ADDENDA

ANSI/ASHRAE Addenda a, b, and c to
ANSI/ASHRAE Standard 145.2-2011

Laboratory Test Method for Assessing the Performance of Gas-Phase Air-Cleaning Systems: Air-Cleaning Devices

Approved by the ASHRAE Standards Committee on June 28, 2014; by the ASHRAE Board of Directors on July 2, 2014; and by the American National Standards Institute on July 3, 2014.

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SPECIAL NOTE

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ASHRAE obtains consensus through participation of its national and international members, associated societies, and public review.

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FOREWORD

In Table 6.1.4.1, the same compound is listed under two names: 2-butanone and MEK. This addendum fixes the double entry. It also changes the table so that two different concentrations are no longer required for the same test.

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

Addendum a to Standard 154.2-2011

Modify Table 6.1.4.1 as follows. All other values remain unchanged.

TABLE 6.1.4.1 Standard Test Challenge Gases

Category / Chemical	CAS #	MW*	Low Conc. (ppb)	High Conc. (ppm)	NIOSH REL TWA (ppm)**	OSHA PEL TWA (ppm)**	High Conc. Rationale ***	Capacity Used****	Required Chemical
				[. . .]					
VOCs									
				[. . .]					
2-Butanone (MEK)	78-93-3	72.1	400	65	200	200	AA	20%, z	
				[. . .]					
~~MEK~~	~~78-93-3~~	~~72.1~~	~~400~~	~~30~~	~~200~~	~~200~~	~~AA~~	~~10%, z~~	
				[. . .]					

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FOREWORD

This change applies to the 100% efficiency test. This test depends on the test filter absolutely not breaking through at all. Experience has shown that even filters that exceed the requirements of 22+ pounds of sorbent can break through in less than an hour when a few ppb or less can be >1% breakthrough. Since the ability of the system to measure >99% efficiency can be determined in 5 to 10 minutes, shortening the test period for the 100% efficiency test makes sense.

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Addendum b to Standard 154.2-2011

Modify Section 5.10 as follows.

5.10 100% Efficiency Filter Test and Purge Time Determination. An initial efficiency test shall be performed using a complete air cleaner as the test device to demonstrate that the test duct and sampling system are capable of providing a >99% efficiency measurement. The possible sources of error are inward leaks of clean air, losses to the test duct wall, or sampling-system leaks and/or dead spaces. This test shall be conducted with readily sorbed contaminants and a 10 kg (22 lb) or greater high-quality sorbent with moderate grain size. The air cleaner shall be installed to be leak-free and the test contaminant chosen shall be one that is easily removed. The computed efficiency values shall be greater than 99% for the test contaminant. For the purposes of the 100% efficiency test, the initial efficiency test only needs to be run long enough to show the >99% measurement. This must include at least five downstream measurements.

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FOREWORD

The standard test end point for the initial efficiency test is 1 h. However, some filters can reach 0.95 to 1.00 penetration (≤5% efficiency) within this hour. Allowing the test to stop sooner makes sense for these filters. Therefore, the initial performance test is modified to allow testing to stop when the penetration exceeds 0.95.

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Addendum c to Standard 154.2-2011

Modify Section 6.1.3.1 as follows.

6.1.3.1 The standard initial performance test shall be conducted for a period of 1 hour. At this point, the low concentration challenge gas shall be removed. The standard capacity test should begin as soon as possible after this test. For initial performance tests that reach 0.95 to 1.00 penetration (≤5% efficiency) before this hour is over, the initial performance test may stop at the point where the penetration is 0.95 or higher (the efficiency is ≤5%) as long as at least five downstream data points have been collected with at least three of these points showing the penetration at 0.95 or higher. Then, the standard capacity test shall begin as soon as possible.

POLICY STATEMENT DEFINING ASHRAE'S CONCERN FOR THE ENVIRONMENTAL IMPACT OF ITS ACTIVITIES

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.

ASHRAE will take the lead with respect to dissemination of environmental information of its primary interest and will seek out and disseminate information from other responsible organizations that is pertinent, as guides to updating standards and guidelines.

The effects of the design and selection of equipment and systems will be considered within the scope of the system's intended use and expected misuse. The disposal of hazardous materials, if any, will also be considered.

ASHRAE's primary concern for environmental impact will be at the site where equipment within ASHRAE's scope operates. However, energy source selection and the possible environmental impact due to the energy source and energy transportation will be considered where possible. Recommendations concerning energy source selection should be made by its members.

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