

International Code Council®



ICC Web Site: www.iccsafe.org

Support: 1-888-422-7233, ext. 33822

e-mail: support@ecodes.biz

Electronic Media Store: www.ecodes.biz



This document has been protected by ICC using protectedpdf, a document rights management and tracking technology that helps publishers protect and sell electronic content.

With protectedpdf you can manage document access, printing and update document versions.

© Copyright 2004-2006 Vitrium Systems Inc. All Rights Reserved.
Please visit www.protectedpdf.com for Terms of Use and Privacy Policy



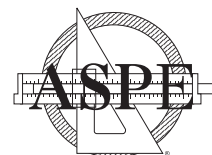
RESIDENTIAL FIRE SPRINKLER SYSTEMS

Design, Installation and
Code Administration



RESIDENTIAL FIRE SPRINKLER SYSTEMS

Design, Installation and
Code Administration



Residential Fire Sprinkler Systems: Design, Installation and Code Administration

ISBN: 978-1-58001-964-4

Cover Design:	Carmel Gieson
Manager of Development:	Lee Clifton
Project Editor:	Roger Mensink
Project Head:	Scott Stookey
Publications Manager:	Mary Lou Luif
Typesetting:	Beverly Ledbetter

COPYRIGHT © 2010



Cover photo of sprinkler courtesy of Uponor, Inc.

ALL RIGHTS RESERVED. This publication is a copyrighted work owned by the International Code Council, Inc. Without advance written permission from the copyright owner, no part of this book may be reproduced, distributed or transmitted in any form or by any means, including, without limitation, electronic, optical or mechanical means (by way of example, and not limitation, photocopying or recording by or in an information storage retrieval system). For information on permission to copy material exceeding fair use, please contact: Publications, 4051 West Flossmoor Road, Country Club Hills, IL 60478. Phone 1-888-ICC-SAFE (422-7233).

The information contained in this document is believed to be accurate; however, it is being provided for informational purposes only and is intended for use only as a guide. Publication of this document by the ICC should not be construed as the ICC engaging in or rendering engineering, legal or other professional services. Use of the information contained in this book should not be considered by the user to be a substitute for the advice of a registered professional engineer, attorney or other professional. If such advice is required, it should be sought through the services of a registered professional engineer, licensed attorney or other professional.

Trademarks: "International Code Council" and the "International Code Council" logo and the "International Building Code" are trademarks of International Code Council, Inc.

Errata on various ICC publications may be available at www.iccsafe.org/errata.

First Printing: July 2010
Second Printing: January 2011

PRINTED IN THE U.S.A.

Preface

Beginning with the 2009 edition, the *International Residential Code*[®] (IRC[®]) requires one- and two-family dwellings and townhouses to be protected with residential fire sprinkler systems. This book was written to assist code officials, contractors and designers in complying with these requirements.

IRC Section R313 contains the general requirements and exceptions to fire sprinklers, and Section P2904 contains the specific design and installation requirements for residential fire sprinkler systems. Section P2904 also provides readers with a way to manually verify that water supplies are adequate. Residential fire sprinkler systems that are installed in accordance with those requirements are considered to be equivalent to systems installed in accordance with Standard 13D of the National Fire Protection Association (NFPA[®]).

The IRC also accepts residential fire sprinkler systems that are installed in accordance with NFPA 13D; therefore this book covers those requirements as well. All of the references to NFPA 13D are for the 2007 edition titled, *Standard for the Installation of Sprinkler Systems in One- and Two-Family Dwellings and Manufactured Homes*.

This publication is unique in that it provides specific design, installation, application and enforcement information on residential fire sprinkler systems using numerous graphics, photos, examples and real world applications. The result is an easy to comprehend though in-depth coverage of the subject. The full-color format adds great value to the outstanding technical content.

The citations of requirements in IRC Section P2904, NFPA 13D or other documents are for descriptive and illustrative purposes only. Consequently, this book should be used as an adjunct to those documents. Likewise, the drawings and photographs in this book are for illustrative purposes only. They are not necessarily to scale and may not represent local requirements that jurisdictions enforce in addition to IRC Chapter 29 or NFPA 13D. Readers are cautioned to check with local code officials and water purveyors for specific design and installation requirements.

Acknowledgments

The main responsibility for the authorship of this valuable publication is with Patrick J. Coughlin, Regional Manager, State and Local Government Relations for the International Code Council® (ICC®). Pat has over 30 years of experience in code development and administration with an emphasis on fire code development and training. This publication also represents the team efforts and contributions of several other individuals. ICC senior staff members Scott Stookey and Kevin Scott pored over countless drafts of the document, and the final product represents their ideas and suggestions as well. Jay Peters and Lee Clifton of the International Code Council PMG Group (Plumbing, Mechanical, Gas) provided valuable guidance and insight in the development process, and their contribution is greatly appreciated. Franz Haase and Doug Lenberg of RGSB Corporation provided documents, photos and feedback on the technical details of network layouts. Several companies supplied documents and photos as well, and they are cited in the text. I also want to thank my wife MaryJo, who dealt patiently with a closed office door while this book was being written.

Pat Coughlin

About the International Code Council

The International Code Council (ICC), a membership association dedicated to building safety, fire prevention and energy efficiency, develops the codes and standards used to construct residential and commercial buildings, including homes and schools. The mission of ICC is to provide the highest quality codes, standards, products and services for all concerned with the safety and performance of the built environment. Most United States cities, counties and states choose the International Codes, building safety codes developed by the International Code Council. The International Codes also serve as the basis for construction of federal properties around the world, and as a reference for many nations outside the United States.

Headquarters: 500 New Jersey Avenue, NW, 6th Floor, Washington, DC 20001-2070

District Offices: Birmingham, AL;
Chicago, IL; Los Angeles, CA

1-888-422-7233
www.iccsafe.org

About ASPE

The American Society of Plumbing Engineers (ASPE) is the international organization for professionals skilled and in the design, specification and inspection of plumbing systems. ASPE was founded in 1964 is dedicated to the advancement of the science of plumbing engineering, to the professional growth and advancement of its members, and to the health, welfare and safety of the public. The Society disseminates technical data and information, sponsors activities that facilitate interaction with fellow professionals, and, through research and education, expands the base of knowledge of the plumbing engineering industry. ASPE members are leaders in innovative plumbing design, effective materials and energy use, and in the application of advanced techniques throughout the world. For more information visit ASPE at www.aspe.org.

