ASHRAE Addendum e to
ASHRAE Guideline 10-2011

Interactions Affecting
the Achievement of
Acceptable Indoor
Environments

Approved by ASHRAE on November 1, 2014.

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FOREWORD

This addendum adds a more appropriate reference for the third paragraph of Section 6.5.

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.

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Modify Section 6.5 as follows.

6.5 Indoor Air Quality—Illumination (Electric). Electric lighting fixtures can be the source of direct pollutant emissions through off-gassing of plasticizers from the insulation on electrical wires and through polychlorinated biphenyl (PCB) leakage from transformers or ballasts in old lighting installations. Plasticizers can degrade due to heating caused by the current passing through an undersized wire, due to interaction with ozone or other oxidants in the air, or due to the normal off-gassing characteristic of soft plastics.

Lighting fixtures can also transform chemicals and particles that contact hot surfaces on the illumination source or encounter the UV or infrared (IR) wavelengths in the emitted radiation spectrum. UV radiation can degrade materials and accelerate their aging and disintegration. IR and visible portions of the radiation spectrum can result in higher temperatures, thereby leading to more rapid evaporation/evaporation.

UV from electrical lighting may be used to control microbial contaminants in HVAC systems or in upper-room air (e.g., in tuberculosis treatment areas), especially in hospitals (Menzies et al. 2003; Xu et al. 2003; Mudarri and Fisk 2007).

10. REFERENCES AND BIBLIOGRAPHY

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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