on May 4, 2021.

This addendum was approved by a Standing Standard Project Committee (SSPC) for which the Standards Committee has established a documented program for regular publication of addenda or revisions, including procedures for timely, documented, consensus action on requests for change to any part of the standard. Instructions for how to submit a change can be found on the ASHRAE® website (<https://www.ashrae.org/continuous-maintenance>).

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FOREWORD

Addendum aa corrects the SI fan power values in Appendix G to make them consistent with the rest of the standard. The addendum makes no changes to corresponding I-P values.

Addendum aa also correctly italicizes the term “on-site renewable energy” where it was added to Appendix G, Table G3.1, by Addendum cp. These changes apply to both the I-P and SI versions of the standard.

These changes do not affect the cost-effectiveness of the standard.

Note: In this addendum, changes to the current standard are indicated in the text by underlining (for additions) and ~~strike through~~ (for deletions) unless the instructions specifically mention some other means of indicating the changes.

Addendum aa to Standard 90.1-2019

Modify Appendix G of the standard as shown (SI units only)

G3.1.2.9 System Fan Power. *System fan electrical power for supply, return, exhaust, and relief (excluding power to fan-powered VAV boxes) shall be calculated using the following formulas:*

For *Systems* 1 and 2,

$$P_{fan} = \text{Airflow}_s \times 0.64 \text{ (cubic metres per second)} \times 1.4158e-4$$

For *Systems* 3 through 8, and 11, 12, and 13,

$$P_{fan} = \text{input kW/fan motor efficiency}$$

For *Systems* 9 and 10 (supply fan),

$$P_{fan} = \text{CFM}_s \text{Airflow}_s \times 0.3 \text{ 0.64}$$

For *Systems* 9 and 10 (non-mechanical cooling fan if required by Section G3.1.2.8.2),

$$P_{fan} = \text{CFM}_{nmc} \text{Airflow}_{nmc} \times 0.054 \text{ 0.114}$$

where

P_{fan} = electric power to fan motor, W

input kW = input kilowatts of baseline fan motor from Table G3.1.2.9

fan motor efficiency = the efficiency from Table G3.9.1 for the next motor size greater than the input kW

$\text{CFM}_s \text{Airflow}_s$ = the baseline system maximum design supply fan airflow rate, L/s

$\text{CFM}_{nmc} \text{Airflow}_{nmc}$ = the baseline non-mechanical cooling fan airflow, L/s

Modify Table G3.1(16) as shown (SI units only).

Table G3.1 Modeling Requirements for Calculating Proposed and Baseline Building Performance

No.	Proposed Building Performance	Baseline Building Performance
16. Elevators		
[...]		[...] When included in the <i>proposed design</i> , the baseline elevator cab ventilation fan shall be 0.690.7 W/L-s and the <i>lighting power density</i> shall be 33.79 ^{33.8} W/m ² ; both operate continuously.

Make the following corrections to Table G3.1(18) in 90.1-2019 (introduced by Addendum cp) as shown (I-P and SI units).

Table G3.1 Modeling Requirements for Calculating Proposed and Baseline Building Performance

No.	Proposed Building Performance	Baseline Building Performance
18. On-site renewable energy		
<i>On-site renewable energy</i> in the <i>proposed building performance</i> shall be determined as follows:		<i>On-site renewable energy</i> shall not be included in the <i>Baseline Building Performance</i> .
a. Where a complete <i>system</i> providing on-site <i>on-site</i> <i>renewable energy</i> exists, the model shall reflect the actual <i>system</i> type using actual component capacities and efficiencies.		
a. Where a <i>system</i> providing on-site <i>on-site</i> <i>renewable energy</i> has been designed, the <i>system</i> model shall be consistent with design documents.		
b. Where no <i>system</i> exists or is specified to provide <i>on-site renewable energy</i> , no <i>system</i> shall be modeled.		

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ASHRAE is concerned with the impact of its members' activities on both the indoor and outdoor environment. ASHRAE's members will strive to minimize any possible deleterious effect on the indoor and outdoor environment of the systems and components in their responsibility while maximizing the beneficial effects these systems provide, consistent with accepted Standards and the practical state of the art.

ASHRAE's short-range goal is to ensure that the systems and components within its scope do not impact the indoor and outdoor environment to a greater extent than specified by the Standards and Guidelines as established by itself and other responsible bodies.

As an ongoing goal, ASHRAE will, through its Standards Committee and extensive Technical Committee structure, continue to generate up-to-date Standards and Guidelines where appropriate and adopt, recommend, and promote those new and revised Standards developed by other responsible organizations.

Through its *Handbook*, appropriate chapters will contain up-to-date Standards and design considerations as the material is systematically revised.

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