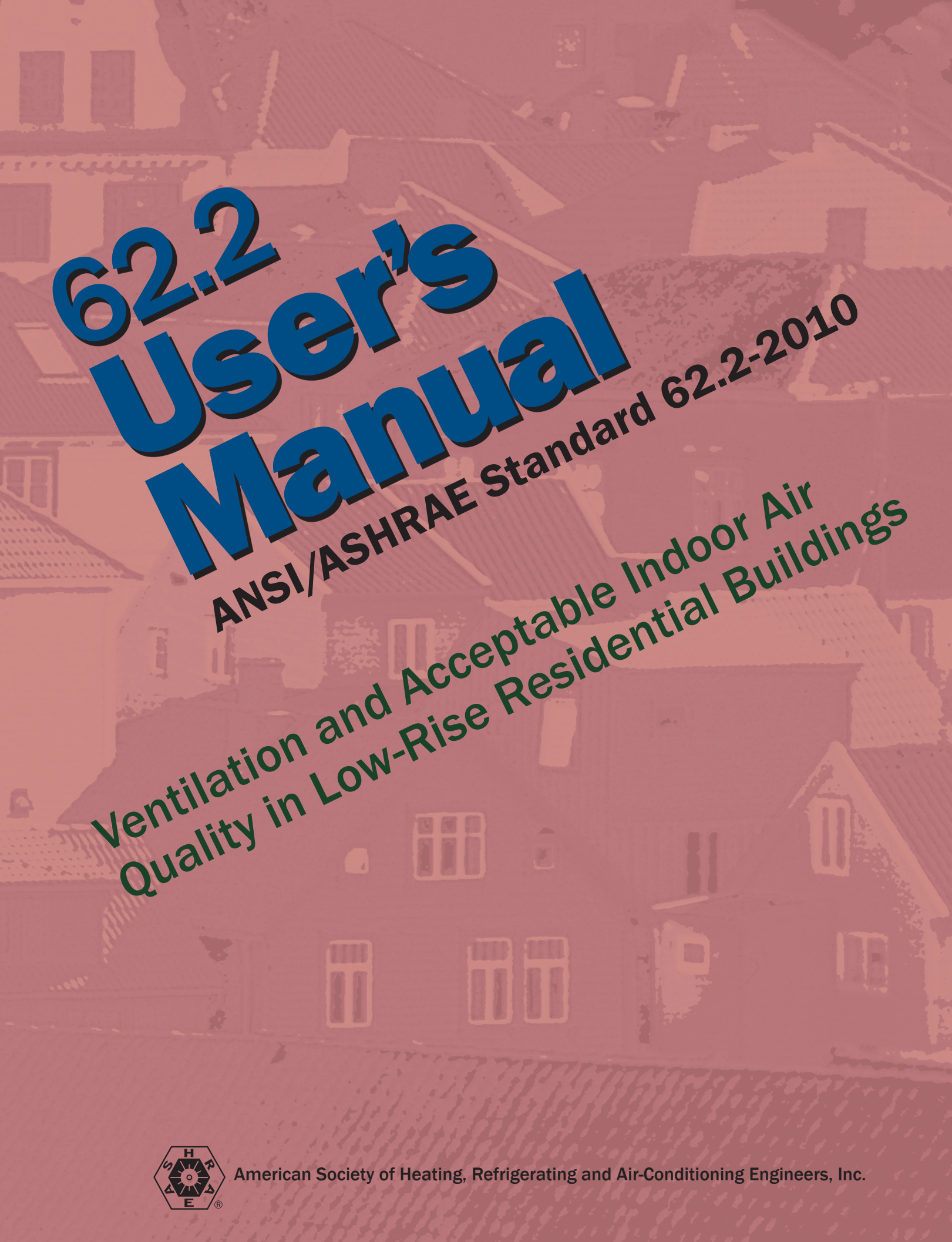

62.2 User's Manual

ANSI/ASHRAE Standard 62.2-2010

Ventilation and Acceptable Indoor Air Quality in Low-Rise Residential Buildings

American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc.

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The American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) is the world's foremost technical society in the fields of heating, ventilation, air conditioning and refrigeration. Its 55,000 members worldwide are individuals who share ideas, identify the need for and support research, and write the industry's standards for testing and practice. The result of these efforts is that engineers are better able to keep indoor environments safe and productive while protecting and preserving the outdoors for generations to come.

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ASHRAE Research contributed significantly to the material in this book.

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Preface

This User's Manual contains explanatory material, examples and background material which are intended to aid the user in designing and constructing residential buildings which comply with ASHRAE Standard 62.2-2010, *Ventilation and Acceptable Indoor Air Quality in Low-Rise Residential Buildings.* Standard 62.2 was written in mandatory language in order to be code enforceable, except for three informative language appendices. This manual does not reproduce the requirements of the standard, but rather paraphrases and explains them. This manual is intended to be used in conjunction with the standard.

The User's Manual is intended to be used by:

- Residential Building Contractors
- Residential Building Subcontractors
- Architects
- Engineers

It may also be useful for:

- Code Officials
- Governmental Agencies
- Homeowners

Standard 62.2 is a dynamic document that is maintained and updated by ASHRAE under their "Continuous Maintenance" procedures. Periodically, ASHRAE will develop and publish addenda which modify or add to the standard. ASHRAE plans to publish a new version of the standard on a three year cycle, which will include all the addenda that have been approved since the previous publication. In between the published versions of the standard, ASHRAE also plans to publish a Supplement, which will contain any addenda approved in the first 18 months of the three year revision cycle.

Standard 62.2 was originally published in 2003, as Standard 62.2-2003. This User's Manual applies to the version of the standard published in 2010, which is known as 62.2-2010. When using this manual to comply with any codes based on Standard 62.2, check to confirm that the code is based on the 2010version. If it is based on some other version, those parts of this manual which apply to sections that are modified will not be reliable.

In addition to addenda, ASHRAE also periodically publishes official interpretations of its standards. Interpretations do not change the standard, but are used to clarify the meaning of existing requirements. Any person can submit a "Request for Interpretation" to ASHRAE. Interpretations are limited to the meaning of the standard, and may not be used for design reviews or requests for changes to the standard. Requests for Interpretation can be sent to:

Manager of Standards
ASHRAE
1791 Tullie Circle, NE
Atlanta, GA 30329-2305

When a copy of the standard is purchased from ASHRAE, any interpretations which apply to the standard are included in the package. The ASHRAE website also lists interpretations, and users can check there for any interpretations that may have been issued since they purchased the standard. (www.ASHRAE.org)

This User's Manual is organized to follow the organization of the standard. All the sections and subsections of the manual follow those of the standard. Each section of the manual contains explanatory material which is intended to assist the user in understanding the requirements of the standard and how to comply with them. Many sections also include examples which give specific means of complying with the standard. Some sections also include background material which explains why the standard includes particular requirements, how equipment tests are performed by the manufacturer or testing organizations, or theoretical information intended to provide a deeper understanding of the requirements and means of compliance.

Acknowledgements

The 2010 edition of the 62.2 User's Manual was based heavily on content originally developed for the 2004 version. The 2010 version was primarily developed by Roger Hedrick of Architectural Energy Corporation under contract to the American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc. (ASHRAE). Substantial contributions were also made by members of the Project Management Subcommittee chaired by Amy Musser, and including Rick Karg, Iain Walker, Eric Werling and Ted Williams, as well as the chair of SSPC 62.2, Steve Emmerich.

The 2004 edition of the User's Manual was written by Roger Hedrick, Terry Brennan, Don Stevens, and H. E. "Barney" Burroughs.

Section 1 – Purpose

This section of the standard does not contain any requirements. It does describe why the standard exists, and what compliance with the standard is expected to achieve.

The purpose is a single sentence, but it has two parts. The first part, "defines the roles of and minimum requirements for mechanical and natural ventilation systems and the building envelope" describes the parts of the building that the standard will primarily be addressing with its requirements: the ventilation system (mechanical or natural) and the building envelope. Don't interpret this as a statement of the scope of the standard, it includes requirements for additional parts of the building too. (See Section 2 – Scope, for more on this.)

The second part of the purpose, "intended to provide acceptable indoor air quality in low-rise residential buildings" describes why the requirements of the standard exist.

Acceptable indoor air quality is a term that is defined in Section 3 – Definitions, to mean air that is neither irritating nor unhealthy. Indoor air that is not acceptable is air that smells bad, contains irritating contaminants such as pollen or other allergens, or contains dangerous chemicals at concentrations that may cause health effects. Unacceptable indoor air can have one, two or all three of these characteristics. It may have odors only, but not be unhealthy, or it might be air that seems fine but contains dangerous concentrations of toxic chemicals that cannot be sensed by the occupants.

In summary, the purpose states that the standard prescribes ventilation, building envelope and other measures intended to provide residential indoor air quality that is safe and pleasant.

Section 2 – Scope

This section of the standard defines its scope in a number of different ways. First, the scope describes where the standard is intended to be applied, in terms of the types of buildings where it should be used. Second, the scope describes what the standard addresses, that is, what kinds of issues in the house that affect indoor air quality are covered. This includes a list of reasons why acceptable indoor air quality may not be achieved, even if all the requirements of the standard are met. Third, the scope lists equipment that is not addressed by the standard.

The standard applies to all residential spaces intended for human occupancy in single family houses or in multifamily buildings up to three stories. The phrase "intended for human occupancy" means that any space that people will normally enter is covered. This includes:

- living rooms,
- bedrooms,
- kitchens,
- bathrooms,
- hallways,
- closets,
- store rooms,
- laundries,
- garages, and
- basements

Other spaces within the building, such as attics or crawlspaces are not "covered" by the standard, in that they are not used in calculating ventilation rates, and they are not required to be ventilated to comply with the standard. The envelope requirements of the standard, however, still apply even if they surround these "non-covered" spaces.

This standard applies to spaces within single family buildings and multi-family buildings that are three stories or less above grade.

Single Family Dwellings